Conder® OIL/WATER SEPARATORS

THE PARTNER OF CHOICE

PREMIER TECH AQUA

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40 years OF PASSION

The Conder Range of Oil Separators are for installation on surface water drainage systems and are designed to prevent hydrocarbons (e.g. diesel, petrol, engine oil) from mixing with surface water and entering our drainage systems.

Pollution prevention is a critical part of sustainable drainage systems and statutory regulations are in force to control the discharge of hydrocarbons, with severe penalties imposed for non-compliance.

Compliance

The Conder Range of Oil Separators fully conform to both the Environment Agency's latest PPG guidelines and European standard BSEN-858-1-2 and are proven to effectively separate oil and water. Under test, the Conder Bypass performed to less than 1 mg/L and in doing so guarantees minimal environmental impact and ensures public safety.

Classes of Separators

There are two classes of separators which are defined by performance.

Class 1	Class 2*
Class 1 Separators are designed to achieve a concentration of less than 5 mg/L of oil under standard test conditions. These conditions are required for discharges to surface water drains and the water environment.	Class 2 Separators are designed to achieve a concentration of less than 100 mg/L oil under standard test conditions and are suitable for dealing with discharges where a lower quality requirement applies, such as discharges to the foul sewer.

*Class 2 available in forecourt separators only.

Selecting the Right Separator

Premier Tech Aqua offers a full range of Separators for varying use and application:

- Bypass Separator
- Full Retention Separator
- Forecourt Separator
- Wash Down and Silt Separators

If you're unsure of what type of Conder Oil Separator you require, please use the chart below to help you identify the most suitable product for your project.

The guidance given is for the use of separators in surface water drainage systems that discharge to rivers and soakways.

Is there a risk of oil contaminating the drainage from the site?

YES	YES	YES	YES	NO
Risk of infrequent light contamination and potential for small spills only e.g. car park.	Risk of regular contamination of surface water run off with oil and/or risk of larger spills e.g. vehicle maintenance area, goods vehicle parking or vehicle manoeuvring.	Risk of regular Drainage will also contain dissolved oils, detergents or degreasers such as vehicle wash water and trade effluents e.g. industrial sites.	Fuel oils are delivered to and dispensed on site e.g. retail fuel forecourts.	Very low risk of oil contamination e.g. roofwater.
YES				YES
Source control SUDS must be considered and incorporated where suitable.				Separator not required.
IF NOT SUITABLE	YES	YES	YES	
By-pass separator with alarm required. Class 1 if discharge to surface water. Class 2 if discharge to foul sewer.	Full retention separator with alarm required. Class 1 if discharge to surface water. Class 2 if discharge to foul sewer.	Trade effluents must be directed to the foul sewer. It may need to pass through a separator before discharge to sewer to remove.	Full retention forecourt separator with alarm required. Class 1 if discharge to surface water. Class 2 if discharge to foul sewer.	Clean water should not be passed through the separator unless the size of the unit is increased accordingly.

The use of SUDS should be considered at all sites and they should be incorporated where suitable. SUDS can be used to polish the effluent from these separators before it enters the environment.

Source control SUDS should be considered where possible.

Separator Alarms

All oil separators are required by legislation to be fitted with an oil level alarm system with recommendations that the alarm is installed, tested, commissioned and regularly serviced by a qualified technician.

The alarm indicates when the separator is in need of immediate maintenance in order for it to continue to work effectively. Premier Tech Aqua can offer a full technical and service package for a variety of alarm options.

The Conder Range of Bypass Separators

The Conder Range of Bypass Separators are used to fully treat all flows generated by rainfall rates of up to 6.5 mm/hr. Bypass Separators are used when it is considered an acceptable risk not to provide full treatment for high flows, for example where only small spillages occur and the risk of spillage is small.

