

Marsh Industries

Marsh Hydroil: Oil separators

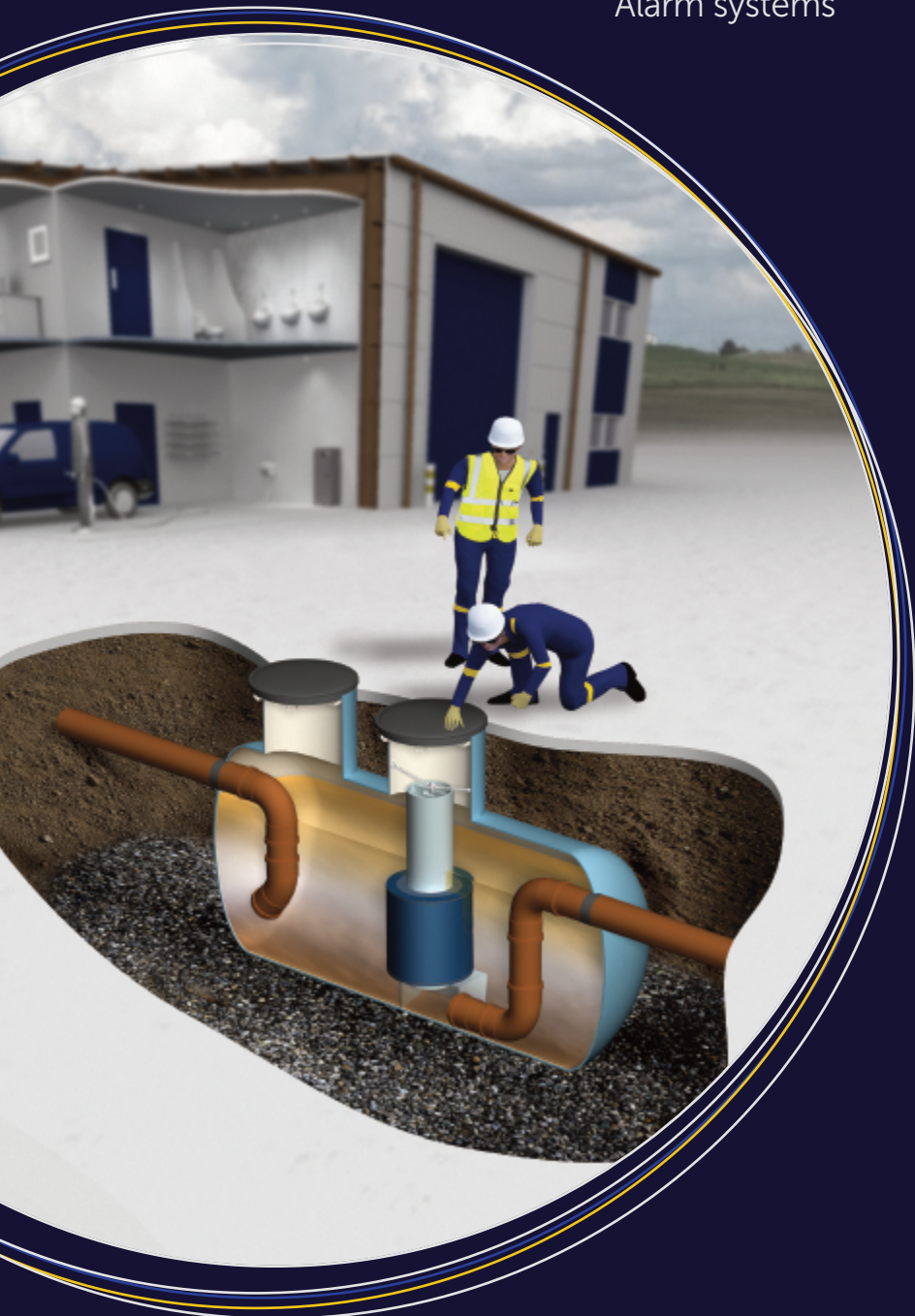
Bypass separators

Full retention separators

Forecourt separators

Wash-down separators and silt traps

Alarm systems



WE are the innovators in domestic, commercial and agricultural waste and surface water treatment products

WE are Marsh Industries

Our brand communicates the straight talking approach we have become known for

WE deliver world-class waste and surface water products and solutions to the domestic, commercial and agricultural sectors from our UK manufacturing plants in Kettering and Bridgwater.

WE think smarter

Efficiently meeting the demands of our customers

We strive to be recognised as a collaborative and trusted partner for our customers, aligned to their business, and with a reputation for providing quality products that really do add value.

WE innovate

Enabling technologies that deliver tangible benefits

Working across many areas of the UK and European construction sectors our specialist 'innovation' team combines 100+ years' experience of designing, manufacturing and testing water/wastewater treatment products that are proven to be economic, efficient and environmentally sensitive.

