

STORMWATER RUNOFF CONTINUOUS TREATMENT PLANTS

WITH SEPARATE TANKS

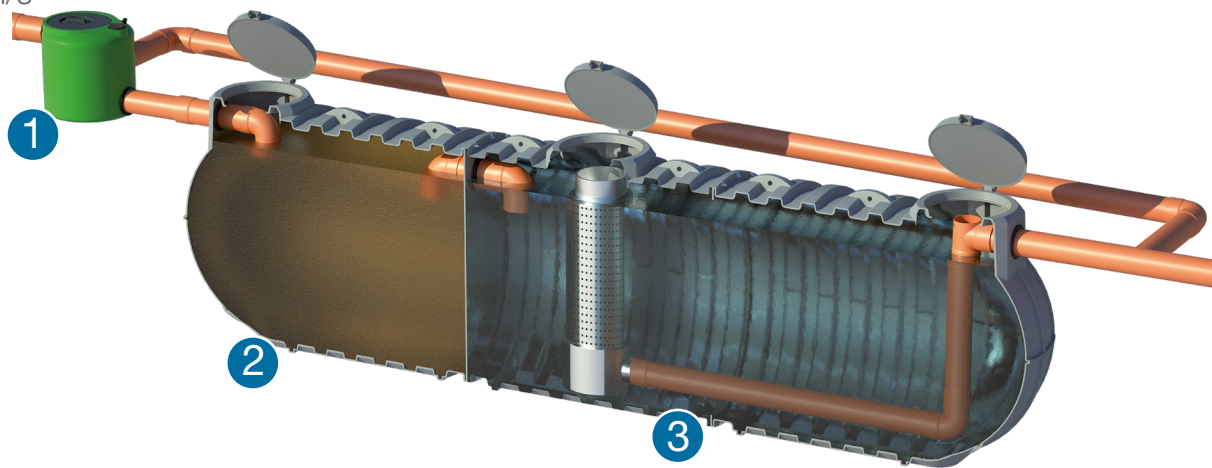
(up to 9000 m² – 50 l/s)



ONE-PIECE

from 11000 m² - 65 l/s

to 27000 m² - 150 l/s



1 FLOW SPLITTING CHAMBER

carries the collected rainwater from the hardstanding to the grit separator and oil separator system. When the incoming flow exceeds the design specifications, part of the incoming water is carried directly to the end tank via the by-pass pipe

2 GRIT SEPARATOR SECTION

stilling tank in which the heavy substances (stones, grit, pieces of rubber and metal,...) settle and accumulate on the bottom of the tank. At the same time the larger light components (drops of oil, hydrocarbons and any foam) accumulate on the surface.

3 COALESCING FILTER TYPE OIL SEPARATION SECTION

thanks to the fine micro-bubble polyurethane coalescing filter inserted into a stainless steel grid, which can be extracted thanks to the presence of a base and guides, also made of stainless steel, the fine particles of oil and hydrocarbons join together to form drops that are large enough to migrate towards the surface, separating from the effluent.

SPECIFICATIONS

TECHNICAL CHARACTERISTICS

The plant allows the continuous treatment of stormwater runoff from impermeable surfaces up to 27000 m² used for transit or parking in industrial areas, residential zones and service stations subject to possible pollution from mineral oils, hydrocarbons, sand/grit and inert materials. The stormwater runoff treatment system makes use of the action of a grit and oil separator in continuous operation capable of treating flows of up to 150 l/s. Runoff from impermeable transit areas must be carried to the treatment system. The treatment tanks receive the flow appertaining to first 5 mm of rain falling over a 15 minute period. For higher flows, the by-pass is activated which sends the excess to the stormwater storage tanks. The treatment plant consists of a grit separator and a coalescing filter type oil separator.

The plant is effective for the following parameters:

- Sedimentable solids.
- Total hydrocarbons and other light liquids that have not been emulsified of specific weight up to 0.85 g/cm³.
- Unless otherwise specified, the peak flows in m³/h for each single model must be less than that indicated on the technical data sheet.
- Unless otherwise specified, the surface area (m²) of the hardstanding to treat for each single model must be less than or equal to the limits indicated on the technical data sheet.
- For that not specifically indicated, refer to the design data specified on the technical data sheet.

USE

treatment of surface drainage water from open-air hardstandings, car parks, roads, service stations, warehouses,...

REFERENCE STANDARDS

Standard UNI EN 858-1 (oil separator), regional standards for treatment of rainwater.