Typical Applications

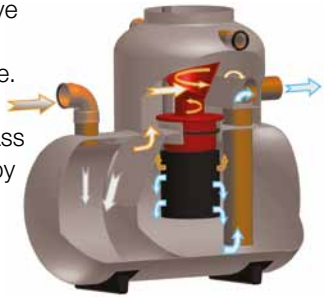
- Car parks
- Roadways and major trunk roads
- Light industrial and goods yards

Features and Benefits

- Innovative design
- Compact and easy to handle/install
- Fully compliant to the Environment Agency's PPG3 guidelines
- Low product and install costs
- Full BSI certification
- Exceeds industry standards
- Easy to service
- Fully tested and verified with a range from CNSB 3 to CNSB 1000 (Class 1)

Performance

Conder Bypass Separators have been designed to treat all flow up to the designed nominal size. Any flow in excess of the nominal size is allowed to bypass the separation chamber, thereby keeping the separated and trapped oil safe.



How it Works

Step 1

During the early part of a rain storm, which is a time of high oil contamination, all of the contaminated water flow passes through the sediment collection chamber and enters the separation chamber through a patented oil skimming and filter device.

Step 2

All of the oil then proceeds to the separation chamber where it is separated to the Class 1 standard of 5 mg/L and safely trapped.

Step 3

As the rainstorm builds up to its maximum and the level of oil contamination reduces significantly, the nominal size flow continues to pass through the separation chamber and any excess flow of virtually clean water is allowed to bypass directly to the outlet.

Specifications

Larger models up to CNSB 1000 are available.

Area Drained (m^2)	Tank Code including Silt	Length including Silt (mm)	Silt Capacity (L)	Oil Storage Capacity (L)	Diameter (mm)	Height (mm)	Base to Inlet Invert (mm)	Base to Outlet Invert (mm)	Access (mm)
1667	CNSB3s/21	1400	300	45	1026	2200	1730	1680	750
2500	CNSB4.5s/21	1785	450	67.5	1026	1875	1270	1220	600
3333	CNSB6s/21	1975	600	90	1026	1875	1270	1220	600
4444	CNSB8s/21	2165	800	120	1026	1875	1270	1220	600
5555	CNSB10s/21	2485	1000	150	1026	1875	1270	1220	600
8333	CNSB15s/21	2670	1500	225	1210	2150	1450	1400	600
11111	CNSB20s/21	3115	2000	300	1210	2150	1450	1400	600
13889	CNSB25s/21	3555	2500	375	1210	2150	1450	1400	600
16667	CNSB30s/21	3470	3000	450	1510	2690	1770	1720	750
22222	CNSB40s/21	4040	4000	600	1510	2690	1770	1720	750
27778	CNSB50s/21	4655	5000	750	1510	2690	1770	1720	750
33333	CNSB60s/21	4415	6000	900	1880	3300	2025	1975	2 x 600
44444	CNSB80s/21	5225	8000	1200	1880	3300	2025	1975	2 x 600
55556	CNSB100s/21	6010	10,000	1500	1880	3300	2025	1975	2 x 600

Note: It is a requirement of PPG3 that you have a silt capacity either in your tank or in an upstream catch pit.

The Conder Range of Full Retention Separators

The Conder Range of Full Retention Separators are designed to treat the full flow that can be delivered by a drainage system, which is normally equivalent to the flow generated by a rainfall intensity of 65 mm/hr. Full Retention Separators are used where there is a risk of regular contamination with oil and a foreseeable risk of significant spillages.

Typical Applications

- Sites with a high-risk of oil contamination
- Fuel storage depots
- Refuelling facilities
- Petrol forecourts
- Vehicle maintenance areas/workshops
- Where discharge is to a sensitive environment

Features and Benefits

- All surface water is treated
- Automatic closure device (ACD) fitted as standard

Performance

All Conder Full Retention Separators have an automatic closure device (ACD) fitted as standard. This is compulsory for all PPG3 compliant Full Retention Separators and prevents accumulated pollutants flowing through the unit when maximum storage level is reached.

How it Works

Step 1

Contaminated water enters the separator where the liquid is retained for a sufficient period to ensure that the lighter than water pollutants (such as oil, petrol) separate and rise to the surface of the water.