WE comply

With UK/EU building and environmental regulations

Our products are fully type-tested and certified to ensure compliance with relevant environmental permitting programmes and Building Regulations.

WE deliver

UK nationwide and overseas

With one of the largest merchant distributor networks available in Europe, customers specify Marsh products and services because they know WE deliver from a solid foundation of knowledge, experience, product quality and proven performance.

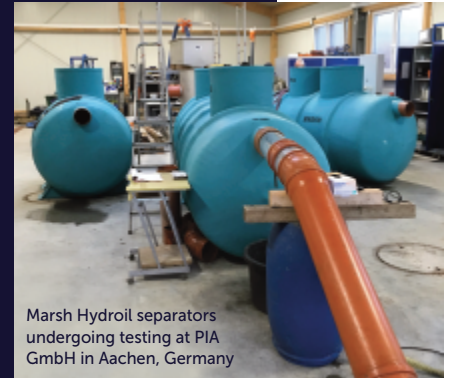
WE support

Specialist services to further enhance customer requirements

There are times when our customers need a little extra support. Whether this is on-site advice, backup support, specialist testing or bespoke project solutions, WE offer a range of services when and where required.

TOGETHER we are a strategic partnership

Our core strength lies in the knowledge, experience and enthusiasm of our staff and our customers combined



Marsh Hydrooil separators undergoing testing at PIA GmbH in Aachen, Germany



Marsh Hydrooil separators are tested and approved by PIA GmbH



Oil separators

Separation by flotation and settlement

Oil separators are designed to prevent oil and other hydrocarbons from entering the drainage system. They separate oil from water, and safely retain the oil until it is removed.

Oil cannot be treated easily and will therefore cause severe pollution if allowed to enter mains sewers or drainage fields. Statutory controls enforce strict regulations on the discharge of such pollutants.

Separators should be used in such applications as petrol stations, industrial yards and garages; or virtually anywhere that a risk of oil contamination exists.

Discharge requirements for oil separators may vary in different areas of the country and it is therefore essential to consult the appropriate environmental controlling authority prior to specifying an oil separator. If the discharge is to a public sewer then local Building Control, the Water Authorities and water companies should also be contacted.

Separator types and principles of operation

Classes

Separators are classed in two categories based on performance under standard test conditions.

Class 1 separators are designed to achieve a discharge concentration of less than 5mg/litre of oil. These separators are required for discharges to surface water drains and the water environment.

Class 2 separators are designed to achieve a discharge concentration of less than 100mg/litre of oil under standard test conditions. They are suitable for dealing with discharges where there is a lower quality requirement, such as discharges to the foul sewer.

Both classes can be produced as 'full retention', 'bypass' or 'forecourt' separators as explained below.

Bypass separators

Bypass separators treat all flows from rainfall events of up to 6.5mm/hr. This covers over 99% of all rainfall events. Flows higher than 6.5mm/hr are designed to bypass the separator.

These separators are used in a 'low risk' environment where there is no requirement to provide full treatment for the flow; for example a car park where the risk of a significant spillage is small.

Full retention separators

Full retention separators treat the full flow that is delivered by the drainage system, which is normally equivalent to the flow generated by a rainfall intensity of 65mm/hr.

These separators are used where there may be a 'high risk' of a significant fuel spillage, such as vehicle workshops

