# HydroClean®

jacopa
CLEARLY WASTEWATER

## Water Powered CSO Screen

### Key Features & Benefits:

- Water powered CSO Screen
- Frames manufactured from Stainless steel
- Brush manufactured from abrasive resistant polymer
- Screen length of up to 13 m can be accommodated

### How We Create Value:

- High cleaning efficiency
- Low maintenance
- Continuous self-cleaning action to minimise blinding
- High reliability

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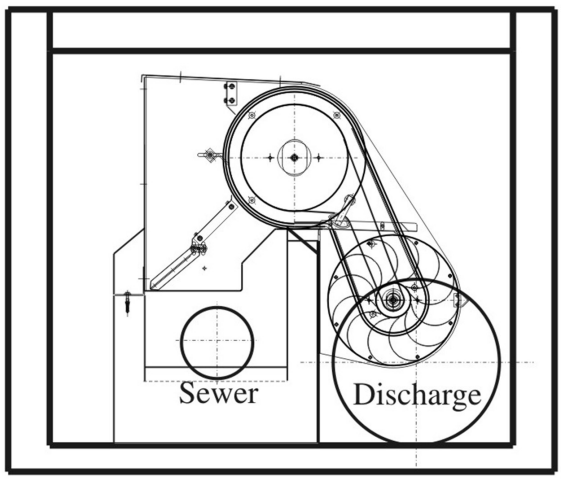
**The Jacopa / Steinhardt HydroClean® is a proven and effective system for retaining sewage debris from discharging into watercourses during storm events and keeping it within the sewer system.**

The unit is available with four brush diameters – 500 mm, 600 mm 800 mm & 1000 mm. The most commonly installed, has tended to be the 600 mm diameter brush unit. The size of the brush will be dependent upon the depth of chamber and flow rates to be screened.



Section

The unit is installed along the spill weir as shown in the drawing above. The length of screen can be manufactured from 0.5 m to 13.0 m in 0.50 m increments.

As the water level in the sewer rises, the water flows through the bristles; over the weir wall and directed to the water wheel. The rotating water wheel is connected by chain drive to the bristle axle which turns the bristles through a fixed comb. The debris is removed from the bristles and stored in a debris holding area.

This debris holding area is created by a floating baffle. At the end of the storm the water level in the sewer reduces, and the floating baffle lowers tipping the screenings back in to the foul sewer for transportation to the treatment works.

Although the screen is capable of operating with the sewer surcharged to the brush axle, it is prudent to design the unit so that the maximum height of surcharge normally expected, does not exceed half of the brush radius.

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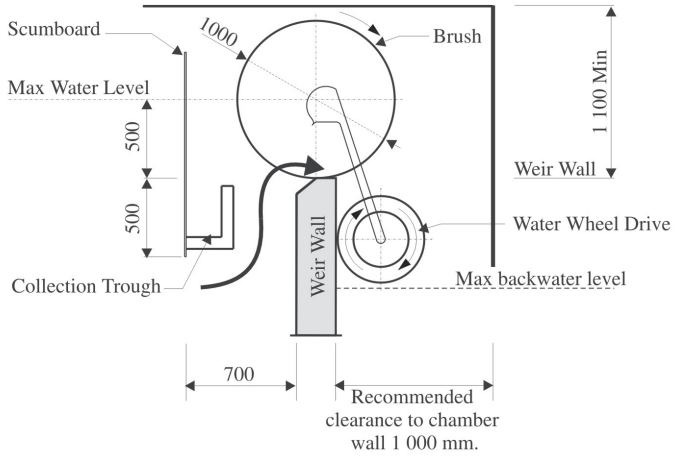
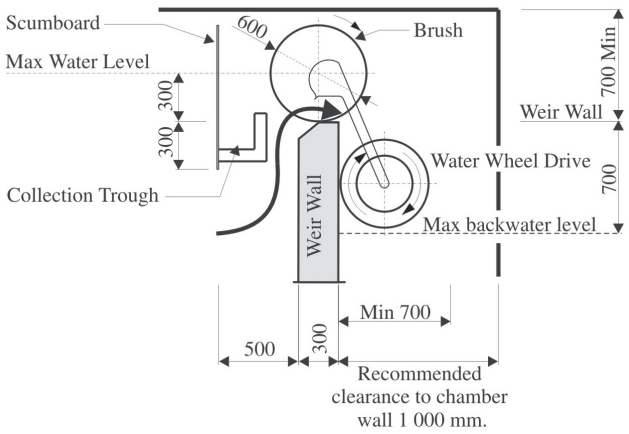
**Chamber design:**

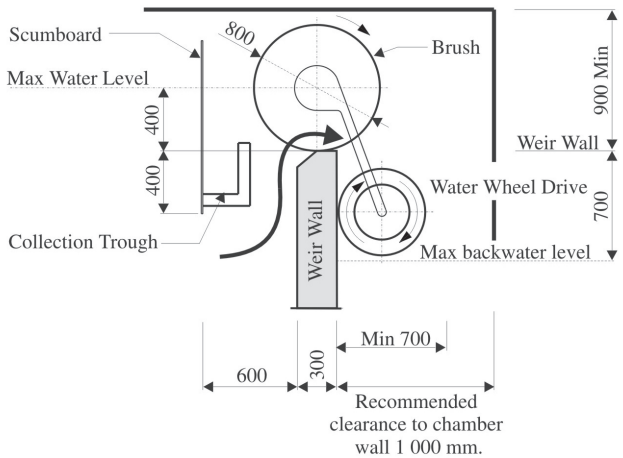
The following drawings provide overall dimensions required to site the HydroClean® units within a chamber. The four brush sizes are detailed as follows:



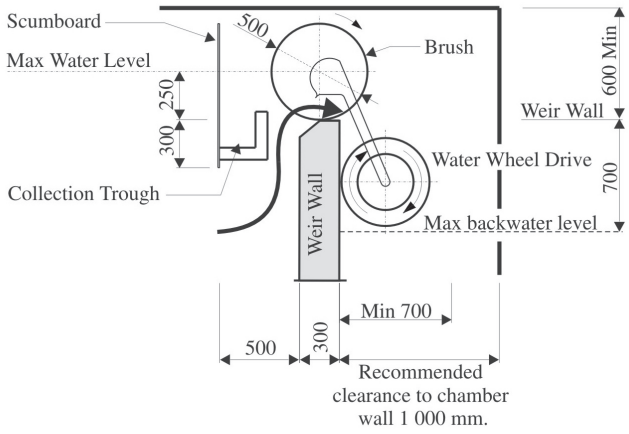

**HYDROCLEAN® TYPE HC 1000**




**HYDROCLEAN® TYPE HC 600**




**HYDROCLEAN® TYPE HC 800**




**HYDROCLEAN® TYPE HC 500**

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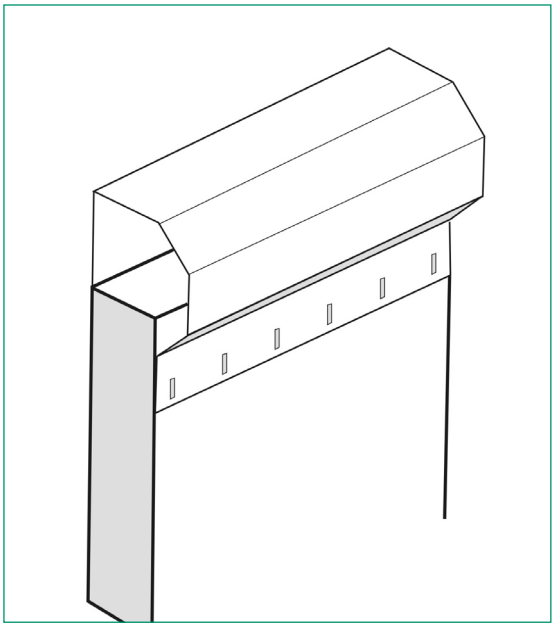
# Water Powered CSO Screen

## Recommended Design Flow Rates:

The following tabulation is based upon the flow not exceeding ½ radius. The screen can cater for higher flows, but it is not recommended to design on the limits, and that flows only be allowed to reach mid diameter on an occasional basis only.

| Brush Length (m) | Brush Diameter 500 Design Flow Rate (l/s) | 600 (l/s) | 800 (l/s) | 1000 (l/s) |
|---|---|---|---|---|
| 1 | 100 | 150 | 290 | 425 |
| 1.5 | 150 | 225 | 435 | 638 |
| 2 | 200 | 300 | 580 | 850 |
| 2.5 | 250 | 375 | 725 | 1063 |
| 3 | 300 | 450 | 870 | 1275 |
| 3.5 | 350 | 525 | 1015 | 1488 |
| 4 | 400 | 600 | 1160 | 1700 |
| 4.5 | 450 | 675 | 1305 | 1913 |
| 5 | 500 | 750 | 1450 | 2125 |
| 5.5 | 550 | 825 | 1595 | 2338 |
| 6 | 600 | 900 | 1740 | 2550 |

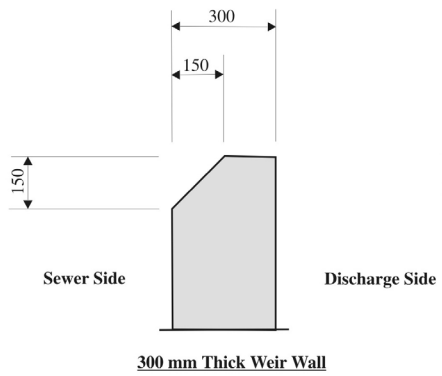


## Weir Design:

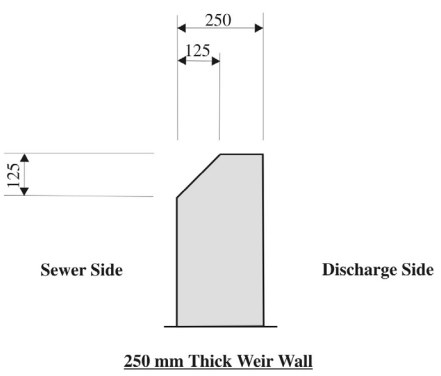
The HydroClean® unit is mounted upon the weir wall, therefore, the design and construction of the weir wall is an important factor to the successful operation of the screen. The following preformed stainless steel section is available if required.

The use of this type of pre-formed weir is particularly useful if an existing CSO chamber is being modified to suit the screen installation also Ideal if the existing masonry is old and brittle.

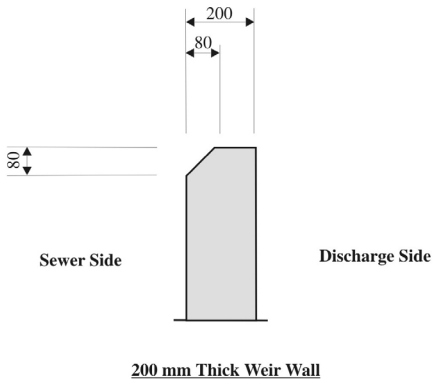
## Alternatively the following weir wall profiles can be constructed in-situ:




300 mm Thick Weir Wall




250 mm Thick Weir Wall




200 mm Thick Weir Wall