SPEL Stormceptor®

Class 1 Bypass Separators

Overview

SPEL Stormceptors® are the most widely used separators where it is acceptable to treat the first flush and flows up to 6.5mm/hr rainfall. This covers approximately 94% of all rainfall events in the UK. Any excess rainfall is by-passed internally without treatment.

Class 1 By Pass Separators are designed to achieve a discharge concentration of less than 5mg/l of oil under standard test conditions, and should be used when the separator is required to remove small amounts of oil, such as those arising from car park run-off.

These are used when it is considered an acceptable risk not to provide full treatment for storm flows, for example, where the risk of a large spillage and heavy rainfall occurring at the same time is small. They are especially suitable for low risk sites with large catchment areas.

Product Range

100 Series
(1.3m internal diameter):
NSB 3
Catchment area: 1,667m²

200 Series
(1.2m internal diameter):
NSB 4 - NSB 15
Catchment area: 2,222m² - 8,333m²

300 Series
(1.8m internal diameter):
NSB 20 - NSB 50
Catchment area: 11,111m² - 27,778m²

400 Series
(2.6m internal diameter):
NSB 60 - NSB 160
Catchment area: 33,333m² - 88,889m²

500 Series
(3.5m internal diameter):
NSB 180 - NSB 250
Catchment area: 100,000m² - 139,000m²

600 Series
(4m internal diameter):
NSB 300 - NSB 800
Catchment area: 167,000m² - 444,000m²

25 YEAR TANK SHELL WARRANTY

50 YEAR TANK SHELL LIFE EXPECTANCY

SPELGuard SERVICING & COMMISSIONING

BS EN 858 CERTIFIED

Applications

Car parks larger than 800m² or with 50+ car parking spaces

Smaller car parks discharging to sensitive environments

Roads

Light industrial

Airport taxiways

Shell Design

Designed with reference to BS EN 13121. All tank shells carry the SPEL 25 Year Warranty and life expectancy in excess of 50 years.

Shell Specifications

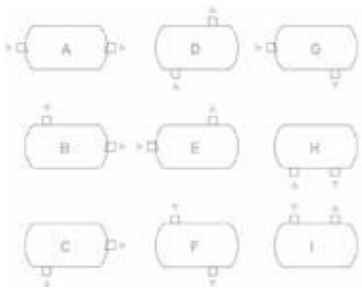
Different tank shell specifications are available dependent upon tank invert levels, ground conditions and ground water levels

Inlet/Outlet Connections

160/225/300mm diameter PVCU socket/ spigot.

450, 600, 750, 900 and 1200mm diameter GRP spigot available. For connecting to site pipework via Flex-Seal/Band-Seal or similar flexible couplings.

The nine inlet/outlet options below are available to assist with design and installation.



This graphic shows indicative locations only. For accurate location, please contact our technical team.