Forecourt separators

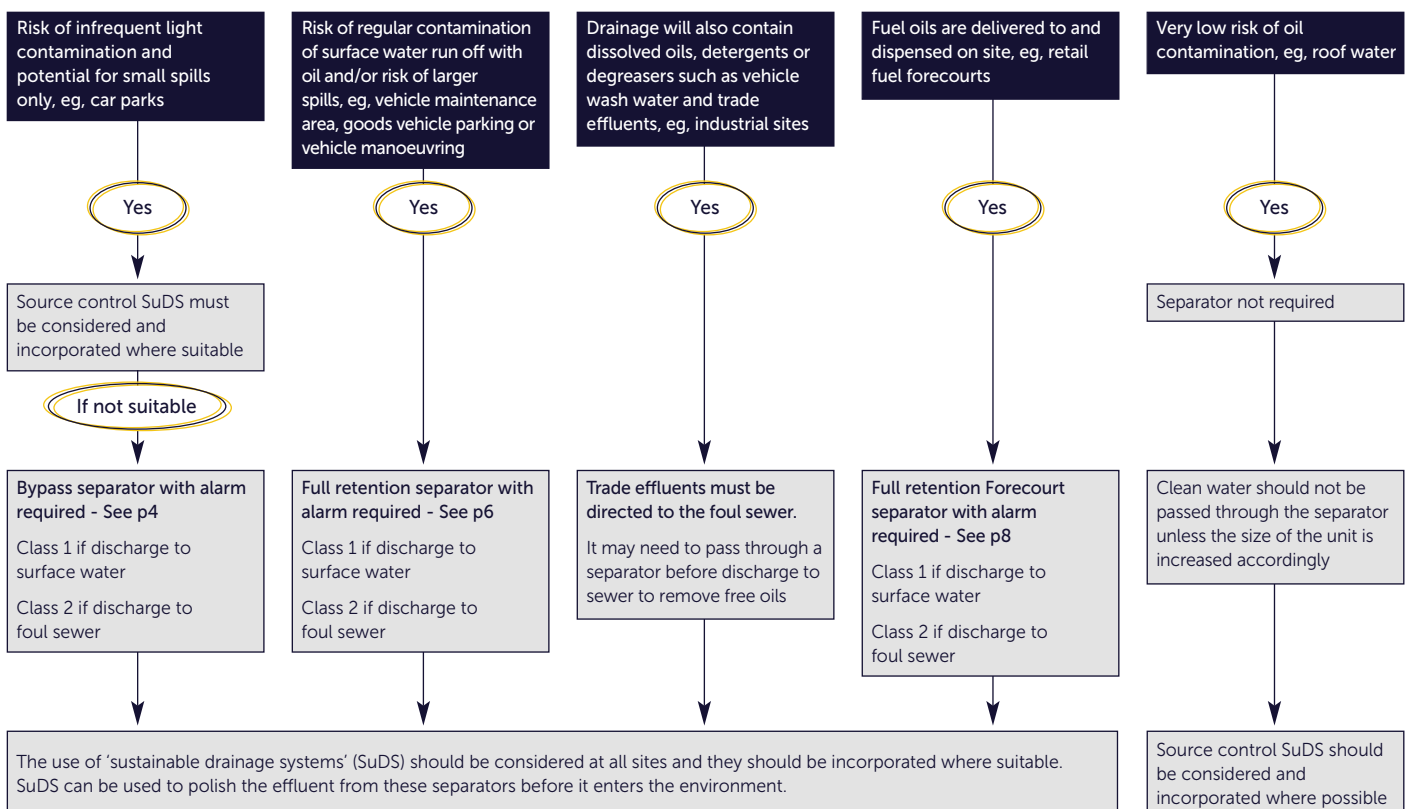
Forecourt separators are a type of full retention separator, however they are specifically designed to store the maximum spillage likely to occur on a petrol station forecourt.

These separators are manufactured to a specific size in order to retain the potential spillage from a single compartment of a road tanker – currently up to 7,600 litres in the UK.

Wash-down separators and silt traps

It is a legal requirement to install a silt trap or wash-down separator on commercial sites, such as vehicle wash bays, where there is an environmental risk of contamination from dirt, brake dust, traffic film residue, cleaning agents, oil, etc.

Choosing the right separator



Bypass separators

For areas at 'low risk' of oil contamination

Overview

Bypass separators are used in a 'low risk' environment where there is no requirement to provide full treatment for the flow; for example a car park where the risk of a significant spillage is small.

Designed and tested to BS EN858 parts 1&2, Marsh Hydrooil bypass separators are manufactured from virgin unfilled resin offering exceptional durability, impact resistance and are guaranteed to be watertight and of uniform thickness. These combined properties ensure that the full range of separators stand up to the most rigorous conditions during their service life.

Internal working components, such as coalescing filters, weirs, oil skimmer plates, and their configurations offer the most modern and efficient oil/water separation capability available to the market today.

A wide choice of inlet and outlet positions are available on the units - detailed requirements should be provided at time of order (standard inlet and outlet positions will otherwise be fitted).

Operating principle

Marsh Hydrooil bypass separators are designed to treat 10% of peak flow.

