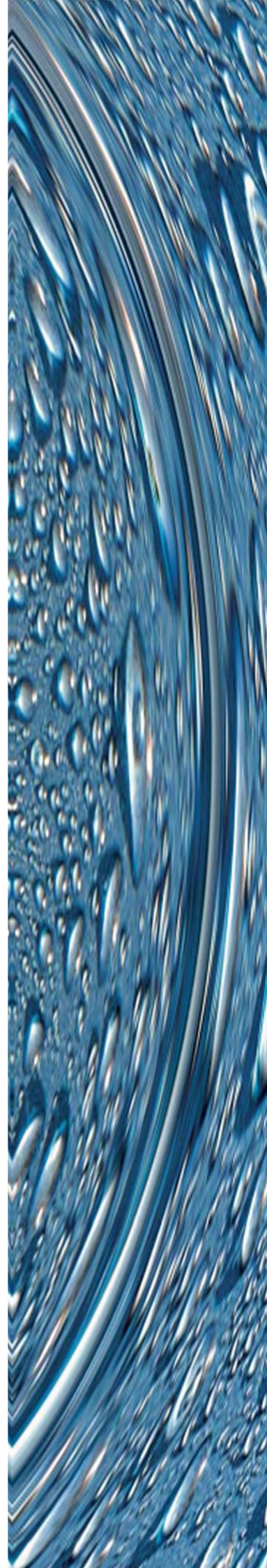
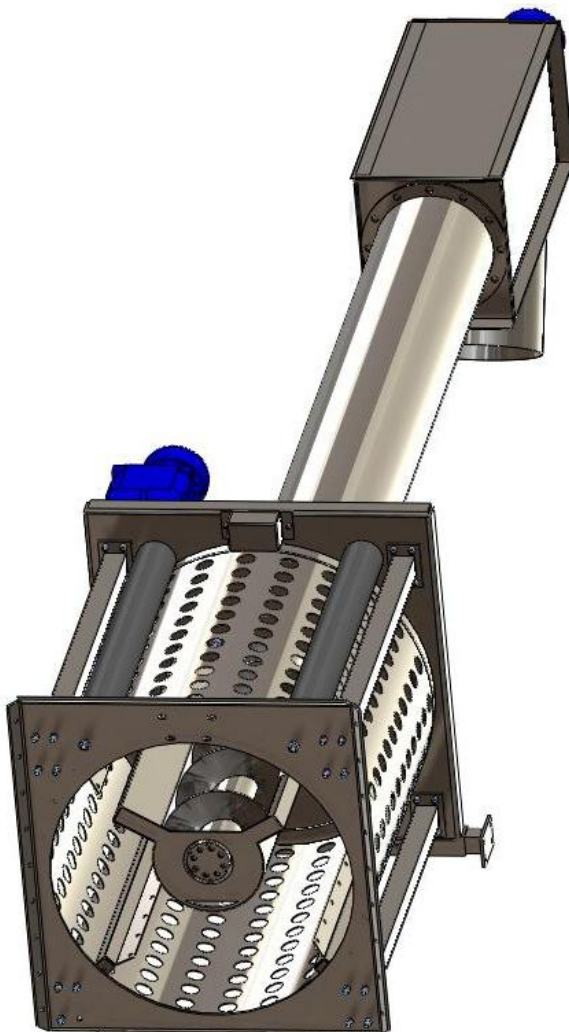


*NEW UNIVERSAL SCREEN*

## VERSA Rotary Drum Screens

- ▣ *Suitable to be installed in each channel and in every condition*
- ▣ *Pre-treatment of Domestic & Municipal Waste Waters*
- ▣ *Solids Recovery & Processing from Industrial Effluents*
- ▣ *MBR Membrane Bioreactor Inlet Screening*
- ▣ *Storm Overflows and Sea Outfalls*



## M.A.IND

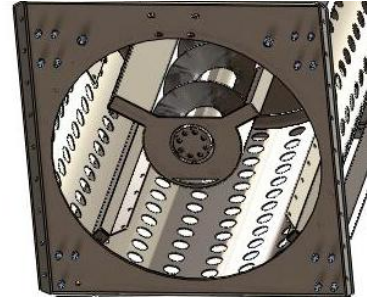
With over 4,000 installations worldwide, M.A.IND has developed a good reputation with a philosophy of offering high quality at low cost. This has served to provide equipment to smaller industries or applications where previously it was considered unviable and offers a lower purchasing cost for larger applications.