Step 2

The decontaminated water then passes through the coalescing filter before it is safely discharged from the separator, with the remaining pollutants being retained in the separator.

Step 3

Retained pollutants must be emptied from the separator once the level of oil is reached, or the oil level alarm is activated. This waste should be removed from the separator under the terms of The Waste Management Code of Practice.

Specifications

Larger models available upon request.

Area Drained (m^2)	Tank code Incl. Silt	Length including Silt (mm)	Slit Capacity (L)	Oil Storage Capacity	Diameter (mm)	Height (mm)	Base to Inlet Invert (mm)	Base to Outlet Invert (mm)
222	CNS4s/11	2319	400	40	1026	1655	1295	1245
333	CNS6s/11	3414	600	60	1026	1655	1295	1245
444	CNS8s/11	3197	800	80	1210	1855	1480	1430
556	CNS10s/11	3957	1000	100	1210	1855	1480	1430
833	CNS15s/11	3870	1500	150	1510	2180	1780	1730
1111	CNS20s/11	5060	2000	200	1510	2180	1780	1730
1667	CNS30s/11	5369	3000	300	1880	2560	2030	1980
2222	CNS40s/11	7059	4000	400	1880	2560	2030	1980
2778	CNS50s/11	4080	5000	500	2600	3315	2730	2680
3333	CNS60s/11	4805	6000	600	2600	3315	2730	2680
3889	CNS70s/11	5529	7000	700	2600	3315	2730	2680
4444	CNS80s/11	6254	8000	800	2600	3315	2730	2680
5556	CNS100s/11	6751	10,000	1,000	2600	3315	2730	2680

Note: It is a requirement of PPG3 that you have a silt capacity either in your tank or in an upstream catch pit.

Conder Range of Forecourt Separators

Conder Forecourt Separators have been designed for specific use in petrol filling stations and other similar applications. The size of this separator has been specifically increased in order to retain the possible loss of the contents from one compartment of a road tanker, which could be up to 7,600 litres.

Forecourt separators are an essential infrastructure requirement for all forecourts so as to ensure compliance with both health and safety and environmental legislation.

Typical Applications

- Petrol forecourts
- Refuelling facilities
- Fuel storage depot

Features and Benefits

- All surface water is treated
- Available in Class 1 and Class 2
- Automatic Closure Device (ACD) fitted as standard
- Includes 2000L silt capacity

Performance

All Conder Forecourt Separators have an automatic closure device (ACD) fitted as standard. This is compulsory for all PPG3 compliant Full Retention Separators and prevents accumulated pollutants flowing through the unit when maximum storage level is reached.

How it Works

Step 1

Contaminated water enters the separator where the liquid is retained for a sufficient period to ensure that the lighter than water pollutants (such as oil, petrol) separate and rise to the surface of the water.

Step 2

The decontaminated water then passes through the coalescing filter before it is safely discharged from the separator, with the remaining pollutants being retained in the separator.

Step 3

Retained pollutants must be emptied from the separator once the level of oil is reached, or the oil level alarm is activated. This waste should be removed from the separator under the terms of The Waste Management Code of Practice.

Specifications

Tank Code	Volume (L)	Length (mm)	Diameter (mm)	Height (mm)	Base to Inlet (mm)	Base to Outlet (mm)	Access (mm)
ANO/11*	10,000	4,250	1,800	2,100	1,600	1,550	750
ANT/12**	10,000	4,250	1,800	2,100	1,600	1,550	750
LNO/11***	10,000	4,250	1,800	2,100	1,600	1,550	750

*Class 1 Forecourt Separator suitable for discharging to surface water drains

**Class 2 Forecourt Separator suitable for discharging to foul drains only

***Class 1 Forecourt Separator suitable for installation in granular materials

Conder Range of Washdown and Silt Separators

Conder Washdown and Silt Separators are for use in areas such as car washes, pressure wash facilities or other cleaning facilities and must be discharged to the foul water drainage system in accordance with PPG13.