PRODUCT CERTIFICATION

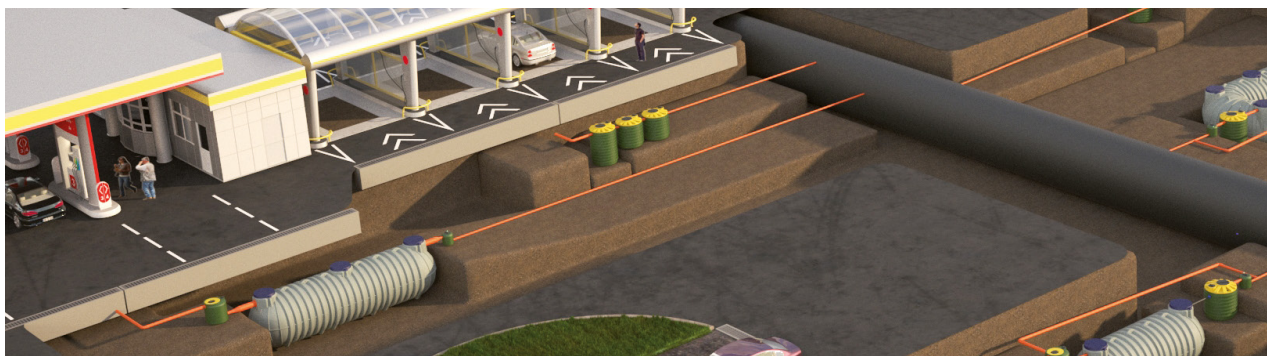
The Rototec oil separators with coalescing filter (excluding the modular range) are CE marked and have been designed, tested and certified under UNI EN 858-1 "Separator systems for light liquids (e.g. oil and petrol). Part 1: Principles of design, performance and product testing, marking and quality control".

The oil separators with coalescing filter have been verified and tested at Rototec and by a third party certifying body, and have been found to comply with the necessary requirements.

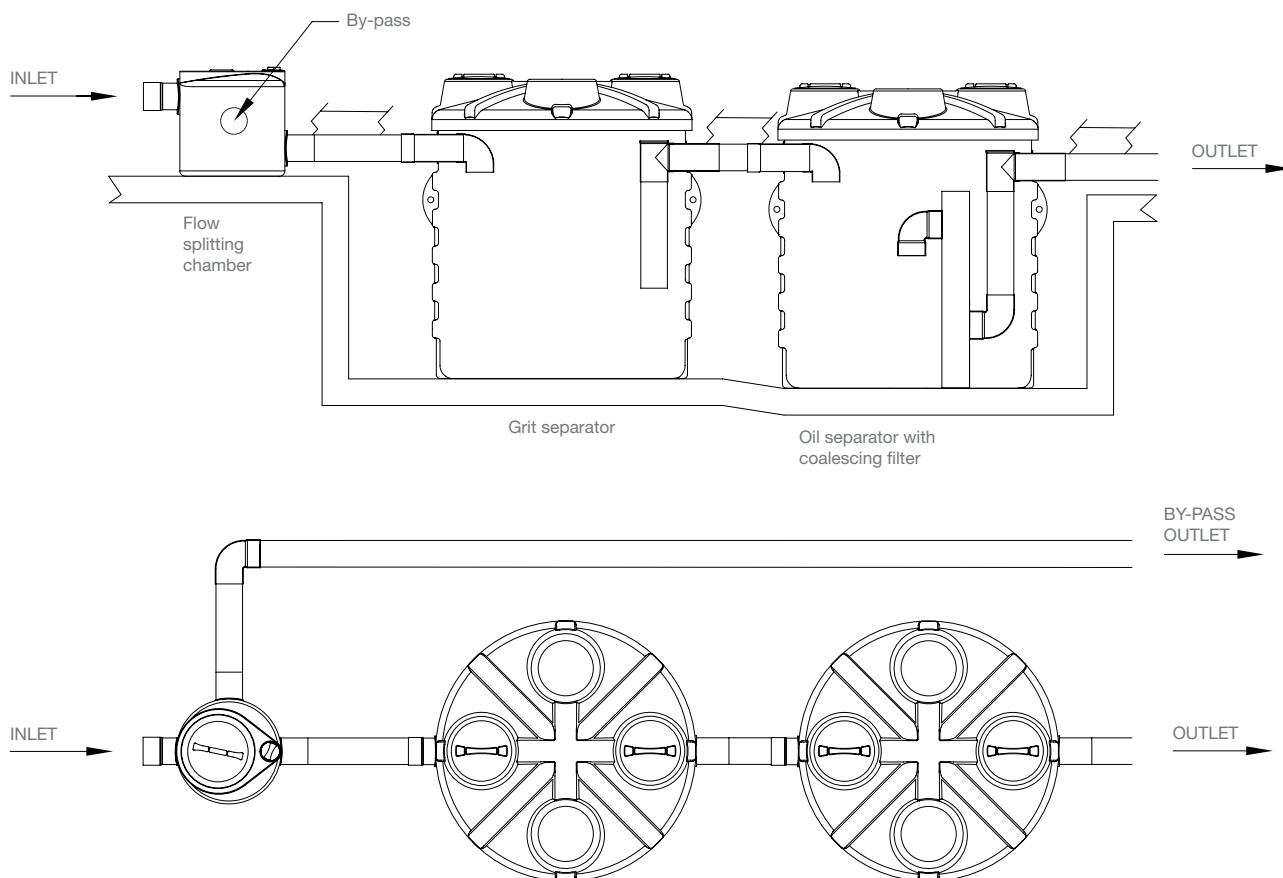
- Watertightness
- Structural stability
- Nominal capacity
- Functional requirements
- Raw material requirements
- Structural behaviour
- Reaction to fire