## WHY VERSA

The necessity was to design one equipment to be installed in each channel and in every condition; for example:

- Absence of lateral channel "bypass"
- Big sizes solids and/or longs fibres present in the effluent
- High solids concentration

VERSA drum screen was designed without any bearing and any fix or rotating arm in the lower part . Screen area is totally free with big advantages not only for the uncoming solids, but also concerning headloss.



## VERSA Rotary Drum Screens - Operation

VERSA Rotary Drum Screens are integrated machines consisting of a screen, a screw conveyor and compactor.

During operation, solids within the incoming flow will enter into the drum screen and progressively collect into the screen mesh and cause it to gradually blind. The upstream water level will rise and at a predetermined level, the drum screen and screw conveyor will activate and rotate immersing a clean section of the screen into the effluent. During rotation the solids or screenings will become inverted and then fall into the screw conveyor. Spray nozzles and a roller brush fixed to the periphery of the drum screen will clean away any residual solids from the mesh.

Another big advantage is also that when the drum will stop because the reduction of the effluent level, the screw conveyor will continue to rotate for a certain time to lift up immediately all the solids until the compaction zone. The hopper inside the drum will be always free and also in case of effluent entering inside the hopper, the solids will not be rejected in the channel.

The screenings are conveyed, compacted and dewatered and depending upon the solid properties, a volume reduction of around 40% DS or greater can be achieved prior to disposing the screenings into a skip or wheel bin. A jet wash facility in the compaction zone will break down and remove faecal and other semi-solid or soluble matter and return it to the inlet flow. Additional jets can be installed in the transport zone to meet higher specifications of organic solids removal. Faecal matter washing efficiencies greater than 90% and screenings weight reduction of 50% can be achieved.

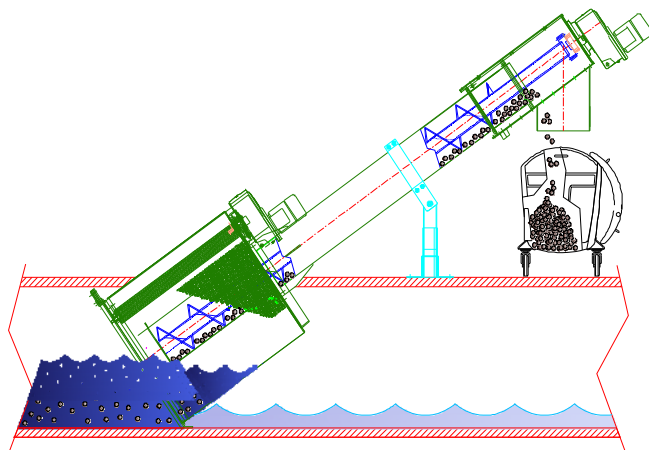


VERSA Drum Screen fitted with screenings bagging system discharging to a container

The compactor and wash system can be omitted to suit requirements such as CSO applications where the screenings are returned to the downstream sewer.

VERSA drum screens can be supplied for direct installation into a channel or as a complete package inside a stainless-steel tank with or without the option of a bypass rake screen.