SPEL Stormceptor® Class 1 By Pass Separators

Introduction

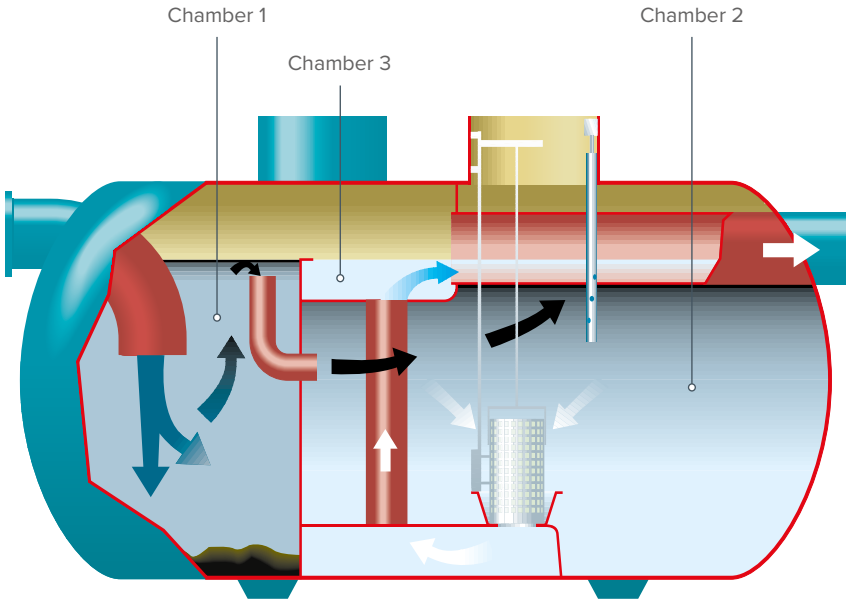
SPEL Stormceptor® is a well proven, high quality system, specially designed and fabricated to provide a very effective means of separating oil/light liquids and silt in stormwater drainage systems, it was also **the first Environment Agency listed class 1 by-pass separator.** The SPEL Stormceptor® 'SC' models are also designed to capture **high volumes of silt.**

The SPEL Stormceptor® is fully certified to BS EN 858 and has been used effectively throughout the UK, Europe and other parts of the world. All SPEL systems are off-site built and have the SPEL 25 Year Warranty.

NSB/Treated Flow Path

The polluted surface water first enters the primary chamber (chamber 1) where silt settles out and is retained. The fuel, oil and other pollutants lighter than water, rise to the surface and are efficiently skimmed off and transferred to the separation chamber (chamber 2).

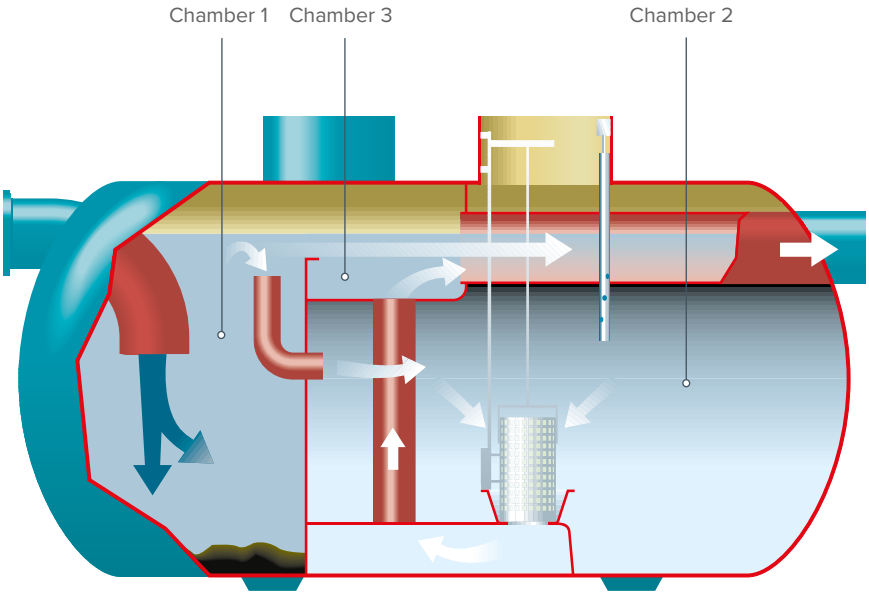
In normal conditions all the flow passes through the separation chamber, where the quiescent conditions allow the pollutants to separate out efficiently. Water from the cleanest zone in the separation chamber flows through a coalescer unit, to remove smaller globules of oil, up to the outlet chamber (chamber 3) and thence to the outlet pipe.



Storm/Peak Flow Path

During a storm the level in the primary chamber rises and the stormwater passes over the weir into the outlet chamber and to the outlet pipe.

The design keeps the turbulence within the separation chamber to a minimum which avoids disturbing the contaminants retained.