✓
✓
✓
✓
✓
✓
✓
Class E

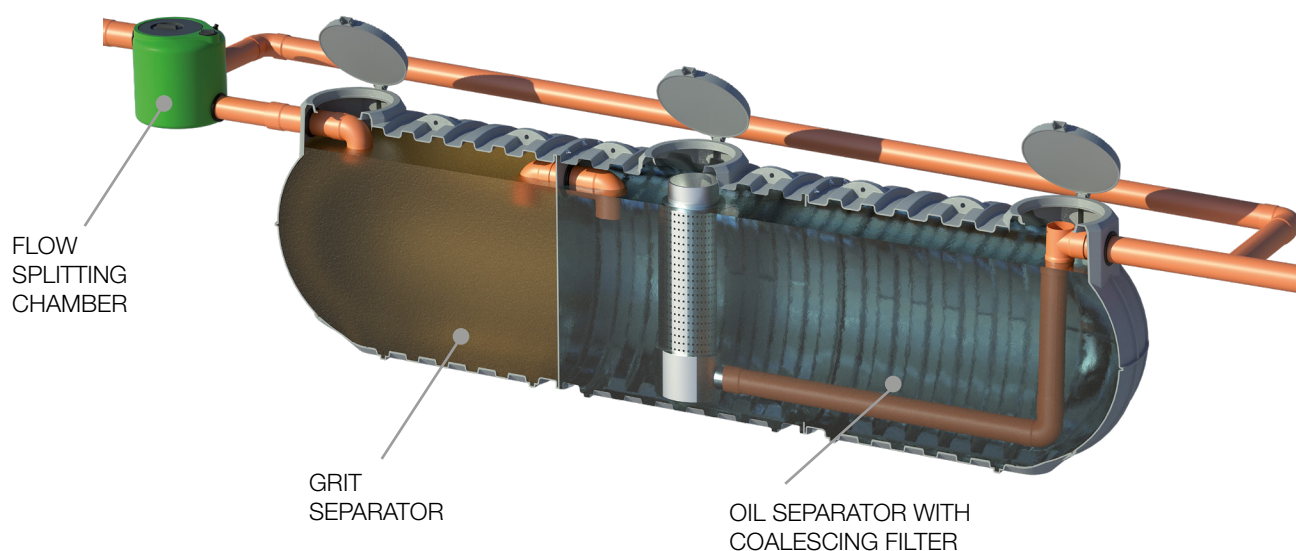
**CERTIFIED
UNI EN 858-1**



STORMWATER RUNOFF CONTINUOUS TREATMENT PLANTS



Item	Flow rate l/s	Uncovered hardstandings m ²	Useful vol. l	Oil vol. l	Grit vol. l	Flow splitting chamber			Grit separator			Oil separator		
						Item	ØxH mm	Ø pipes mm	Item	ØxH mm	Ø pipes mm	Item	ØxH mm	Ø pipes mm
IPC270	1,5	270	1700	27	150	PSC011212IPC	580x660	125	NDS1000	1150x1220	125	NDOFC1000 1,5LS	1150x1220	125
IPC360	2	360	2118	35	200	PSC011212IPC	580x660	125	NDS1000	1150x1220	125	NDOFC1500 2LS	1150x1720	125
IPC540	3	540	2118	53	300	PSC011212IPC	580x660	125	NDS1500	1150x1720	125	NDOFC1000 3LS	1150x1220	125
IPC720	4	720	2536	70	400	PSC011212IPC	580x660	125	NDS1500	1150x1720	125	NDOFC1500 4 LS	1150x1720	125
IPC1000	6	1000	3900	130	700	PSC011212IPP	580x660	125	NDS2100	1350x1975	125	NDOFC2100 6LS	1350x1975	125
IPC1350	7,5	1350	4122	152	860	PSC051616IPC	790x790	160	NDS2600	1710x1450	160	NDOFC2600 7,5LS	1710x1450	160
IPC1800	10	1800	5050	176	1000	PSC051616IPC	790x790	160	NDS3200	1710x1725	160	NDOFC3200 10LS	1710x1725	160
IPC2700	15	2700	6208	225	1500	PSC052020IPC	790x790	200	NDS3800	1710x1955	200	NDOFC3800 15LS	1710x1955	200
IPC3600	20	3600	7596	300	2000	PSC052020IPC	790x790	200	NDS4600	1710x2225	200	NDOFC4600 20LS	1710x2225	200
IPC4500	25	4500	8694	375	2500	PSC052525IPC	790x790	250	NDS5400	1950x2250	250	NDOFC5400 25 LS	1950x2250	250
IPC5400	30	5400	10200	450	3000	PSC052525IPC	790x790	250	NDS6400	1950x2530	250	NDOFC6400 30LS	1950x2530	250
