



hydraspin



PROJECT PORTFOLIO

Hydraspin is a product of



African Horizon
TECHNOLOGIES

About Us

African Horizon Technologies: The water treatment specialists cleaning and monitoring your effluent to be legally compliant

African Horizon Technologies is an environmental engineering company specialising in water treatment. The aim is to provide long term low life cycle cost technology to the market. To achieve this, we conduct continuous research and development, and manufacture our own in-house developed technologies. The products we manufacture are: **Hydraspin** Hydro Cyclone oil water separation system, **Crystal Clear** Electro coagulation water treatment plant,

Total organic carbon analyser to monitor pollution in effluent, **Instralink** telemetry system monitoring all our equipment in real time. Other solutions we have developed and installed include:

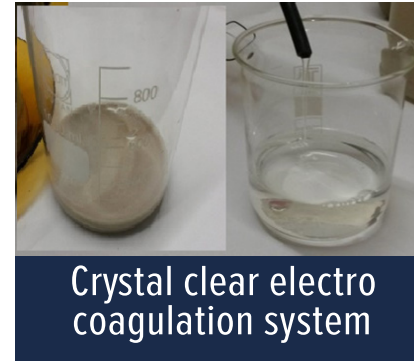
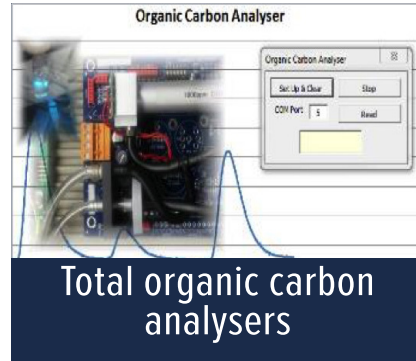
- Sewerage treatment plants
- Reverse osmosis drinking water plants
- Heavy metal removal from water
- Low energy acid mine drainage solution
- Bioremediation of oil pollution in soil and water

**Do you know the impact of your effluent on the environment?
Do you want to save money on water treatment and monitoring?**

The fact is that you cannot manage what you cannot measure.

Our Products & Services

This is a brief overview of products developed by AHT, and some of our partnerships and agencies we work with.



Our Satisfied Clients



RioTinto



petmin



GLENCORE



xstrata

TOTAL



samancor^{GT}





Hydraspin



Wash bay



Total organic carbon analyser

ENGINEERING THE POWER OF NATURE.

Industrial Technology Application Matrix

TOTAL VALUE CHAIN IN WATER TREATMENT



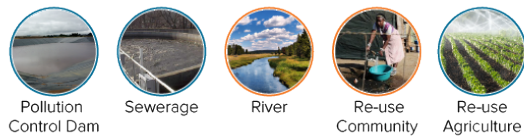
INDUSTRIAL WATER SECTOR

Design Parameters	Hydramix Process				
	SRS - Free Oil	Hydraspin	Hydramix	CCS/ EC	WaterNow Africa
Inlet Condition	High oil recovery	Emulsified Oil	Complex water	Heavy metal, removal	Treating water from any source anywhere
Outlet Conditions	Go to cyclone	outlet to Abrimix/CCS	Outlet to CCS	Outlet to RO	Outlet to drinking water
Outlet Discharge Quality	+/- < 100 ppm	+/- < 20/30 ppm +/- 2.5 ppm	+/- 2.5 ppm	+/- 2.5ppm	
Water quality	Industrial water	Process/Revenue/Recycling	Process/Revenue/Recycling	Process/Revenue/Recycling	Drinkingwater
Discharge Limits achieved (ppm)	< 150	10	< 2 - 10	< 0 - 2.5	0
Droplet size Removal (micron)	< 150	< 20 - 30	< 2 - 10	< 0 - 2.5	0
OPEX expenses: Chemicals / Replacements	None	None	Required	Quarterly	Diesel/Electricity Consumption
Monthly Maintenance	Recommended & Required	Recommended & Required	Recommended & Required	Recommended & Required	Low maintenance
Discharge oil / sludge / waste H ₂ O	Oil: waste oil tank	Oil: waste oil tank	Sludge	Foam sludge	Condensate water
Flow rate (l/hr)	Various	Various	Various	Various	500 & 4000 Litres per day
Types of Oil Removed	Free Oil	Emulsified Oil	Dissolved Oil	Solids Coated with Oil	

Potable Water

Mine Impacted Water & Acid Mine Drainage

Discharge



Industry



Treatment of water requires:

- Comprehensive solution | The comprehensive solution consist of a combination of the available technologies due to complex contaminant and discharge requirements.
- Single / combination | Single system or combination solution is required based level of complexity of contamination.

