

# Hydrasieve®

Static screen for solid/liquid separation

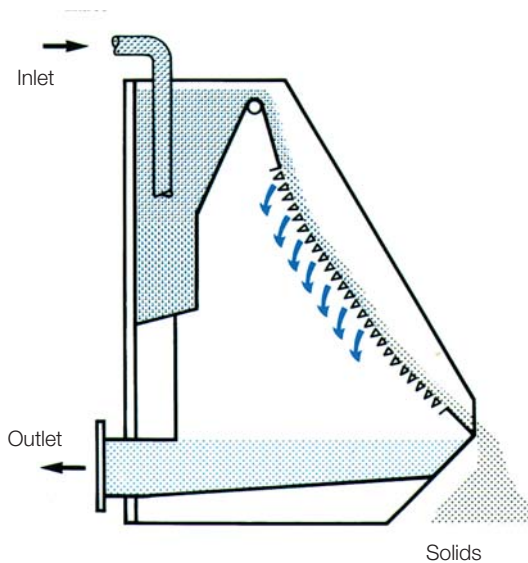
# Operating principle

## PRINCIPLE

The HYDRASIEVE® is a simple, highly efficient screen, designed for solid/liquid separation. Thousands of worldwide installations on all types of applications prove its efficiency. Its operation is based on the Coanda effect. This means that the liquid to be screened forms a hydraulic attachment to the bars of the screen plate. These bars, with triangular section, have rounded angles and have a wave configuration, as opposed to being straight. Thus, the liquid passes through the slots while the separated solids stay on the front face of the screen plate.

The screen plate has three distinct angles. This arrangement ensures:

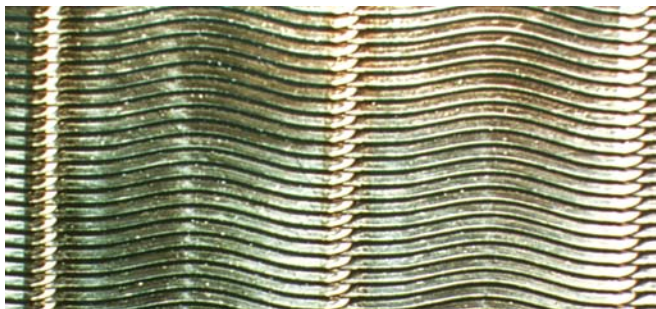
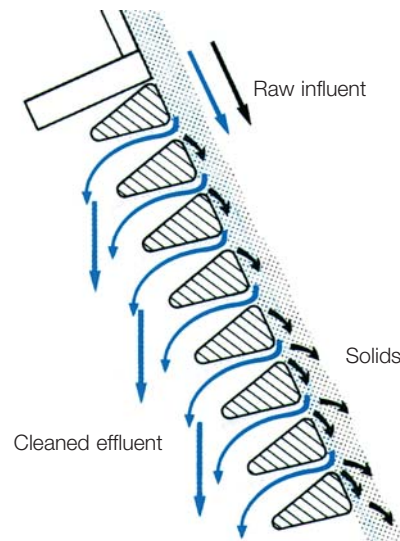
- elimination of the majority of the liquid
- deceleration of the screenings
- drainage



The screen plate is supported by a frame which initially ensures quietness and even distribution of the effluent on the whole width of the unit and then accelerates the liquid down the screen plate. The filtered liquid is then collected in the screen base.

The screen plate and the frame constitute the **HYDRASIEVE®**. The simple design and robust construction of the **HYDRASIEVE®** give trouble-free operation with the following advantages:

1. No moving parts, no motor
2. Very low installation costs; no maintenance
3. Only requires periodic cleaning
4. Quiet operation



Wave shape of the bars give the HYDRASIEVE® its self-cleaning effect.



Typical photograph of the front face of a HYDRASIEVE® being used on slaughterhouse raw sewage. Notice clearly that the waste is concentrated at the bottom of the waves.

## DISTINGUISHING FEATURE OF THE HYDRASIEVE®

The distinguishing feature of these screens is the wave configuration of the bars. This provides an important operational advantage over static screens with straight bars (see above photographs). The wave formation concentrates the liquid at the low point of the waves moving it away from the rear vertical reinforcement bars.

The result is:

- blinding reduction
- total or partial continuous self-cleaning due to the sideways movement of the liquid.

