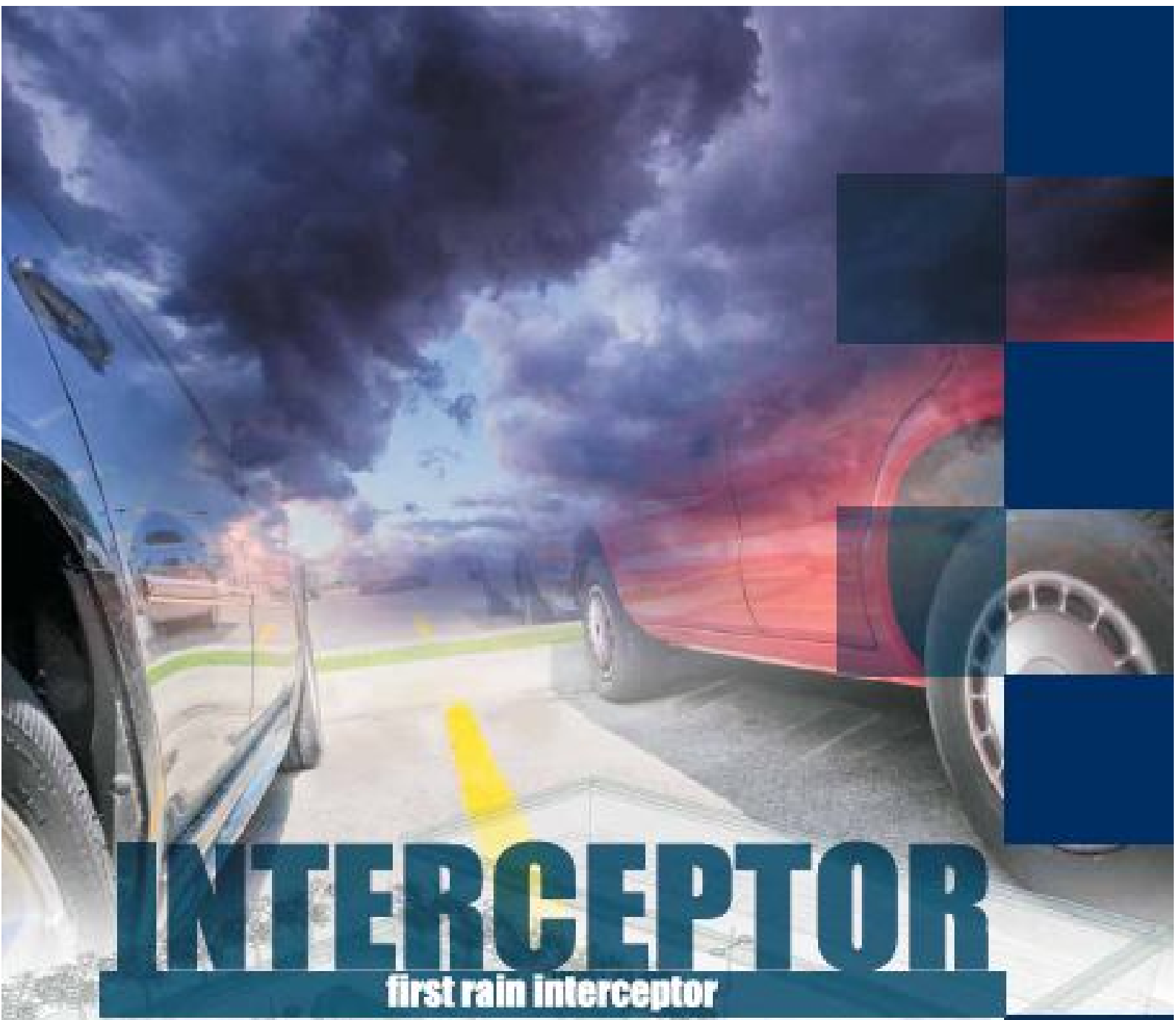


INTERCEPTOR

first rain interceptor

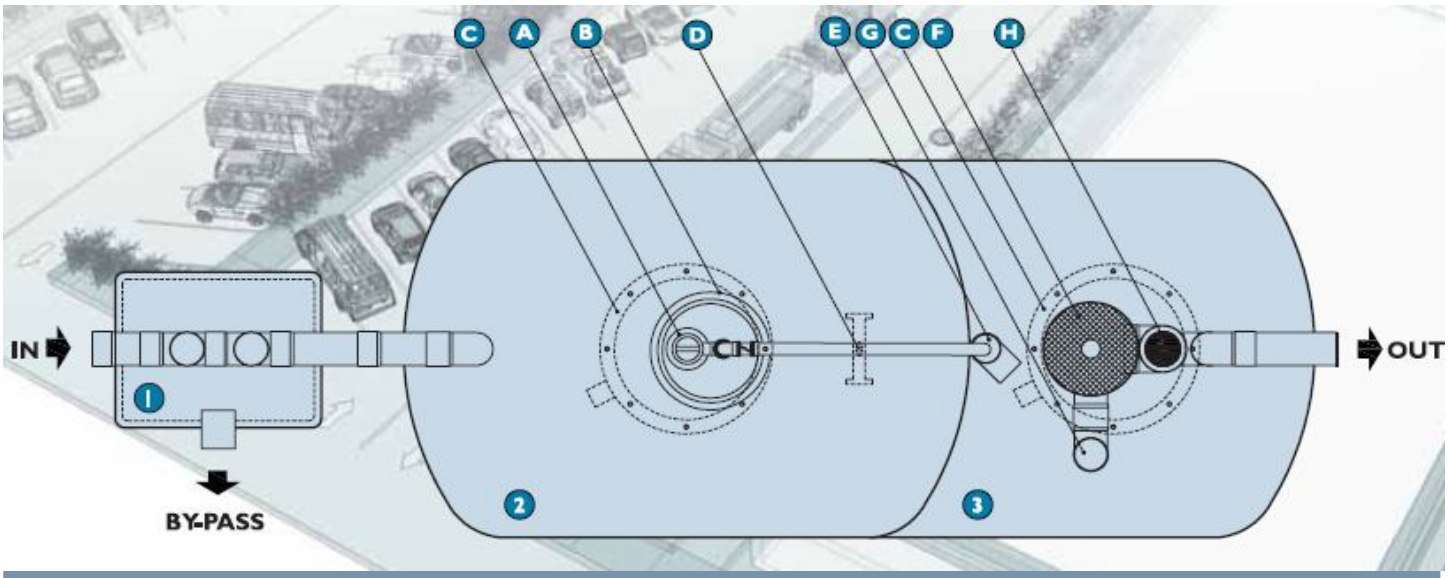
OMNIA RESINA MAZZOTTI

TECNOLOGIA PER L'AMBIENTE



TREATMENT PROCESS

Interceptor ORM for the treatment of first rain coming from yards, car-parkings and fuel stations subject to hydrocarbons and mineral oils pollution originates from ORM consolidated experience in this field.
Interceptor, designed according to standards UNI 858-1 and UNI 858-2, is a GRP (polyester reinforced with fibreglass) underground cylindric horizontal tank divided into two compartments and equipped with an external pit to collect excess water.
Its optimal placement is immediately downstream the sand collection tank, avoiding therefore long stretches of sewer which would enhance emulsion of oil content.
The first compartment (accumulation) is designed to receive rainwater from the white sewage of the yard up to the first 5 mm. rain (the so called " water of first rain " which is considered to have more polluted substances as per L.R. Lombardia n. 62/85).
The possible further rain "second rain" does not enter the compartment but spills away upstream through the pit which collects excess water and goes to the sewage discharge, or it is treated in a different way (upon request).
In this compartment waste stands for a scheduled time during which heavy material gets separated, drops to the bottom and does not enter the deoiling compartment where it could damage the treatment.
Inside the compartment there is a lifting pump installed with a timer. At the scheduled time the pump lifts the waste to convey it to the following compartment.
The pump lifts only clear waste and leaves all heavy material at the bottom of the compartment. Heavy material will be then removed during cleaning maintenance.
