

STORMWATER SENTRY

DIVERSION SYSTEM FOR UNCOVERED WASH BAYS

Oil and Grit Interception with Multi-layered Stormwater Protection



Mactrap manufactures the Stormwater Sentry diversion system for washdown areas exposed to rainwater. The system consists of a logically controlled wastewater pump which automatically diverts wash water and 'first flush' rainwater to wastewater, whilst allowing unpolluted rainwater to flow to stormwater.

BENEFITS

Resilience	The multi-vane impellor wastewater diversion pump is protected from sand and grit by the sediment chamber and is designed to operate in adverse conditions.
Triple Stage separation	Three gravity separation chambers provide sediment capture and oil interception for both stormwater and wastewater networks. Optional coalescing filters are available adding another layer of protection.
Multi layered defence	Should pump failure occur, Stormwater Sentry automatically prevents wash bay operations and can even notify the service team.
Environmental protection	The stormwater and wastewater networks are continually protected by the sediment chamber and their own dedicated oil interceptor.
Customisable control logic	The first flush and associated timers can be adjusted to site-specific requirements, ensuring flexible and compliant operation.
Easy and Safe maintenance	The pump is located in a central chamber, protected upstream by the sediment chamber, and is easily accessible through a dedicated cover for tool-free removal, inspection, and servicing.
Cost effective unified solution	Stormwater Sentry is an integrated diversion and treatment system and saves approximately 25% compared to valve-based systems.

Diversion Systems are used wherever wastewater and stormwater need to be separated and protected from light fluids and sediment. This can apply, for example, to the vehicle industry such as petrol stations, car washes or workshops as well as multi-storey car parks, scrapyards and transfer stations. Even for bridges or roads traversing sensitive ecological zones.

Product code	Total Volume	Stormwater Catchment	Light fluid Containment	Sludge Containment	Length	Width	Height
MTFO3000SWD	3450 l	~25-75m ²	400 l	400 l	2800 mm	1000 mm	1200 mm
MTFO6000SWD	5800 l	~75-300m ²	800 l	800 L	3000 mm	1200 mm	1750 mm



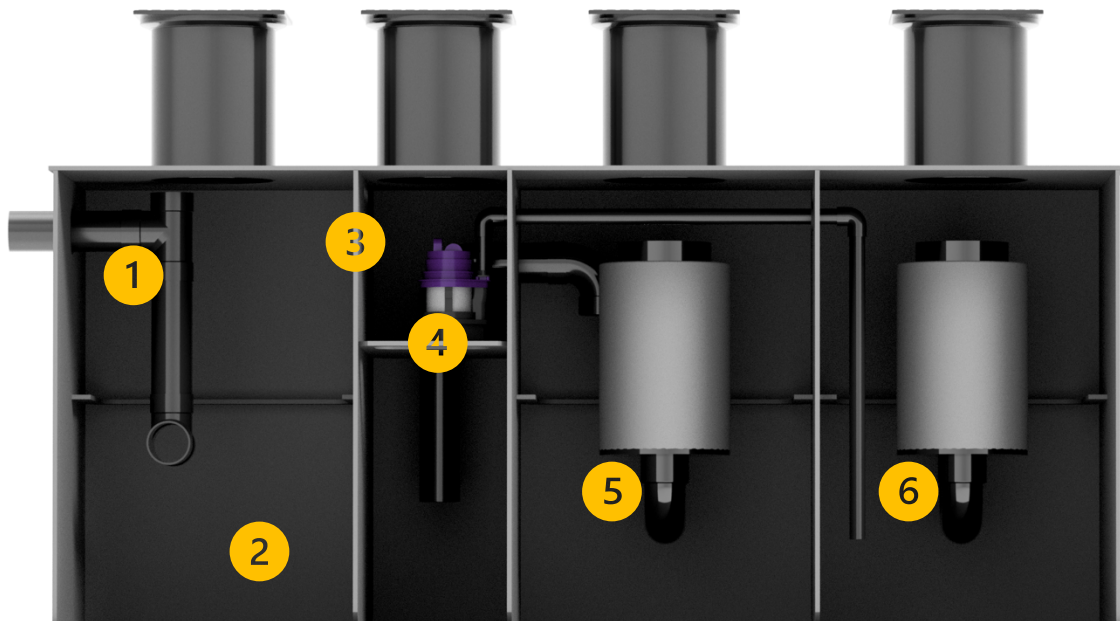
PROTECTING THE ENVIRONMENT

During cleaning activity an uncovered wash bay unleashes contaminants such as grease, oil, and sediment that need to be intercepted before entering the wastewater network. During a rain event the uncovered wash bay is a high-volume collector of stormwater that needs to be protected from contaminants and kept away from the wastewater network.