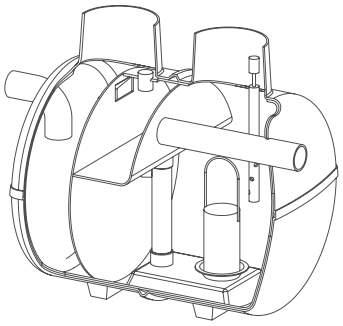
SPEL Stormceptor® By Pass Separators

100 Series (1.3m ø) and 200 Series (1.2m ø), Class 1

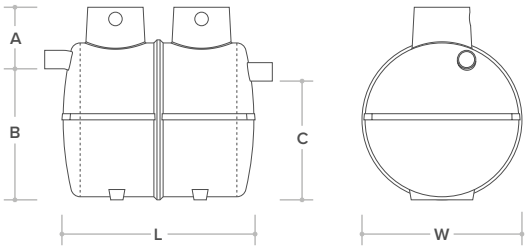
Compliant to the European Standard BS EN 858-1

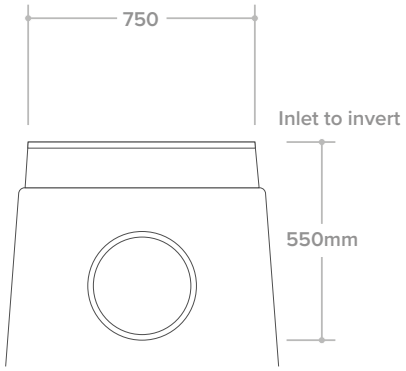
Model	Nominal Size (NSB)	Peak Flow (l/s)	Catchment Area (m^2)	Oil storage (litres)	Silt storage (litres)	Length (mm)	Internal Diameter (mm)	Inlet Invert (mm)	Base to inlet (mm)	Base to outlet	Optimum in/out pipe diameter (mm) for orientation*	Number of access shafts Diameter (mm)	
	Flow (l/s)			NSB x 15	NSB x 100	L	W	A	B	C		450	750*
103 C1/SC	3	30	1,667	45	300	1,550	1,300	500	1,015	965	160	2	-
204 C1/SC	4	40	2,222	60	400	1,870	1,200	550	1,350	1,300	300	-	1
206 C1/SC	6	60	3,333	90	600	2,120	1,200	550	1,350	1,300	300	-	1
208 C1/SC	8	80	4,444	120	800	2,270	1,200	550	1,350	1,300	300	-	1
210 C1/SC	10	100	5,556	150	1,000	2,930	1,200	550	1,350	1,300	300	-	1
212 C1/SC	12	120	6,667	180	1,200	3,570	1,200	560	1,350	1,300	300	-	1
215 C1/SC	15	150	8,333	225	1,500	4,240	1,200	560	1,350	1,300	300	-	1

***SPEL Separators are designed for a maximum flow (NS/NSB) but can be fitted with larger than the recommended maximum connection size IN/OUT or with the addition of adapters providing the maximum flow (NS/NSB) cannot be exceeded or any increase in the operating level in the SPEL Separator to cause the captured pollutants to escape into the vent connections or through access shaft connections. Any overriding of the above criteria could jeopardise performance to the European Standard BS EN 858-1.*

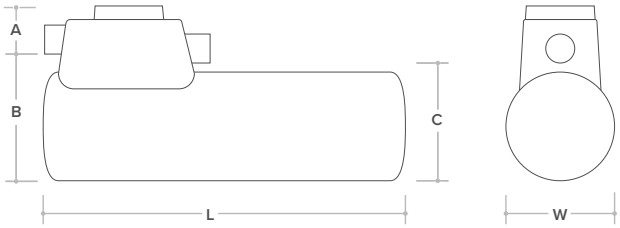


100 Series





200 Series



SPEL Stormceptor® By Pass Separators

300 Series (1.8m ø) and 400 Series (2.6m ø) Class 1

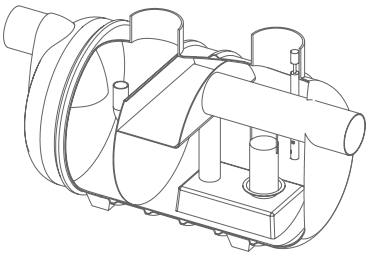
Compliant to the European Standard BS EN 858-1