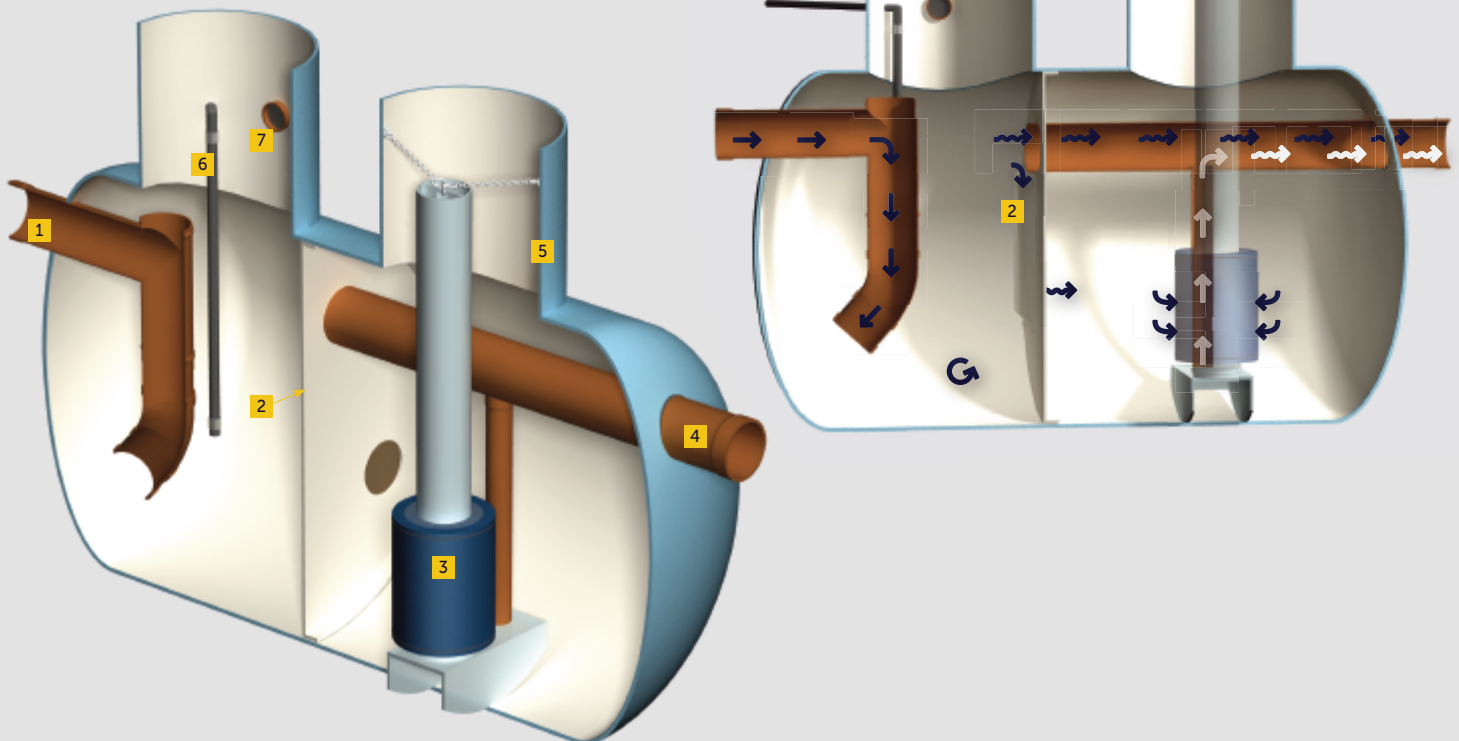
The drainage areas served by each separator are determined in accordance with both BS EN858 parts 1&2, but also with reference to a formula provided by the Environment Agency, where $NSB=0.0018xA$ (catchment area in m^2). Flows from higher rainfall rates are allowed to bypass the main separation chamber.

Key

- 1 Inlet
- 2 Oil skimmer plate
- 3 Coalescer
- 4 Outlet
- 5 Access turret
- 6 Level alarm dip pipe
- 7 Air vent

Flowpath

- ➔ Oil/water mixture
➔ Water



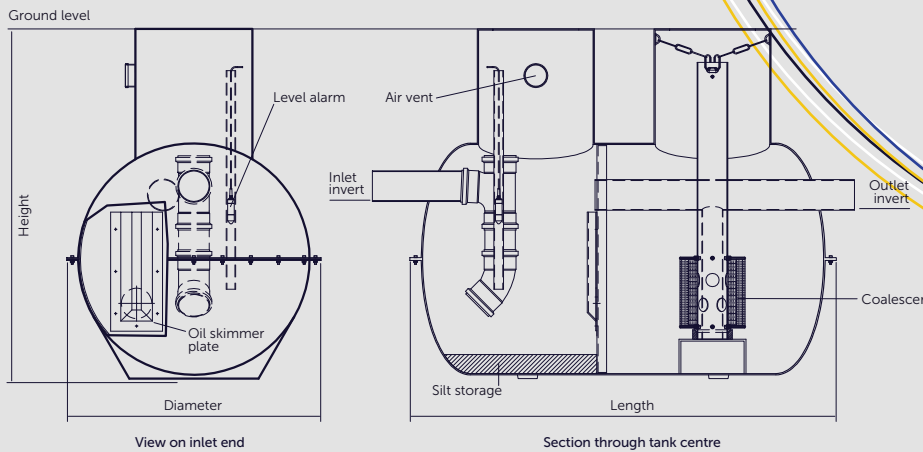
Benefits

- Designed and tested to meet latest UK and European standards
- Corrosion resistant
- Tank shells guaranteed for 25 years with a design life of 50 years
- Heavy duty shells enable installation in all ground conditions
- Easy access turrets for maintenance and servicing (Turret guards optional)
- Various alarm types available (Required by EN858-1)
- Variable invert depths and inlet/outlet configurations to suit individual site conditions
- Vented turrets dissipate excessive fumes and vapours