Applicable Laws:

- Water Act 36 of 1998
- National Environmental Management Act [No. 107 of 1998] G 19519 GoN 1540
- National Environmental Laws Amendment Act [No. 14 of 2009] G 32267 GoN 617
- Local Authority Bylaws Relevant To Geographic Area
- Mineral Petroleum Resources Act [No. 28 of 2002]

Domestic Technology Application Matrix

TOTAL VALUE CHAIN IN WATER TREATMENT

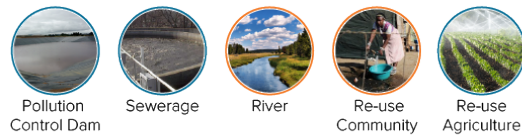


DOMESTIC UTILITY WATER

	Hydramix Process				
	Pre-Treatment	Hydramix	CCS/ EC	Reverse Osmoses	WaterNow Africa
Inlet Condition	High oil recovery	Complex water	Heavy metal, removal	Removal TDS	Treating water from any source anywhere
Outlet Conditions	Go to cyclone	Outlet to CCs	Outlet to RO	Outlet to reuse tank	Outlet to drinking water
Outlet Discharge Quality	+/- <100 ppm	+/- 2.5 ppm	+/- 2.5ppm		
Water quality	Industrial water	Process/Revenue/Recycling	Process/Revenue/Recycling	Drinkingwater	Drinkingwater
Discharge Limits achieved (ppm)	< 150	< 2 - 10	< 0 - 2.5	0	0
Droplet size Removal (micron)	< 150	< 2 - 10	< 0 - 2.5	0	0
OPEX expenses: Chemicals / Replacements	None	Required	Quarterly	Half yearly	Diesel/Electricity Consumption
Monthly Maintenance	Recommended & Required	Recommended & Required	Recommended & Required	Recommended & Required	Low maintenance
Discharge oil / sludge / waste H ₂ O	Oil: waste oil tank	Sludge	Foam sludge	Brine	Condensate water
Flow rate (l/hr)	Various	Various	Various	Various	500 & 4000 Litres per day
Types of Oil Removed	Free Oil	Dissolved Oil	Solids Coated with Oil		

Potable Water

Discharge



Industry



Treatment of water requires:

- Comprehensive solution
 - Single / combination
- The comprehensive solution consist of a combination of the available technologies due to complex contamination and discharge requirements. Single system or combination solution is required based level of complexity of contamination.

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OUR PROJECTS

This is an album with some of the projects that we have completed over the years.