FUNCTIONAL DESCRIPTION

Stormwater Sentry is a network diversion system integrated into an Oil & Grit Interceptor. It provides a multi-layered approach to protecting the wastewater network, the stormwater network and the environment from light fluid¹ contaminants that arise from uncovered wash bays.

Stormwater Sentry contains a sensor-controlled pump that automatically diverts contaminated washdown water (as well as 'first flush' rainwater) to wastewater drainage, whilst allowing unpolluted rainwater to enter stormwater drainage.



1. Water enters Stormwater Sentry from the wash pad into the sediment chamber.
2. Grit and other heavier than water sediment settles to the bottom of the sediment chamber.
3. Any light oil contaminants rise to the surface and are carried with the inflow to the pump chamber.
4. If the power washer is active the transfer pump activates and diverts the inflow to the wastewater chamber.
5. When the power washer is inactive rain inflow will be transferred to the stormwater chamber from a mid-level pick up point trapping oil contaminants in the pump chamber. If any emulsified light oils flow through to the stormwater chamber they will be intercepted and stored.
6. If the power washer is inactive but the pump has not operated for (nominally) 20 hours, then the first of the inflow (first flush) is transferred to the wastewater chamber.

Note: Coalescent filters and auto shut off valves can be added to the stormwater and wastewater chambers.

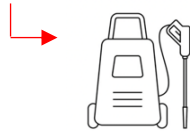


CONTROLLING THE POWER WASHER

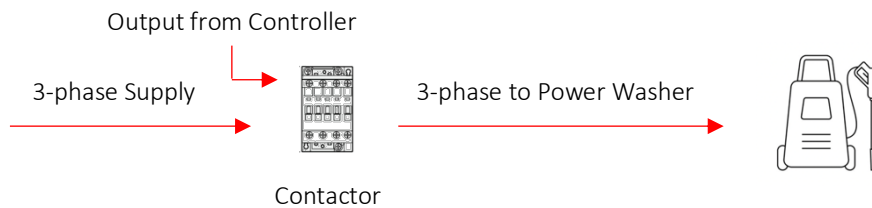
It is essential that Stormwater Sentry controls the power washer (or other wash equipment) so that the diversion function activates as designed. The power washer can be controlled by:

1. Connecting the power washer directly to the controller (single phase and less than 10 amps).

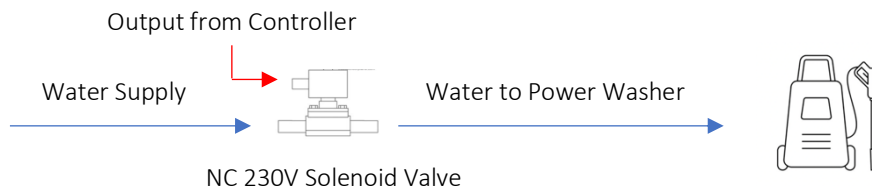
Output from Controller



2. Connecting the power washer to a suitable specified 3-phase contactor or power relay activated by the controller (not supplied).



3. Controlling the power washer water supply with an appropriate solenoid valve activated by the controller (not supplied).



Optional Coalescence Filter

Coalescence filters increase the Fuel/Oil separation performance by capturing smaller oil droplets. When wastewater containing oil flows through this filter fabric, very fine oil droplets that can no longer be separated out by gravity collect on the coalescence material and combine to form larger oil droplets. When these reach a sufficient size to create buoyancy, they detach themselves from the filter material and rise to the surface.

Optional Self-Actuating Closure Valve

When the maximum oil storage volume is reached (either over time or because of a spill), a self-actuating closure valve closes the outlet into the drainage system. This prevents spills from overwhelming the system.

The float is carefully designed for the specific gravity of the weight, so that it floats in water, and sinks in light fluid (up to a density of 0.95 g/cm³). When the maximum oil storage quantity is reached, oil flows through the lateral openings into the float guide tube. The float then sinks, reliably shutting off the outlet of the interceptor.