Typical applications

- Car parks
- Roadways
- Industrial estates
- SuDS

Specifications



Bypass separator range

Model	Max flow litre/sec	Drainage area m ²	Silt storage litres	Oil storage litres	Diameter	Length	Height	Connection size	Inlet invert	Outlet invert
NSBP 3	3	1700	300	45	1200	2100	1840	160	900	950
NSBP 4.5	4.5	2550	450	67.5	1200	2100	1840	160	900	950
NSBP 6	6	3400	600	90	1200	2100	1840	160	900	950
NSBP 8	8	4530	800	120	1200	2110	1840	160	900	950
NSBP 10	10	5660	1000	150	1200	2760	1840	160	900	950
NSBP 15	15	8510	1500	225	1200	4030	1840	200	900	950
NSBP 18	18	9940	1800	270	1800	2380	2440	200	900	1000
NSBP 20	20	11370	2000	300	1800	2620	2440	200	900	1000
NSBP 25	25	14185	2500	375	1800	3180	2440	250	900	1000
NSBP 30	30	17000	3000	450	1800	3740	2440	250	900	1000
NSBP 40	40	22650	4000	600	1800	4860	2440	315	900	1000
NSBP 45	45	25325	4500	675	1800	5420	2440	315	900	1000
NSBP 50	50	28000	5000	750	1800	5980	2440	315	900	1000
NSBP 60	60	32333	6000	900	2500	4006	3140	315	900	1000
NSBP 70	70	36665	7000	1050	2500	4566	3140	315	900	1000
NSBP 75	75	41000	7500	1125	2500	4886	3140	315	900	1000
NSBP 80	80	45330	8000	1200	2500	5126	3140	315	900	1000
NSBP 100	100	56660	10000	1500	3000	4674	3640	315	900	1000
NSBP 125	125	70820	12500	1875	3000	5713	3640	400	900	1000

Notes:

- > The dimensions given on this page are for guidance only
- > For precise tank sizes and configurations, please contact Marsh Industries
- > Number of access shafts will be built to suit site specifications and to maintain safe access for emptying
- > All dimensions in mm

Full retention separators

For areas at 'high risk' of oil contamination

Overview

Full retention separators are used where there may be a 'high risk' of a significant fuel spillage, such as vehicle workshops

Designed and tested to BS EN858 parts 1&2, Marsh Hydrooil full retention separators are manufactured from virgin unfilled resin offering exceptional durability, impact resistance and are guaranteed to be watertight and of uniform thickness. These combined properties ensure that the full range of separators stand up to the most rigorous conditions during their service life.

Internal working components, such as coalescing filters, automatic closure devices, weirs, oil skimmer plates, and their configurations offer the most modern and efficient oil/water separation capability available to the market today.

A wide choice of inlet and outlet positions are available on the units - detailed requirements should be provided at time of order (standard inlet and outlet positions will otherwise be fitted).



Operating principle

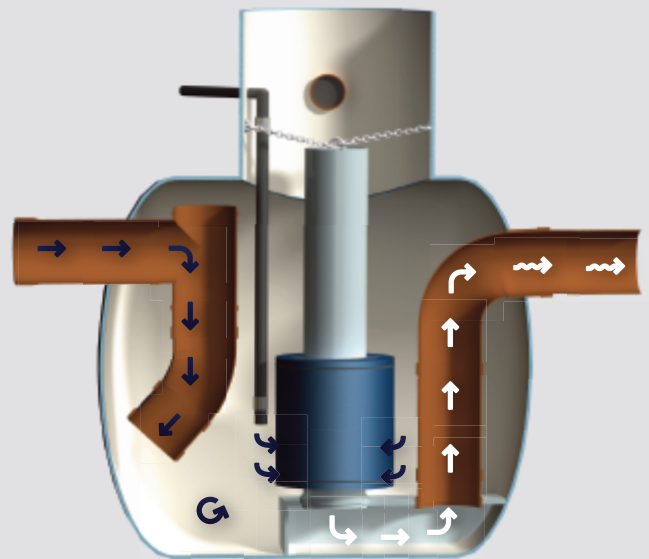
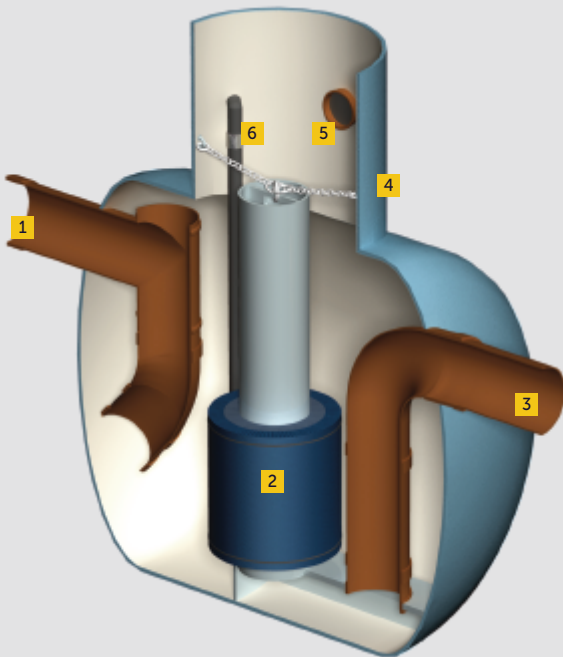
Marsh Hydrooil full-retention separators treat the full flow that is delivered by the drainage system, which is normally equivalent to the flow generated by a rainfall intensity of 65mm/hr.