Transnet Ermelo

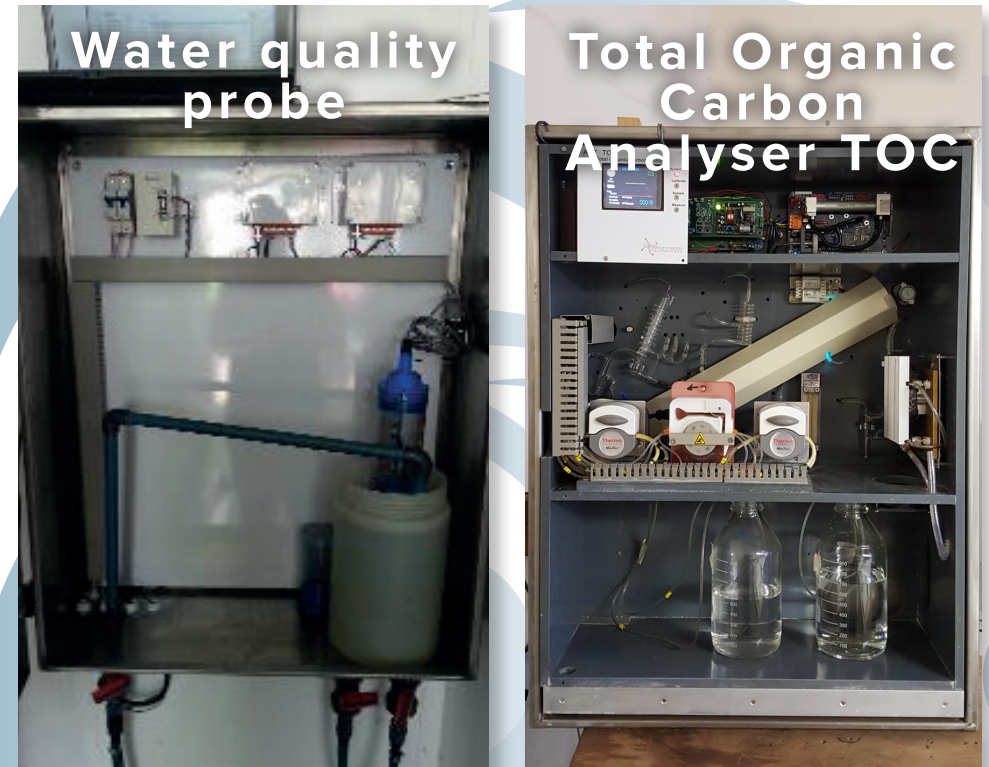


Hydraspin ES 26m³/h and SRS 3.6m³/h

Description

The entire Transnet diesel locomotive workshop and refueling area discharges to the effluent treatment system provided by AHT.

Transnet Ermelo



Hydraspin ES 26m³/h, SRS & Water Quality Probe.3.6m³/h, TOC

Description

The water is discharged into storm water and total water quality and flowrate was measured by Instalink the AHT telemetry system.

Anglo American Published Articles

MOGALAKWENA DOING ITS PART FOR THE ENVIRONMENT



Mogalakwena North mining has upgraded to five new state-of-the-art oil separation facilities at the North Mining workshops.

The project was completed without any incident and the mine recorded 51'238 hrs worked safely on the projects.

Mogalakwena Mine was required to improve their oily water separation to ensure that discharge standards are met and

to thus start reusing water on site where possible.

Two 26m³/h Hydraspin systems each with a Spill recovery system was installed at North and South workshop areas treating all water before entering the PCD dams. New fuel facility, Bulk Lube dispensing, LDV and wash bay areas also have Hydraspin system to ensure oil pollution is captured at source.

Meeting global standards in

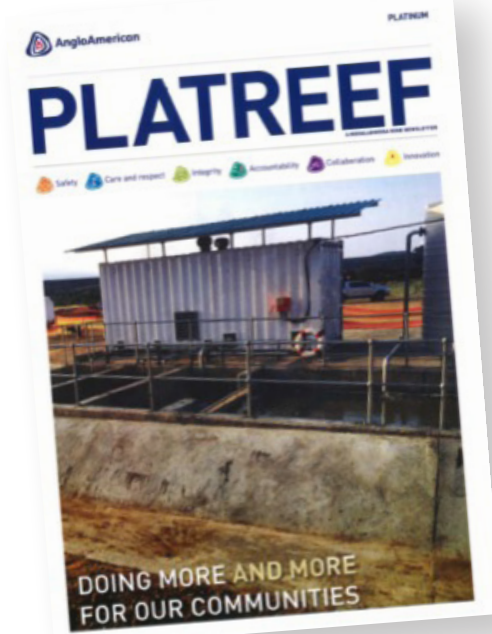
oil/water discharge limits is a challenge to all industries. Within the mining sector this challenge is increased by the necessity to use surfactants and solvent based degreasers. It is thus crucial to make use of a powerful separation process such as the Hydraspin hydro cyclones that ensures low discharge.

The system will have a low life cycle cost in terms of maintenance and will be relatively simple to operate.

Discharge limits of less than 30ppm have been achieved on similar sites with hydro cyclones.

Global targets for mining process water are usually below 50ppm and below 30ppm for reuse and recycling of wash bay water.

The mine will use water based detergents as far as possible to avoid emulsification of oil in water.



Installed systems

ES 26m³/h & SRS 3.6m³/h (South Mine)

ES 26m³/h & SRS 3.6m³/h (North - Central workshop)

ES 3.6m³/h & SRS 3.6m³/h (North - Bulk Fuel Yard)

ES 16m³/h & SRS 3.6m³/h (North - Washbay)

ES 3.6m³/h & TS 2.0m³/h (North - LDV)

ES 3.6m³/h (North- Fuel Facility)

Anglo Platinum Mogalakwena Mine



6 Hydraspin, 5 SRS, Water Quality Probe & 2 Flowmeter

Description

See article on previous page.