Model	Nominal Size (NSB)	Peak Flow (l/s)	Catchment Area (m^2)	Oil storage (litres)	Silt storage (litres)	Length (mm)	Internal Diameter (mm)	Inlet Invert (mm)	Base to inlet (mm)	Base to outlet	Optimum in/out pipe diameter (mm) for orientation*	Number of access shafts A-C** Diameter (mm)			
	Flow (l/s)			NSB x 15	NSB x 100	L	W	A	B	C		450	600	750	900
320 C1/SC	20	200	11,111	300	2,000	3,200	1,800	700	1,450	1,350	450	-	2	-	-
325 C1/SC	25	250	13,889	375	2,500	3,540	1,800	700	1,450	1,350	450	-	2	-	-
330 C1/SC	30	300	16,667	450	3,000	4,420	1,800	700	1,450	1,350	450	-	-	1	1
340 C1/SC	40	400	22,222	600	4,000	5,760	1,800	740	1,410	1,310	450	-	1	1	-
345 C1/SC	45	450	25,000	675	4,500	6,570	1,800	740	1,410	1,310	450	-	1	1	-
350 C1/SC	50	500	27,778	750	5,000	7,060	1,800	740	1,410	1,310	450	-	1	1	-

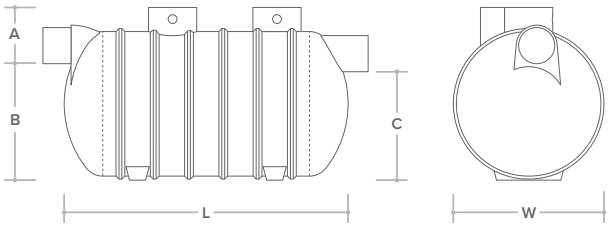
300 Series - models without silt capacity are available if required - details on application

**SPEL Separators are designed for a maximum flow (NS/NSB) but can be fitted with larger than the recommended maximum connection size IN/OUT or with the addition of adapters providing the maximum flow (NS/NSB) cannot be exceeded or any increase in the operating level in the SPEL Separator to cause the captured pollutants to escape into the vent connections or through access shaft connections. Any overriding of the above criteria could jeopardise performance to the European Standard BS EN 858-1.*

***D-I configurations available upon request.*



300 Series



Model	Nominal Size (NSB)	Peak Flow (l/s)	Catchment Area (m^2)	Oil storage (litres)	Silt storage (litres)	Length (mm)	Diameter (mm)	Inlet Invert (mm)	Base to inlet (mm)	Base to outlet	Optimum in/out pipe diameter (mm) for orientation*	Number of access shafts A-C** Diameter (mm)			
	Flow (l/s)			NSB x 15	NSB x 100	L	W	A	B	C		450	600	750	900
460 C1/SC	60	600	33,333	900	6,000	4,400	2,600	950	2,100	2,000	600	-	-	1	1
470 C1/SC	70	700	38,889	1,050	7,000	5,250	2,600	950	2,100	2,000	600	-	-	1	1
480 C1/SC	80	800	44,444	1,200	8,000	6,170	2,600	950	2,100	2,000	600	-	-	1	1
4100 C1/SC	100	1,000	55,556	1,500	10,000	7,400	2,600	1,100	1,950	1,850	750	-	-	1	1
4125 C1/SC	125	1,250	69,444	1,875	12,500	9,050	2,600	1,100	1,950	1,850	750	-	-	1	1
4150 C1/SC	150	1,500	83,333	2,250	15,000	9,950	2,600	1,100	1,950	1,850	750	-	-	-	2
4160 C1/SC	160	1,600	88,889	2,400	16,000	11,830	2,600	1,250	1,800	1,700	750	-	-	1	2