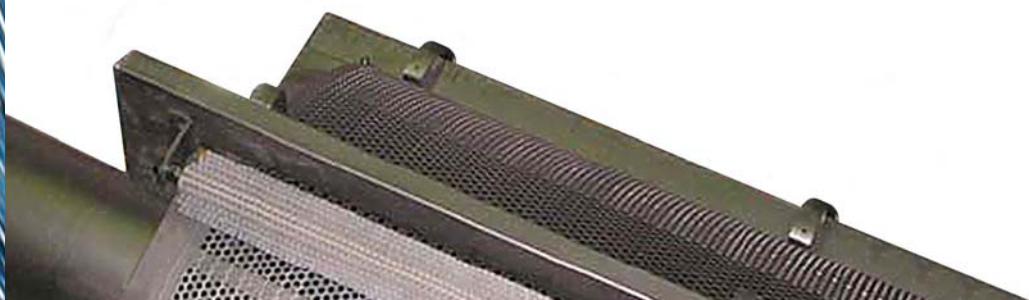
Continuous bagging systems are available to receive screenings and abate odour, the screenings can then be sealed without any personal contact.



Great benefits coming from the fact there are not fix or rotating arms in the lower part of the filtering drum. Any possibility for the big size solids to find some possible obstacles.

In addition, the drum will rotate until that the level before the screen will reduce, instead of only the screw conveyor will continue the rotation lifting up all the solids from the hopper present in the screen zone.

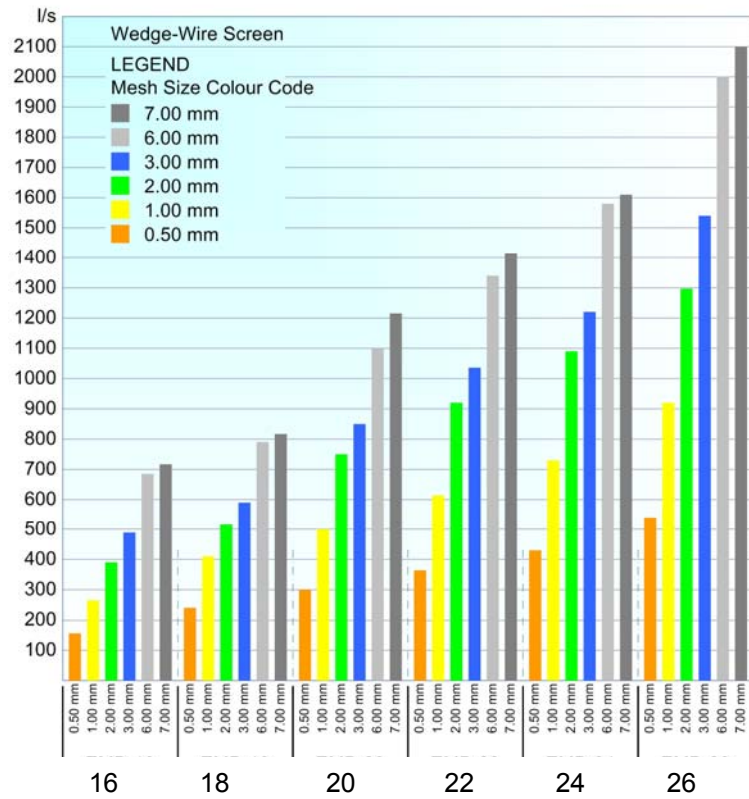
These are the reasons because VERSA drum screen is really suitable to be installed in each channel with every kind of effluent.



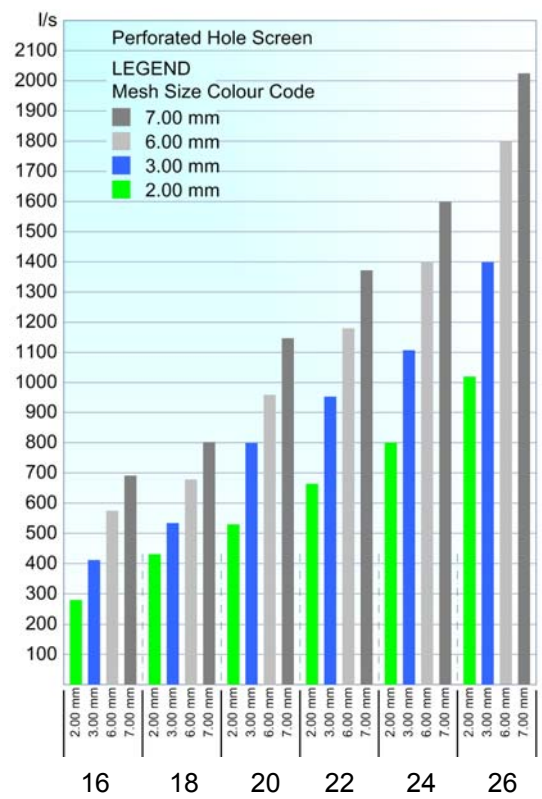
### VERSA Rotary Drum Screen Selection Charts