South 32 Wolwekrans



Hydraspin ES 26 m³/h & SRS 3.6 m³/h for the Washbay

Description

Complete washbay and mining workshop effluent treatment system supplied. We removed 40 000 Litres in first 2 months.

Test at Engen Refinery



Hydraspin Process 20m³/h

Description

The Hydraspin process consists of Hydraspin and Abrimix and the focus is on complex waste water streams. We removed oil down to below 2ppm.

Chevron Kroonstad Depot

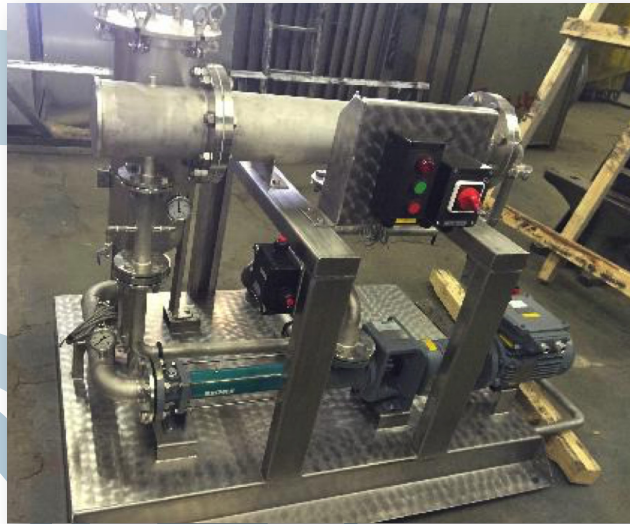


Hydraspin ES 4m³/h and
SRS 3.6m³/h Zone1

Description

Treating all the run-off water from a bulk-fuel storage terminal. Discharge to storm water below 2.5ppm oil and grease.

Total Bethlehem Depot



Hydraspin ES 4m³/h Zone1

Description

Both installations are located in Zone1 classified areas and all control panels were situated in safe areas 100m away. Zone1 motor and switch gear were supplied.

Puma Lusaka



Hydraspin ES 4m³/h

Description

Treating all the run-off water from a bulk fuel storage terminal.

Puma Kitwe



Hydraspin ES 4m³/h

Description

Treating all the run-off water from a bulk fuel storage terminal.

Vichem - Philippines



Coconut & Palm Oil Factory
Hydraspin ES 4m³/h

Description

Treatment of effluent from factory to recover valuable oil for reprocessing. High temperature pump was supplied.

Murray & Roberts Kusile



Hydraspin ES 4m³/h and
SRS 3.6m³/h

Description

Treatment of workshop effluent.

NECSA - Springbok



Carwash Oil Water Separator
Hydraspin ES 4m³/h

Description

Nuclear Energy Commission of South Africa requested AHT to design a carwash system to treat water prior to discharge.

Murray & Roberts Takoradi



Ghana Oil Takoradi port, Hydraspin ES 20m³/h

Description

Marine Oil storage terminal. AHT helped design civil works for effluent treatment and supplied the Hydraspin and a Oil-in-Water monitor.



Kamoto Copper Company DRC



3 x Model 24 A 110 Sewage Treatment Plants (38 to 55 m³ per day)

Description

AHT supplied conventional sewer treatment system to the management village, truck stop and hospital sites each serving 200 to 300 people per day.

Kamoto Copper Company DRC



Containerized Underground Mine 1500 L/H RO System

Description

AHT supplied the drinking water system to provide miners with water. Installation was vertically 800m below surface. Containerized plant travelled 11km down incline to reach site.