IPC6300	35	6300	13868	525	3500	PSC103131IPC	1116x1140	315	NDS7000	2250x2367	315	NDOFC7000 35LS	2250x2367	315
IPC7200	40	7200	14757	600	4000	PSC103131IPC	1116x1140	315	NDS9000	2250x2625	315	NDOFC7000 40LS	2250x2367	315
IPC9000	50	9000	15357	750	5000	PSC103131IPC	1116x1140	315	NDS9000	2250x2625	315	NDOFC9000 50LS	2250x2625	315



Item	Flow rate l/s	Uncovered hardstandings m ²	Flow splitting chamber			One-piece grit/oil separator				
			Item	Ø x H mm	ØI-ØO-ØBp mm	LxWxH mm	Useful vol. l	Oil vol. l	Grit vol. l	ØI/O mm
ITIPC9500	60	10800	PSC103131IPC	1160x1140	315-315-315	7270x2100x 2200	18500	800	5500	315-315
ITIPC10000	65	11500	PSC103131IPC	1160x1140	315-315-315	7880x2100x 2200	20500	1000	6700	315-315
ITIPC11500	80	14400	PSC103131IPC	1160x1140	315-315-315	9530x2100x 2200	25500	1200	7800	315-315
ITIPC12500	85	15300	PSC103131IPC	1160x1140	315-315-315	10140x2100x 2200	27000	1300	8600	315-315
ITIPC14000	90	16200	PSC103131IPC	1160x1140	315-315-315	11200x2100x 2200	29500	1400	9200	315-315
ITIPC15000	100	18000	PSC103131IPC	1160x1140	315-315-315	12400x2100x 2200	33500	1550	10000	315-315
ITIPC16500	110	19800	PSC103131IPC	1160x1140	315-315-315	13460x2100x 2200	36000	1700	11000	315-315
ITIPC18000*	120	22000	PSC103131IPC	1160x1140	315-315-315	14660x2100x 2200	40000	1850	13000	315-315
ITIPC19000*	130	23400	PSC103131IPC	1160x1140	315-315-315	15720x2100x200	42500	2000	14000	315-315
ITIPC20500*	140	25200	PSC104031IPC	1160x1140	400-315-400	16310x2100x2200	44500	2150	14700	315-315
ITIPC22000*	150	27000	PSC104031IPC	1160x1140	400-315-400	16920x2100x2200	46500	2300	15500	315-315