VERSA Rotary Drum Screens are available in various stainless steel grade mesh sizes in either a wedge-wire profile or perforated hole. Standard size mesh ranges are detailed below - other mesh sizes are available on request.

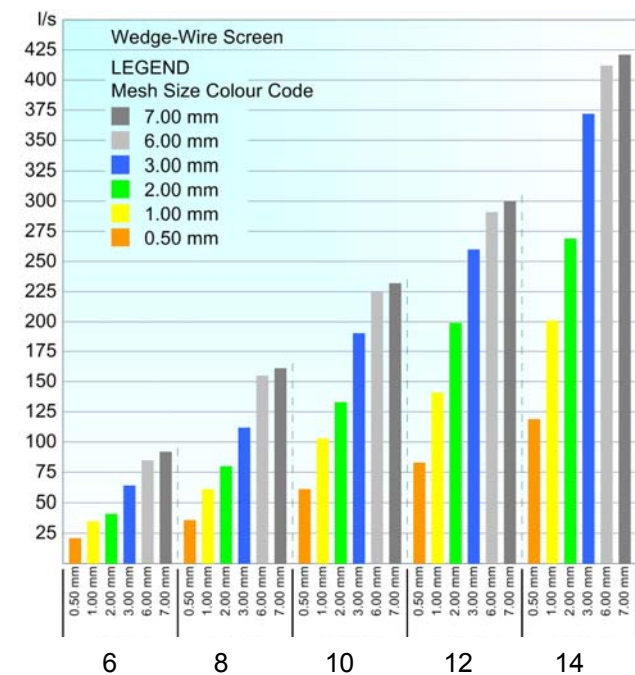
**Wedge-Wire Screen Chart (V 16 – 26)**



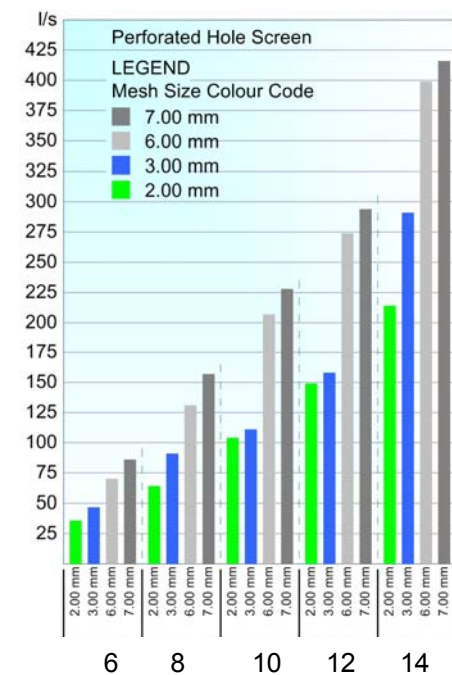
**Perforated-Hole Screen Chart (V 16 – 26)**



**Wedge-Wire Screen Chart (V 6 – 14)**



**Perforated-Hole Screen Chart (V 6 – 14)**



Please note the above Screen Charts are intended to provide an estimate of requirements. Advice should be sought to ensure the screen will be appropriate for the application.

## VERSA Rotary Drum Screen Applications

### **Municipal and Industrial Waste Water Treatment**

VERSA Drum Screens cater for higher flow rates above M.A.IND EMD, MID and MI screens: furthermore, higher separation efficiencies can be anticipated at peak flows.