Key

- 1 Inlet
- 2 Coalescer
- 3 Outlet
- 4 Access turret
- 5 Air vent
- 6 Level alarm dip pipe

Flowpath

-  Oil/water mixture
 Water



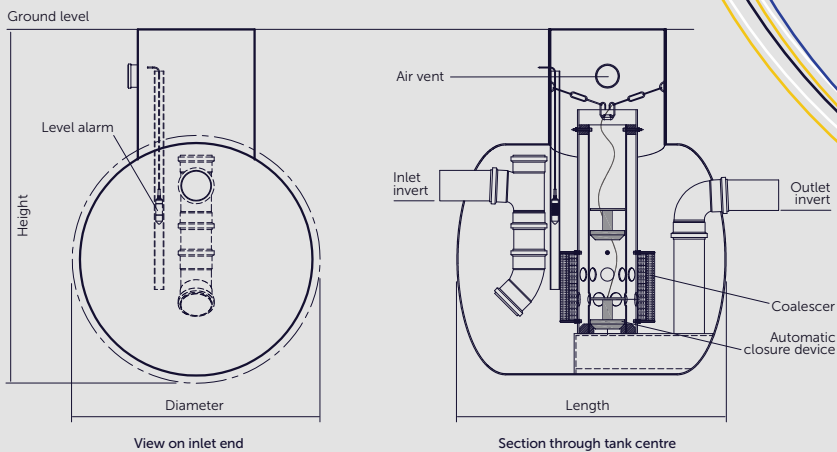
Benefits

- Designed and tested to meet latest UK and European standards
- Corrosion resistant
- Tank shells guaranteed for 25 years with a design life of 50 years
- Heavy duty shells enable installation in all ground conditions
- Easy access turrets for maintenance and servicing (Turret guards optional)
- Various alarm types available (Required by EN858-1)
- Variable invert depths and inlet/outlet configurations to suit individual site conditions
- Vented turrets dissipate excessive fumes and vapours

Typical applications

- Vehicle workshops
- Refuel facilities
- Fuel storage sites

Specifications



Full retention separator range

Model	Max flow litre/sec	Drainage area m ²	Silt storage litres	Oil storage litres	Diameter	Length	Height	Connection size	Inlet invert	Outlet invert
NSFR 3	3	170	300	30	1200	1400	1840	160	900	950
NSFR 4.5	4.5	255	450	40	1200	1700	1840	160	900	950
NSFR 6	6	340	600	60	1200	2400	1840	160	900	950
NSFR 8	8	453	800	80	1200	3200	1840	160	900	950
NSFR 10	10	566	1000	100	1200	3500	1840	160	900	950
NSFR 15	15	851	1500	150	1800	3600	2440	200	900	1000
NSFR 20	20	1137	2000	200	1800	4000	2440	200	900	1000
NSFR 30	30	1700	3000	300	1800	4800	2440	250	900	1000
NSFR 40	40	2265	4000	400	1800	6200	2440	315	900	1000
NSFR 50	50	2800	5000	500	1800	7500	2440	315	900	1000
NSFR 60	60	3233	6000	600	2500	5200	3140	315	900	1000
NSFR 65	65	3670	6500	650	2500	5600	3140	315	900	1000
NSFR 70	70	4318	7000	700	2500	6000	3140	315	900	1000
NSFR 80	80	4533	8000	800	2500	6600	3140	315	900	1000
NSFR 100	100	5666	10000	1000	2500	8600	3140	315	900	1000
NSFR 125	125	7082	12500	1250	3000	7200	3640	400	900	1000
NSFR 150	125	8500	12500	1500	3000	8400	3640	450	900	1000

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Forecourt separators

For areas at 'significant risk' of oil contamination

Overview

Designed and tested to BS EN858 parts 1&2, Marsh Hydrooil forecourt separators are manufactured from virgin unfilled resin offering exceptional durability, impact resistance and are guaranteed to be watertight and of uniform thickness. These combined properties ensure that the full range of separators stand up to the most rigorous conditions during their service life.

Internal working components, such as coalescing filters, weirs, oil skimmer plates, and their configurations offer the most modern and efficient oil/water separation capability available to the market today.

A wide choice of inlet and outlet positions are available on the units - detailed requirements should be provided at time of order (standard inlet and outlet positions will otherwise be fitted).