Kamoto Copper Company

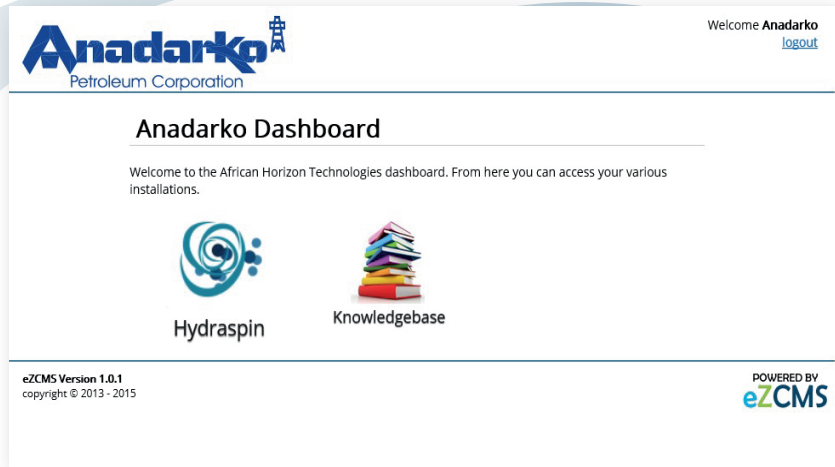


ES 36 m³/h & SRS 3.6 m³/h for the Washbay & opencast workshop

Description

AHT assisted with concept design of effluent surrounding the opencast workshop.

Anadarko AHT Monitoring system




Welcome Anadarko [logout](#)


Anadarko
Petroleum Corporation

Anadarko Dashboard

Welcome to the African Horizon Technologies dashboard. From here you can access your various installations.



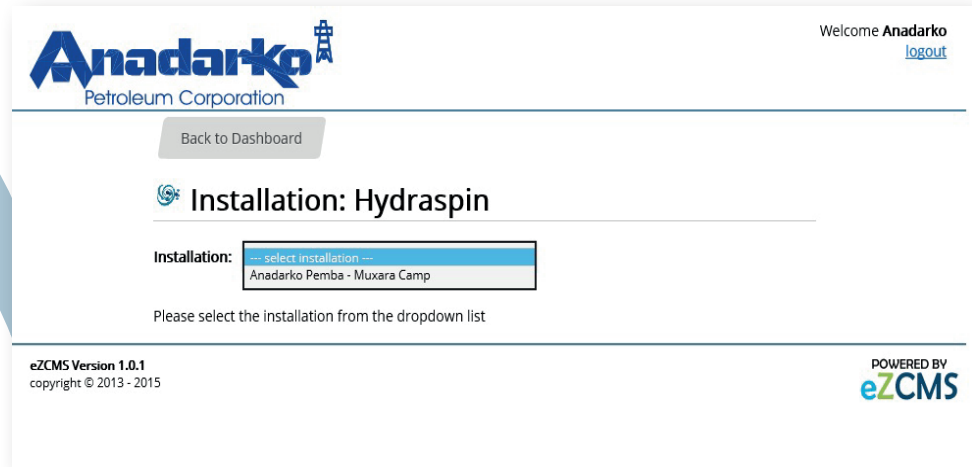
Hydraspin



Knowledgebase

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eZCMS



Welcome Anadarko [logout](#)

Anadarko
Petroleum Corporation

[Back to Dashboard](#)