400 Series - models without silt capacity are available if required - details on application.

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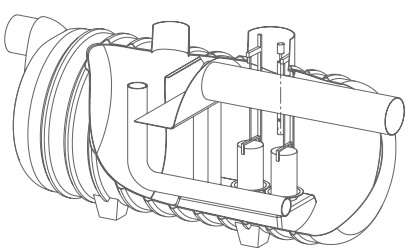
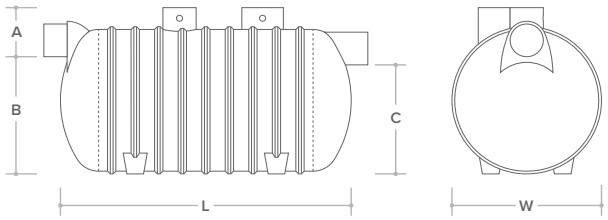


400 Series



SPEL Stormceptor® By Pass Separators

500 Series (3.5m ø) and 600 Series (4.0m ø) Class 1

Compliant to the European Standard BS EN 858-1

These Stormceptors® are individually designed to meet specific site requirements according to catchment area, class, silt capacity, inlet/outlet connection size and orientation. Please contact our technical department for your specific requirements.

Model	Nominal Size (NSB)	Peak Flow (l/s)	Catchment Area (Hectares)	Oil storage (litres)	Silt storage (litres)	Length (mm)	Internal Diameter (mm)	Inlet Invert (mm)	Base to inlet (mm)	Base to outlet	Optimum in/out pipe diameter (mm) for orientation*	Number of access shafts A-C** Diameter (mm)			
	Flow (l/s)			NSB x 15	NSB x 100	L	W	A	B	C		450	600	750	900
5180 C1/SC	180	1,800	10	2,700	18000	7,470	3,500	1,185	2,690	2,550	900	-	-	1	2
5200 C1/SC	200	2,000	11.1	3,000	20000	8,530	3,500	1,185	2,425	2,325	1,200	-	1	1	2
5250 C1/SC	250	2,500	13.9	3,750	25000	10,040	3,500	1,185	2,425	2,325	1,200	-	2	1	2
6300 C1/SC	300	3,000	16.7	4,500	30000	10,310	4,000	1,325	2,850	2,675	1,200	-	-	1	2
6350 C1/SC	350	3,500	19.4	5,250	35000	11,470	4,000	1,325	2,850	2,675	1,200	-	1	1	3
6400 C1/SC	400	4,000	22.2	6,000	40000	12,690	4,000	1,325	2,850	2,675	1,200	-	-	2	3
6500 C1/SC	500	5,000	27.8	7,500	50000	15,870	4,000	1,325	2,850	2,675	1,200	-	-	2	4
6600 C1/SC	600	6,000	33.3	9,000	60000	18,260	4,000	1,325	2,850	2,675	1,200	-	2	1	4
6700 C1/SC	700	7,000	38.9	10,500	70000	22,250	4,000	1,325	2,850	2,675	1,200	-	-	2	5
6500 C1	500	5,000	27.8	7,500	Nil	11,910	4,150	1,325	2,850	2,675	1,200	-	1	1	4
6600 C1	600	6,000	33.3	9,000	Nil	13,510	4,150	1,325	2,850	2,675	1,200	-	1	1	4
6700 C1	700	7,000	38.9	10,500	Nil	16,650	4,150	1,325	2,850	2,675	1,200	-	1	1	5
6800 C1	800	8,000	44.4	12,000	Nil	19,890	4,150	1,325	2,850	2,675	1,200	-	-	1	6

Please note that C1 models do not have the full silt storage capacity as recommended in BS EN 858. Alternative silt capacity needs to be designed into the network upstream of the separator. This could include a silt capture tank.

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***D-I configurations available upon request.*