Operating principle

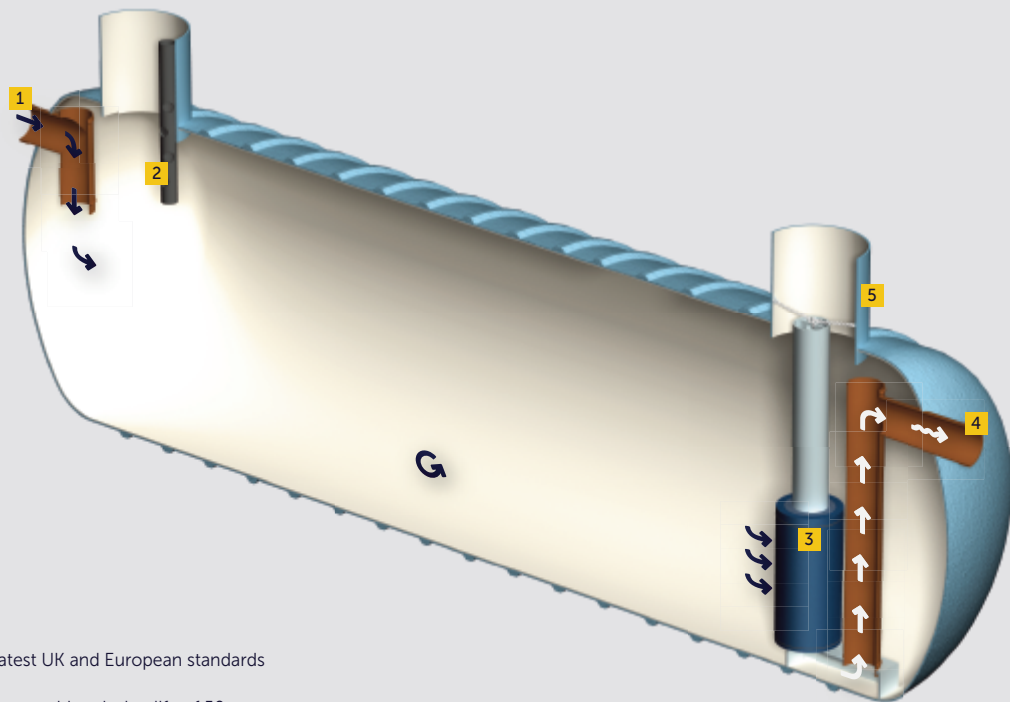
Marsh Hydrooil forecourt separators are manufactured to a specific size in order to retain the potential spillage from a single compartment of a road tanker - currently up to 7,600 litres in the UK.

Key

- 1 Inlet
- 2 Oil level alarm (in 3" pipe)
- 3 Coalescer
- 4 Outlet
- 5 Access turrets

Flowpath

- ➔ Oil/water mixture
➔ Water



Benefits

- Designed and tested to meet latest UK and European standards
- Corrosion resistant
- Tank shells guaranteed for 25 years with a design life of 50 years
- Heavy duty shells enable installation in all ground conditions
- Easy access turrets for maintenance and servicing (Turret guards optional)
- Various alarm types available (Required by EN858-1)
- Variable invert depths and inlet/outlet configurations to suit individual site conditions
- Vented turrets dissipate excessive fumes and vapours

Typical applications

- Petrol stations
- Refuel facilities
- Fuel storage sites

Forecourt separator range

Model	Capacity litres	Diameter	Length	Height	Connection size	Inlet invert	Outlet invert
Class 1 C	10000	1800	4200	2200	160	700	800
Class 2 C	10000	1800	4200	2200	160	700	800
Class 1 PS	10000	1800	4200	2200	160	700	800
Class 2 PS	10000	1800	4200	2200	160	700	800

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Illustrations shown for visual reference only

Wash-down separators / silt traps

Pollution prevention

Wash-down separators

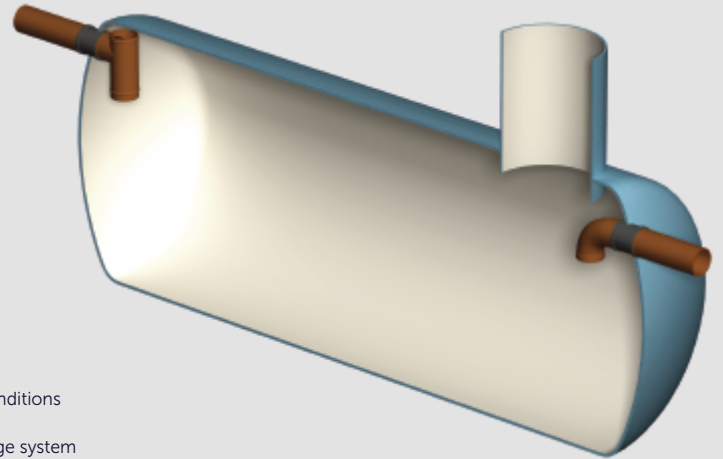
Available in capacities from 2000-20,000 litres, Marsh wash-down separators safely remove silt and debris from vehicle wash-down facilities.

These units are primarily used on car wash bays, pressure wash facilities or other cleaning facilities where the effluent must be discharged to the foul water drainage system.