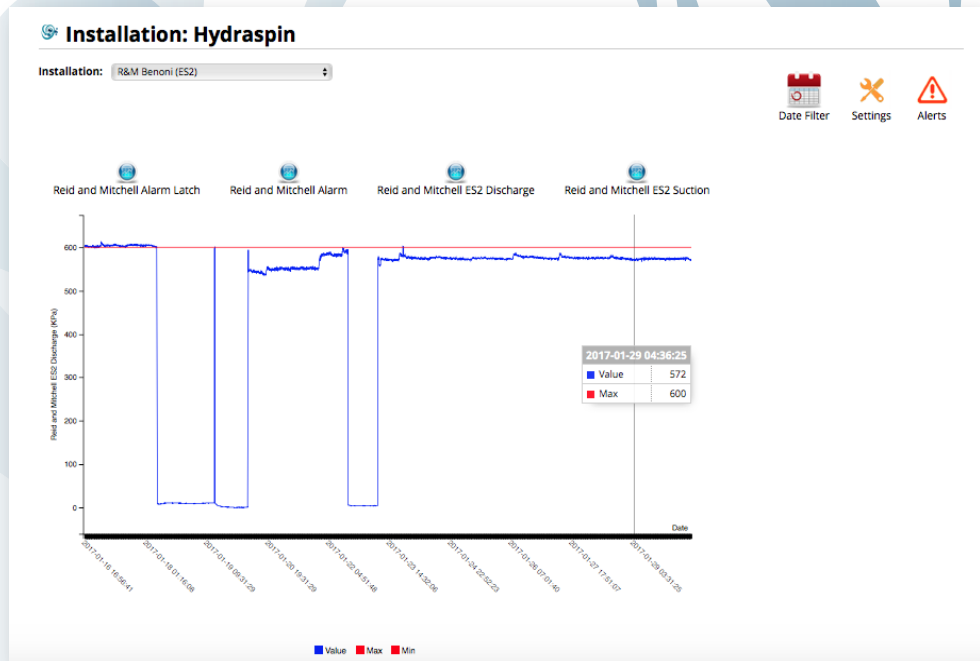
Installation: Hydraspin

Installation:
Anadarko Pemba - Muxara Camp

Please select the installation from the dropdown list

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eZCMS



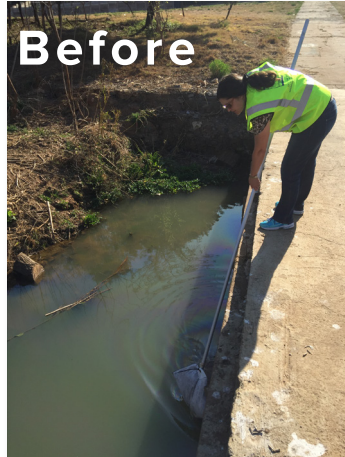
ES 10m³/h & SRS 3.6 m³/h for the gas exploration workshop and maintenance yard.

Description

The telemetry system integrated with Hydraspin in this installation was satellite based and reported all data to our AHT client website portal.

Menlyn Oil Spill Published Article

Bio Remediation of Moreleta Spruit and Oil Spill Clean Up



Before



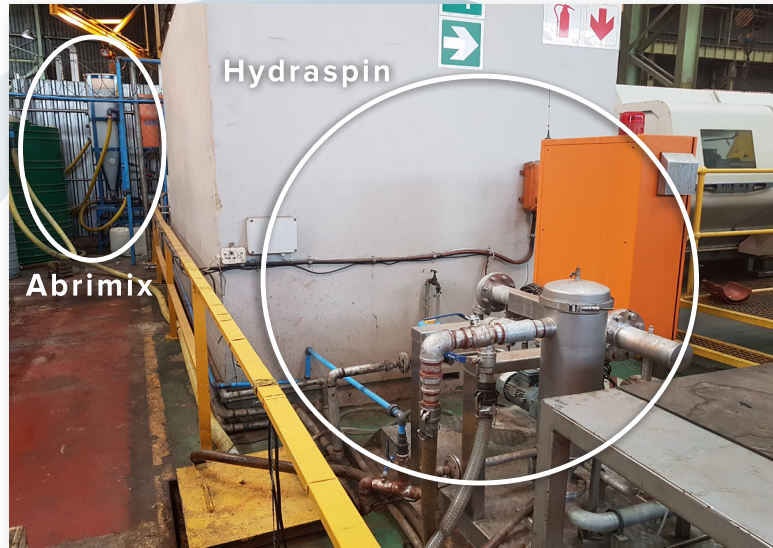
After



Description

Menlyn Shopping Centre had a huge diesel spill during the commissioning of generator sets, which entered the storm water and contaminated the Moreleta Spruit. DissOil was used to rehabilitate the pollution. AHT managed the entire cleanup operation and dealt with relevant authorities.

Reid and Mitchell



Hydramix

Description

First Hydramix Installation dealing with complex industrial waste water. Reuse and recycling of wash water and ensuring compliance in discharge water quality.

Our Worldwide Footprint



Our New Products

WaterNow Africa



WaterNow Africa

Description

Making contaminated water from any water source safe to drink with the Aqua-500 and Aqua-4000. The units use a dynamic flameless rapid water heater which heats water in excess of 120 degrees Celsius. No membranes, filters or chemicals needed.

The systems can produce up to 4000l of drinking water per day.

Stormwater management & Treatment

Simon's Town Harbour bay



Stormwater management & Treatment

Description

The 216 m³/h Up-Flo® filter multistage storm water treatment system installed at Simon's Town Mall, removes the sediments, nutrients and metals from storm water runoff.

Our Approach

Keeping your effluent streams clean!
Our solution driven approach,
locally manufactured products,
technical and engineering expertise,
are our strengths!

This offering of technologies, coupled with skilled people and engineering; are uniquely applied to processes, water and waste water treatment to produce the best possible solutions for you.



hydraspin

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Hydraspin is a product of



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