

LARGEST VORTEX GRIT TRAPS IN AUSTRALIA — BOLIVAR STP

CASE STUDY



THE CLIENT

SA Water’s Bolivar STP processes 60% of metropolitan Adelaide’s raw sewage, which equates to approximately 135 million litres of sewage per day.

OVERVIEW

As part of a new upgrade, Hydroflux were engaged by York/Waternish to design and supply a new grit removal and grit washing facility.

The benefits include:

- Vortex profile has a small footprint compared to horizontal type
- Flat floor reduces civil construction costs
- HUBER’s Advanced Grit Washing technology dewateres grit to 90%DS and less than 3% residual organics
- Reduced cost for grit disposal
- All equipment is fabricated from 316 stainless steel in Germany, providing longevity



Item	Value
Peak Flow	4000 L/s
Capture	90% of 200 micron particles
Dewatered Grit Content	90%DS
Residual Grit Organic Content	<3%

PROCESS

The equipment installed is HUBER’s Vormax Grit Removal System and RoSF4 Advanced Grit Washers. There are two trains in parallel.

New concrete tanks were constructed as part of the upgrade. The Vormax uses a flat floor within the settlement chamber, which reduces concrete benching and results in savings associated with construction.

Grit settled at the base of the trap is pumped to the grit washing and facility for final processing.

Two HUBER RoSF4 Grit Washers wash the grit to 90% dry solids. HUBER’s process relies on the use of an upflow fluid bed, that rigorously washes organics from the sand particle. Final dewatering occurs in an inclined screw that is integrated into the washer.