It is a legal requirement to install a silt trap or wash-down separator on commercial sites, such as vehicle wash bays, where there is an environmental risk of contamination from dirt, brake dust, traffic film residue, cleaning agents, oil, etc. In all cases, you should contact your local building control or environmental agency for specific site requirements.

Benefits

- Heavy duty shells enable installation in all ground conditions
- Tank shells guaranteed for 25 years with a design life of 50 years
- Variable invert depths and inlet/outlet configurations to suit individual site conditions
- Easy access turrets for maintenance and servicing (Turret guards optional)
- Optional Polylok filter can further reduce pollutants from entering the drainage system
- Various alarm types available (Required by EN858-1)
- Corrosion resistant

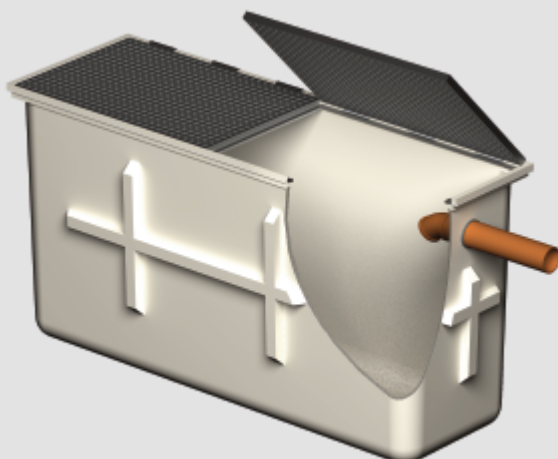


Wash-down separator range

Model	Capacity litres	Diameter	Length	Height	Connection size	Inlet invert	Outlet invert
WD2800	2800	1250	3000	1750	110	700	750
WD3800	3800	1250	4000	1750	110	700	750
WD4500	4500	1600	2650	2100	110	700	750
WD6000	6000	1800	2950	2300	110	700	750
WD8000	8000	1800	3600	2300	160	700	750
WD10000	10000	1800	4200	2300	160	700	750
WD12000	12000	1800	5000	2300	160	700	750
WD15000	15000	2500	3100	3000	160	700	750
WD18000	18000	2500	4100	3000	160	700	750
WD20000	20000	2500	4500	3000	160	700	750

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- > All dimensions in mm



Silt traps

With a capacity of 1050 litres, Marsh silt traps provide effective storage of silt and debris from vehicle wash-down facilities.

Positioned ahead of an oil separator, the silt trap gathers and stores silt and sediment, and prevents it from entering the oil separator system.

Benefits

- Heavy duty body enables installation in all ground conditions
- Hinged, galvanised steel grating provides structural integrity and easy emptying
- Tank body guaranteed for 25 years with a design life of 50 years

Silt trap

Model	Capacity litres	Length	Width	Height	Connection size	Outlet invert
CST1	1050	2110	720	1140	110mm	315

Alarm systems

For oil separators, wash-down units and silt traps

Oil separator alarms monitor the level of liquid in separator units. An alarm signal is generated when there is an excessive level of oil, liquid or silt, or when the unit requires emptying.

An oil separator alarm is required on all separators to prevent hydrocarbons from entering the drainage system, and to ensure safe and economic operation of the unit.

Marsh Industries can supply various types of oil level, silt level and high level alarms, as well as bespoke options as required.

All alarms supplied by Marsh comply with EN858 parts 1&2, provide explosion protection and are ATEX approved.

Mains alarm

Suitable for sites where mains supply is available.

- Alert: Beacon or SMS text message (optional)
- High quality oil probe with 5m cable
- Probe range 200 metres max (dependent on cable style)
- 240V control panel
- IP65 ABS enclosure
- Supplied with junction box



Battery alarm

Battery alarms are suitable for sites where mains supply is not readily available or for retrofitting.

- Alert: Beacon or SMS text message (optional)
- Probe range: 200 metres max (dependent on cable style)
- Powered by 4x1.5V alkaline D cell batteries
- IP65 ABS enclosure
- Manual probe status check



Solar alarm

Suitable for remote locations and where mains power is unavailable.

- Alert: Beacon or SMS text message (optional)
- High quality oil probe with 5m cable
- Intuitive control panel
- Supplied with battery plus backup battery
- Supplied with clean contact relay
- Alarm stand rotates 360 degrees



For advice and guidance on choosing the right alarm for your site please contact Marsh Industries on +44 (0)1933 654582 or email separators@marshindustries.co.uk

Prüfinstitut für Abwassertechnik GmbH

Prüf- und Zertifikatsstelle
für Abwassertechnik an der IKTW Aachen



Report on practical testing according to
EN 858-1 of glass reinforced separator
systems for light liquids
"Hydroil Separator"

Marsh Industries Ltd.

Report – No PIA2017-AB-1607-1089.01

Dormay, Aachen, February 2017



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