The utilization of wave bars in place of straight bars, thus gives the following advantages:

- higher retention rate
- increased flow capacity
- possibility of selecting a finer slot size
- reduced cleaning frequency

# Standard construction and options

Frames are made in AISI 304 L or 316 L stainless steel. The screen plate is always in AISI 316 L stainless steel. The incoming fluid is delivered via an open pipe or a flange. The outlet consists of either a rear flange or a bottom opening. In all cases the upper feed box is fitted with a drainage hole. Additional options are available in order to improve the operation of the screen: rotating or motorised spray system or protective cover.

The standard range includes 6 widths of screen: 12" (305 mm), 24" (610 mm), 48" (1 219 mm), 60" (1 524 mm) and 72" (1 829 mm).

Slot sizes are: 0.006" (0,15 mm), 0.01" (0,25 mm), 0.02" (0,5 mm), 0.03" (0,75 mm), 0.04" (1 mm) and 0.06" (1,5 mm).



Motorised spray system

## Applications

### MUNICIPAL SEWAGE

- Domestic sewage
- Storm water screening
- Wash water from sand filters
- Sewer cleaning matters

### RAW INTAKE WATER

- Screening industrial intake water
- Screening fire sprinkler water

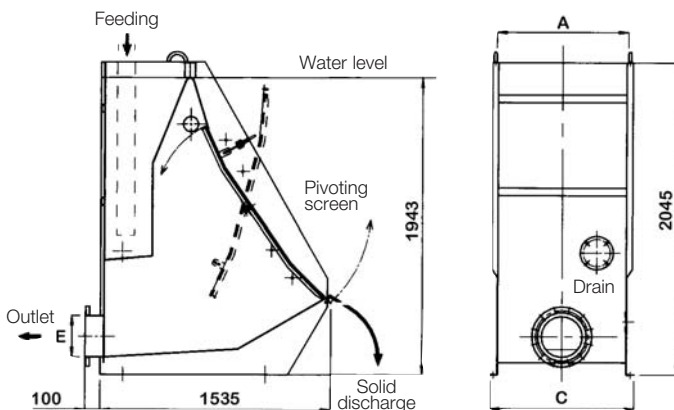
### INDUSTRIAL EFFLUENTS

- Fruit and vegetable canning
- Wine producers and distilleries

- Meat and processed meals industry
- Slaughterhouse
- Fish processing
- Breweries and dairies
- Pig manure
- Textiles and laundries
- Tanneries and fellmongeries
- Chemical, pharmaceutical, refineries
- Pulp and paper
- Industrial effluents
- Recycling transport water

This application list is not exhaustive. For other applications, consult Andritz.

## Dimensions - Type of frames



WIDTH	A (mm)	C (mm)	E (mm)	Net weight (kg)	Gross weight (kg)
12"	305	405	200	190	335
24"	610	710	200	250	540
48"	1219	1319	250	355	935
60"	1524	1624	300	415	1140
72"	1829	1929	300	465	1335

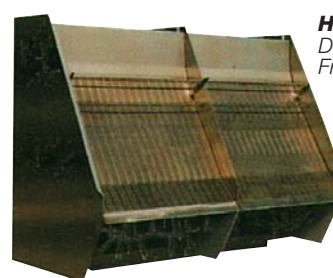
This drawing shows the model 554 with inlet pipe and rear outer flange. Other combinations are possible including rear inlet flange and bottom outlet.



**HYDRASIEVE®**  
Stainless 554 -  
Frame with pivoting screen



**HYDRASIEVE®**  
Stainless 254 - Frame on  
bottom tank with fixed screen



**HYDRASIEVE®**  
Double stainless 554 -  
Frame with pivoting screen

# Flow capacity chart

Flow (m<sup>3</sup>/h) for various slot openings

Screen width		SLOT OPENING (mm)					
inches	mm	0,15	0,25	0,50	0,75	1,00	1,50
12"	305	10	20	25	30	35	40
24"	610	20	40	45	55	65	75
48"	1219	40	80	90	110	125	150
60"	1524	50	100	115	140	160	190
72"	1829	60	120	140	170	195	230

Given flows are for a municipal effluent containing up to 200 mg/l of suspended solids.  
For other applications, consult Andritz.

## Installations



Screening of wine industry rejects.  
Stainless 254 - 24" frame on bottom belt.



Slaughterhouse raw sewage - Stainless 554 - 48" frame.  
Rotating front and rear spray system with cover.



Thickening of paper millstock.  
2 x 48" stainless 554 frame.



Raw municipal sewage.  
Stainless 554 frame - 3 x 96" and 2 x 72".

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