A minimum level switch detects the start of the rain event so that the pump starts working only in that case.
The second compartment (deoiling) fed by the lifting pump works as gravimetric oil separation.
Its conformation is likely to foster a slow and steady water flow which allows light liquids to rise and accumulate spontaneously to the surface from where they will be periodically removed.
A coalescence filter is placed inside the compartment. The waste coveys to it with vertical direction towards the outlet.
Aim of the filter - throughout the coalescence - is to retain those fractions of oils and hydrocarbons which have not been intercepted gravimetrically.
The filter material has a high surface/volume ratio that favours the release and the spontaneous rising of intercepted oil, allowing its accumulation together with the oil previously separated.
In case of clogging of the filter, reported to the operator from an alarm level switch which will also stop the pump, it will be necessary to remove the filter, pressure wash it and collect waste inside the interceptor.
Leaving the coalescing filter before discharge end is an innovative safety device "OIL-STOP" as per standard UNI EN 858-2, created by the evolution of the ordinary float interceptors that, in case of oil leakage from the filter (presumably due to mishandling or lack of maintenance) will retain oils themselves and when reaching a dangerous threshold (variable depending on their density) will intervene directly on the exhaust pipe causing the immediate closure and subsequent intervention of the alarm systems which require manual resetting of the operator and the removal of the causes of malfunction.