* ON SITE WELDING

FLOW SPLITTING CHAMBERS

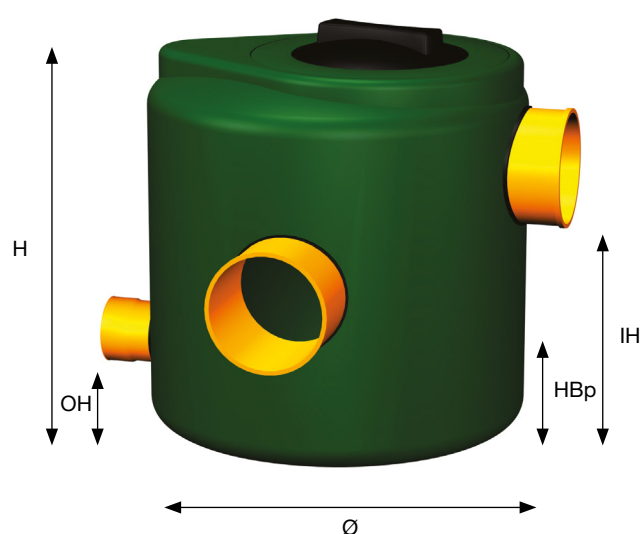
MATERIAL

One-piece polyethylene container (LLDPE) with PVC inlet and bypass pipes or PE sockets (dimension > 315) and PVC outlet pipe.

FUNCTION

the flow splitter chamber is installed upstream of a stormwater runoff treatment plant. Its function is to deliver rainwater to the treatment plant and to convey the water in excess of the design flow of the plant to the continuous water treatment plant.

Item	Ø mm	H mm	IH mm	HBp mm	OH mm	Ø I mm	Ø Bp mm	Ø O mm	Cover
PSC011212IPC	580	660	390	380	290	125	125	125	CC300
PSC051616IPC	790	790	490	340	220	160	160	160	CC400
PSC052016IPC	790	790	450	340	220	200	200	160	CC400
PSC052020IPC	790	790	410	360	210	200	200	200	CC400
PSC052516IPC	790	790	390	340	220	250	250	160	CC400
PSC052520IPC	790	790	390	360	210	250	250	200	CC400
PSC052525IPC	790	790	350	300	110	250	250	250	CC400
PSC103131IPC	1160	1140	620	600	400	315	315	315	CC400
PSC104031IPC	1160	1140	570	480	240	400	400	315	CC400



TECHNICAL SECTION – STORMWATER RUNOFF CONTINUOUS TREATMENT PLANTS

TECHNICAL CHARACTERISTICS

The plant allows the continuous treatment of stormwater runoff from **impermeable surfaces up to 27000 m²** used for transit or parking in industrial areas, residential zones and service stations subject to possible pollution from mineral oils, hydrocarbons, sand/grit and inert materials. The stormwater runoff treatment system makes use of the action of a grit and oil separator in continuous operation capable of treating **flows of up to 150 l/s**.

Runoff from impermeable transit areas must be carried to the treatment system. For flow rates higher than the design data, the by-pass is activated, sending the excess flow to the rainwater system.

The coalescing filter type oil separators are certified under standard UNI EN 858-1 and are CE-marked.

The plant is effective for the following parameters:

- Sedimentable solids.
- Total hydrocarbons and other light liquids that have not been emulsified of specific weight up to 0.85 g/cm³.

USE AND MAINTENANCE

The pollutants separated from the stormwater runoff inside the plant are mainly non-biodegradable (grit, lime, stone, hydrocarbons, oils, etc.). These tend to build up inside the various tanks. Over time, this build-up becomes excessive and tends to **have a negative effect on the efficiency** of the treatment plant (blocked pipes, release of the pollutants themselves, etc.).

It is therefore necessary to carry out **periodic inspection** of the tanks and, if necessary, to pump them out and clean them, contacting **licensed waste disposal companies**.

The inspections must be more frequent during the first months the system is in operation, in order to identify approximately how often pump-out will be necessary.

MANAGEMENT

WHAT TO DO	WHEN	HOW
Inspect the grit separator	Every 1 / 2 months	Unscrew the covers on the inspection holes and check the level of sediment and the floating material
Inspect the coalescing filter type oil separator	Every 1 / 2 months	Unscrew the covers on the inspection holes and check the level of sediment and the floating material
Clean the coalescing filter	Every 1 / 2 months	Extract the steel cage containing the filter and wash it with a jet of water at the head of the plant
Remove the floating material, the bottom sediment and clean the inlet and outlet pipes	Every 6 / 12 months	Contact a licensed waste disposal company who will empty all the elements in the plant

N.B. the frequency of cleaning operations depends on the amount of oil, grease and the frequency of rainfall.

WARNINGS

- make sure that drains have a siphon;
- check that the pipes slope sufficiently (approximately 1% - 2%);
- connect the biogas vent pipe (see installation method);
- after pump-out, fill the tank again with clean water;
- inspect the tanks periodically both during and after rain, so as to check that the various devices and elements are working properly;
- in the event of a maintenance operation of any kind, always comply with the safety regulations regarding operations within closed waste water treatment areas, and with the general technical procedures applicable.