The rotary drum design ensures separated solids are retained and cannot bypass the screen even at peak flow loading.

### **MBR (Membrane) Reactor Pre-Treatment**

VERSA perforated-hole drum screens impart high separation efficiencies using either a 1 or 2 mm mesh respectively for hollow fibre or flat plate membrane processes.

Improved performance efficiencies of MBR operation can also be applied by utilizing 0.5 or 1 mm wedge-wire mesh for enhanced removal of fibre or hair and the possible tangling hindrances this may cause. High separation efficiencies and screenings capture within the enclosed drum ensures solids are retained and cannot pass through or overflow.

### **Storm Overflow Treatment**

VERSA Drum Screens can be applied as combined storm overflow (CSO) screens using 6 mm perforated hole mesh for flows up to 2,000 l/s. Increased duties, 4,000 l/s, 6,000 l/s, 8,000 l/s can be handled where multi-duty units are used.

To suit various requirements, VERSA Drum Screens can be supplied allow options for;

- a) screenings removal and compaction at the CSO station,
- b) screenings removal and compaction at the CSO station with return of washed faecal and other semi-solid matter only to the downs
- c) return of all screenings, faecal and other semi-solid matter to the

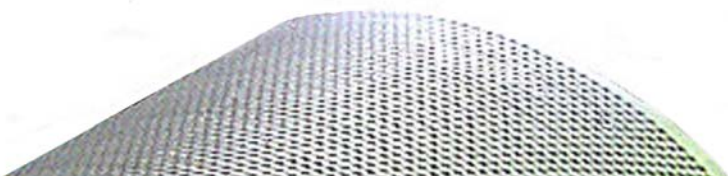
Applications include combined sewer systems in addition to municipal either as CSO duty only, or as a single integrated CSO and preliminal works.

All flows entering the screen drum become entirely enclosed which er screen and cannot overflow even at peak flow loading.

Improved storm overflow solids removal efficiencies can be gained with consequential reductions in BOD and COD by utilizing 0.5 or 1 mm wedge-wire mesh.



VERSA drum screen supplied with stainless steel tank



## VERSA Rotary Drum Screen Advantages

### High solids separation

Wedge-wire screens ensure high separation efficiencies at high flows while perforated-hole screens obtain increased filtration efficiencies.

### Enclosed drum screen

Ensures separated solids are retained and cannot pass through, bypass or overflow the screen.