LAYOUT

INTERCEPTOR

first rain interceptor

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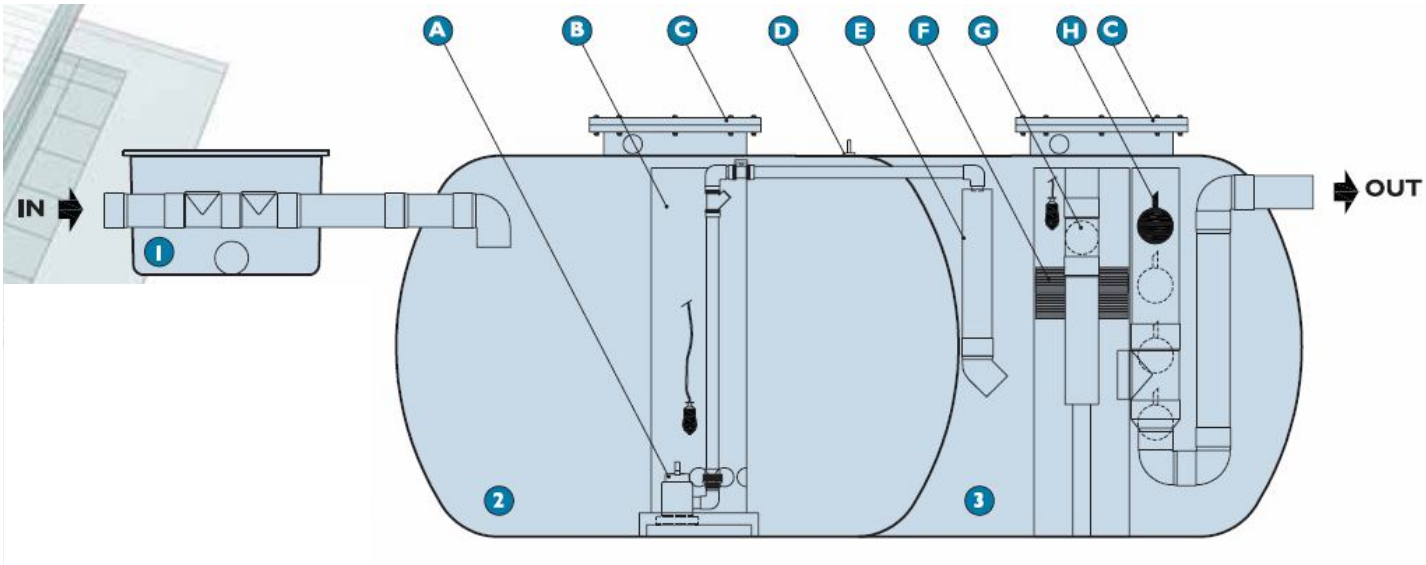
1 overflow pit 2 accumulation 3 deoling

A motorpump B protection grate C inspection manholes D lifting hooks E pipe of quietness F coalescence filter G inlet filter H oil stop



SECTION

YARD	OVERFLOW PIT	INTERCEPTOR								
surface	dimensions	Ø internal	lenght	total volume	accumulation volume	deoling volume	power motor pump	inspection manholes	Ø IN	Ø OUT
m^2	mm	mm	mm	litres	litres	litres	W	n.	mm	mm
200	800x600x(h)500	1400	2670	2773	1084	1612	390	2	125	125
400	800x600x(h)500	1400	3070	3748	2060	1612	390	2	125	125
600	800x600x(h)500	1400	3870	4779	3091	1612	390	2	140	125
800	800x600x(h)500	1400	4670	5810	4122	1612	390	2	140	125
1000	800x600x(h)500	1400	5370	6712	5024	1612	390	2	140	125
1000	800x600x(h)500	1600	4340	7294	5031	2174	390	2	140	140
1500	800x600x(h)500	1400	7510	9470	7602	1562	390	2	140	140
1500	Ø900x(h)900	1600	5980	10150	7642	2150	390	2	160	140
2000	Ø900x(h)900	1800	5270	13466	10147	3013	390	2	160	140
2500	Ø900x(h)900	2000	6270	16993	12537	4113	390	2	200	140
3000	Ø900x(h)900	2000	7170	19547	15091	4113	390	2	200	140
3500	Ø900x(h)900	2000	8070	22101	17645	4113	390	2	200	140
4000	Ø900x(h)900	2000	8970	24655	20200	4113	390	2	200	140
5000	Ø900x(h)900	2300	8570	31629	25236	5993	390	2	200	140
6000	Ø900x(h)900	2500	8670	37661	30034	7190	390	2	200	140
8000	Ø900x(h)900	2500	10870	47709	40082	7190	390	2	200	140
10000	Ø1040x(h)1280	2500	13070	57757	50130	7190	390	3	250	140
10000	Ø1040x(h)1280	3000	9880	62651	50336	11784	390	3	250	140

ITEM OF SPECIFICATION

Interceptor ORM -as per standards L.R. LOMBARDIA n. 62/85 – for first rain coming from yards, car parkings and fuel stations having a surface of square meters ___.
Its structure is made of a GRP (polyester reinforced with fiberglass) underground cylindric horizontal tank (diam. ___ length ___ usefull volume ___) manufactured in fiberglass continuous winding lamination and polyester resin which give to the tank the necessary mechanical strength against any possible combination of internal and external loading.
Interceptor is divided into two compartments: an accumulation compartment with calibrated lifting by means of a submersed pump and a deoiling compartment for the gravimetric oil separation.
It is also equipped with: overflow device to collect excess water, final coalescence filtering and security device to avoid oil leakage.
It has level detectors to control pump and to send alarm signal in case of malfunction or in case of excessive accumulation of intercepted oils.
Interceptor is easy to inspect and maintain thanks to its numerous manholes of adequate dimensions and covers in standard A15 (foot- traffic) as per UNI EN 858-1 and UNI EN 858-2.

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