Typical Applications

- Car wash facilities
- Tool hire depots
- Pressure washer facilities

Features and Benefits

- Available in 1,2 and 3 stage options
- Efficient silt and hydrocarbon removal

Performance

The Environment Agency's PPG13 requires that discharge from pressure washers must discharge to a foul drainage system. Where there is no foul drainage available, the effluent must be contained within a sealed drainage system or catchpit for disposal by a licenced waste contractor.

Silt build-up is the primary concern with washdown facilities and so the Conder range of washdown and silt separators are used to remove the silt and will allow some separation of hydrocarbons.

Detergents that are used in wash down areas will break down and disperse hydrocarbons (hindering the separation process). Therefore, it is important to remember the main function of wash down separators is to remove silt.

How it Works

Step 1

Contaminated wash down water enters the unit where the heavier solids, silts and settle to the bottom of the tank.

Step 2

The lighter liquids, hydrocarbons, will rise to the surface and be retained within the tank.

Step 3

Treated water will exit the separator via the dipped outlet.

Specifications

Although it is recognised that single stage separators give the most efficient separation, 2 and 3 chamber Conder Washdown and Silt Separators are available on request.

Tank Code	Capacity (L)	Silt Storage	Diameter (mm)	Length (mm)	Access Diameter (mm)	Base to Inlet Invert (mm)	Base to Outlet Invert (mm)
CWS2/12	2,000	1,000	1,000	2,713	600	1,290	1,240
CWS3/12	3,000	1,500	1,200	2,853	600	1,475	1,425
CWS4/12	4,000	2,000	1,200	3,737	600	1,475	1,425
CWS6/12	6,000	3,000	1,500	3,636	600	1,775	1,725
CWS8/12	8,000	4,000	1,800	3,443	600	2,030	1,980
CWS10/12	10,000	5,000	1,800	4,250	600	2,030	1,980

FST Silt Trap

Large quantities of silt can be associated with washdown areas. The Conder FST silt trap is ideal for easy removal of silt either manually or by a waste disposal contractor.

The FST range of silt traps are available with varying grades of covers from B125 up to E600 to allow installation in all types of vehicle or plant washdown facilities.

Conder Range of Alarm Systems

All separators must be fitted with an alarm in order to provide visual and audible warning when the level of oil reaches 90% of its storage volume, as required by The Environment Agency's PPG3.

The alarm system will then be triggered to indicate that the separator is in need of immediate emptying, in order to continue effective operation.

Features and Benefits

- Option for installation at a remote supervisory point
- Audible and visual
- Eliminates unnecessary waste management visits
- Easy installation
- Audible, visual and text message alert alarm systems available

Mains Powered System

Mains powered alarm systems are best suited to new build situations or sites where installation of the necessary cabling and ducting is straight forward and economical. The probe located in the separator will, when surrounded by floating hydrocarbons, activate an alarm condition on the remote panel to advise that the unit requires emptying.

Solar Powered System (Flashing Beacon)

This option requires no mains power supply or any significant cabling or ducting, making it extremely economical for large sites and retro fitting alarms to existing oil separators. A High Intensity Beacon will flash when a problem is detected.

Solar GSM Alarm

The Solar GSM Alarm sends a status report on your separator to a mobile phone number of your choice. The status of the GSM Alarm can also be tested at any time by simply sending a pre-recorded text message via your directed mobile phone, for additional peace of mind.

Peripherals

Coalescing Filters

The Conder Coalescing Filter is designed to separate residual oil in already separated oil/water and ensures a discharge quality of less than 5 mg/L of oil in water.

Features and Benefits

- Handle for easy removal and cleaning
- Flashing beacons (with option of siren kit)
- Kiosks
- Probe brackets
- Bas 1000 intrinsically safe junction box
- High level probe
- Silt level probe
- Oil level probe

Servicing

The Environmental Agency's PPG3 guidelines stipulate that every 6 months, and in accordance with manufacturer's instructions, experienced personnel should carry out maintenance to both the separator and alarm.

Premier Tech Aqua and our service partners can offer a full technical and service package including separator and alarm installation, commissioning, oil and silt removal and route service contracts.

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