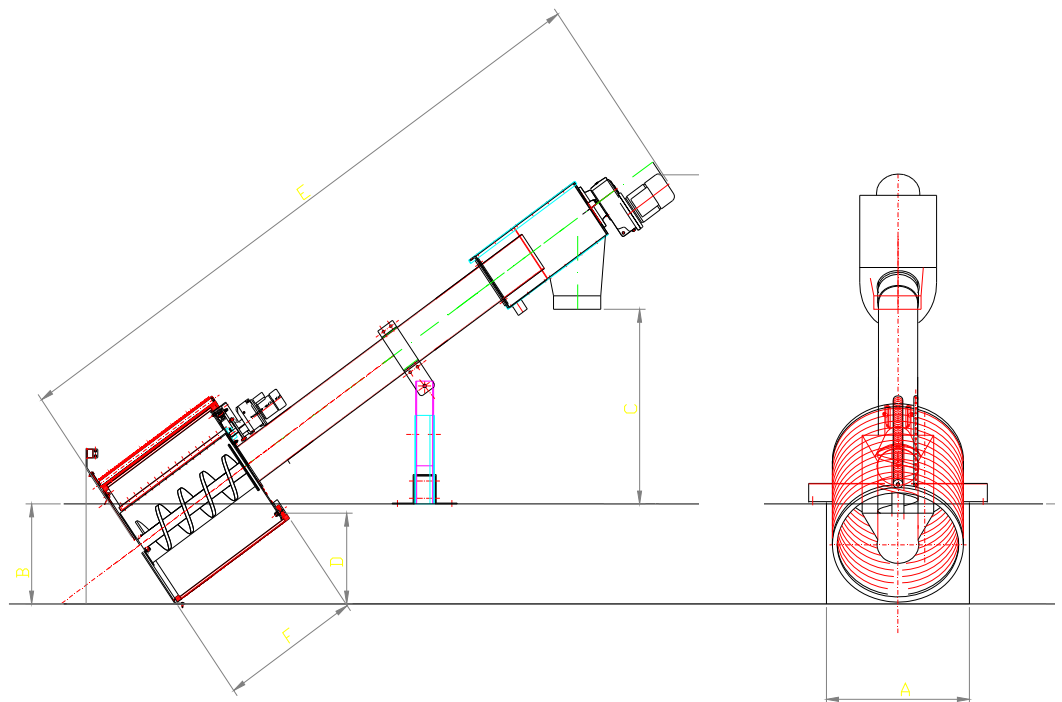
### Low head loss

An inclination angle of 35°, absence of arms and support and large surface profile imparts increased immersed screening area and exposure to the incoming flow.

### Low footprint

Compact, space-saving design – All-in-one design including screenings removal, washing and compaction requires less space than alternative screen systems – Storm overflow applications permits installation into chambers without level long-weir discharge or unsuited to horizontal CSO screens.

## VERSA Rotary Screen Dimensions



Model	V6	V8	V10	V12	V14	V16	V18	V20	V22	V24	V26
A	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2600
B	800	1000	1200	1400	1600	1900	2100	2400	2600	2800	3100
C	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
D	420	580	770	930	1050	1200	1400	1550	1700	1850	2000
E	5100	5500	5800	6800	7300	7600	8000	8500	9000	9500	10100
F	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2600

## Membrane Bioreactor (MBR) Pre-Screening

Enhanced performance of MBR operation can be applied by EMD Rotary Drum Screens utilizing 0.5 mm or 1 mm wedge-wire mesh to remove fibre or hair and the consequential tress or entangling hindrances this can cause.

### Specifications

#### Flow Capacities

Up to 2,100 l/s depending upon mesh, effluent and solids contained within the flow

#### Fabrication

Stainless steel: 304 (BS EN 10088 1.4301)

Stainless steel: 316 (BS EN 10088 1.4401)

Spiral: Mild steel or Stainless steel, 304 or 316

#### Screen basket nominal diameter availability

600, 800, 1000, 1200, 1400, 1600, 1800, 2000, 2200, 2400 & 2600 mm diameter

#### Standard screen size availability

0.5, 1, 2 3, 6, & 7 mm in wedge wire

2, 3, 6, & 7 mm perforated holes

#### The Benefits

- high quality and reliability at low costs
- easy installation
- retrofit capability into existing channels
- stainless steel fabrication
- reduced disposal costs with screenings press
- reliable and automatic self cleaning operation

#### Typical Applications

- Municipal waste water treatment works
- Industrial effluent discharges
- MBR Membrane pre-screening
- Storm or Sea Outfall discharges
- Process liquor or fluid screening
- Commercial outlet discharges

#### Other products from M.A.IND include:

- ⇒ Sand & Grit Separation, Grit Classifiers
- ⇒ Screw Compactors
- ⇒ Screw Conveyors, Horizontal, Inclined or Vertical
- ⇒ SLUDGLESS Sludge Thickening & Dewatering

Contact M.A.IND for further information regarding other products or screen variants

We reserve the right to amend any detail without notice. Please ensure you have the latest information.  
Issue EMD-Range Screen 1008 (en)

### Other Screen Variants



MI Range Screens; available for channel mount or supplied in stainless steel tank,  $\leq 300$  l/s



SP Range Screens for high solids content



MID/V Vertical screens for pump station etc,  $\leq 300$  l/s



TOP Range Screen, Grit & Grease Removal,  $\leq 200$  l/s



M Range Tanker reception screens with Bauer connection



GSR Range Sludge reception - Rapid tanker emptying



MINYSCREEN probably the smallest low-cost screw screen available on today's market

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