

Uponor Infra
SEPARATORS W-SL
Lamellar coalescing
oil separators

Uponor



APPLICATION

The W-SL separators from Uponor Infra sp. z o.o. are designed for separation of petroleum products (oils, greases, petrol, and more). Because of their high capacity, the W-SL separators are used in rainwater treatment systems from urban catchments, in rainwater drainage system of industrial facilities, machine and vehicle parks, drainage systems of roads, car parks and truck manoeuvring yards.

Key benefits of W-SL separator applications:

- possibility of using complete integrated devices (settling tank and separator) on large urban areas without losing the efficiency and parameters of the entire system;
- possibility of making and connecting large rain collectors to separator;
- low separator burial depth with large operating volume of the system;
- suitable for operation in vehicular traffic areas under loads up to 100 kN/axle;
- suitable for operation in the area of mining damage up to and including category IV acc. to Polish law;
- suitable for drainage systems buried down to 8 m deep.

PRINCIPLE OF OPERATION

The wastewater is treated in the separator in two stages: the settling tank chamber is where the mineral mixture of sand and mud sediments, while the light liquid separation chamber uses gravity separation with adsorption and coalescence. The oil particles build up on the surfaces of multi-flow, parallel lamellar sections (adsorption) and merge into increasingly larger agglomerates (coalescence) to migrate along the bottom of the lamellar sections and up to the surface, where the oil film forms. Solids, like sand, gravel, etc. fall under the force of gravity and accumulate at the bottom of the separator, which is the after treatment of the wastewater to remove suspended contaminants.

The standard separators are equipped with shut-off systems, which automatically isolate the run-off from the unit once the maximum level of light fluids is reached in the separator, preventing contamination of the receiver. The separators with "P" in the designation code are equipped with an integrated hydraulic bypass inside the separator which is isolated from the separation chamber and allows for assuming a capacity five or ten times greater than the nominal capacity without loading the maximum flow of the separator.

DESIGN

The POLYETHYLENE tanks of the W-SL separators are horizontal cylinders made of PE-HD, based on two-wall spiral piping with a high ring stiffness from SN4 to SN8 (kN/m²) acc. to EN ISO 9969.

The multi-flow lamellar elements are resistant to biological decomposition and action of petroleum substances. Separator inspection openings are adapted to be built-in with system hatches.

ENVIRONMENTAL EFFECTS

The content of petroleum substances in treated sewage leaving the separator technological system at nominal flow is ≤ 5 [mg / dm³].

Optional ACCESSORIES

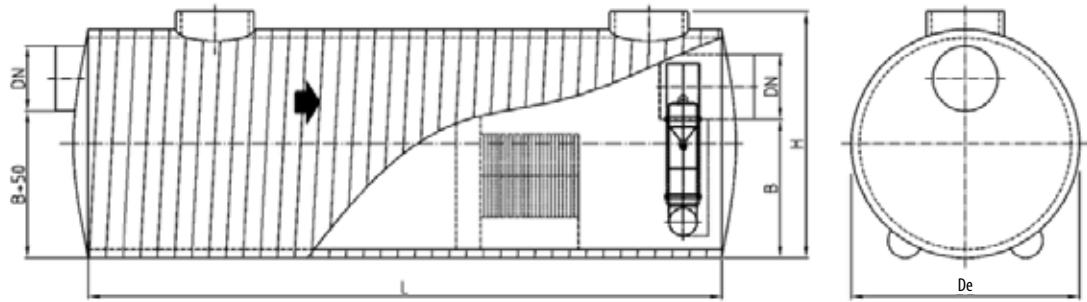
The W-SL separators can have a wide range of optional accessories installed, depending on the project specification and official approvals:

- discharge systems for easy cleaning and maintenance of the separators (NT-U);
- level sensors for suspension and petroleum substances accumulated in the separator, with sound and/or light indicators (NT-SET, NT-OS);
- emergency cut-off at the separator inlet;
- flow rate measurement systems with flow regulator;
- non-return flaps at the separator outlet.

W-SL-FOZ-PE

40 ÷ 300 [l/s]

Lamellar coalescing oil separator,
PE-HD tank, with automatic cut-off
and integrated settling tank



W-SL-FOZ-PE separators	Nominal flow rate [l/s]	Settling tank capacity [L]	L [mm]	De [mm]	H [mm]	B [mm]	DN [mm]	Weight [kg]
W-SL-FOZ-PE-40-4	40	4 000	6 230	1 589	1 714	1 120	315	1 020
W-SL-FOZ-PE-40-8	40	8 000	6 960	1 828	1 928	1 349	315	1 540
W-SL-FOZ-PE-50-5	50	5 000	5 700	1 828	1 928	1 349	315	1 330
W-SL-FOZ-PE-50-10	50	10 000	8 700	1 828	1 928	1 349	315	1 830
W-SL-FOZ-PE-60-6	60	6 000	6 840	1 828	1 928	1 349	315	1 520
W-SL-FOZ-PE-60-12	60	12 000	8 000	2 063	2 163	1 567	315	2 300
W-SL-FOZ-PE-70-7	70	7 000	6 120	2 063	2 163	1 567	315	1 880
W-SL-FOZ-PE-70-14	70	14 000	9 340	2 063	2 163	1 567	315	2 600
W-SL-FOZ-PE-80-8	80	8 000	7 000	2 063	2 163	1 567	315	2 080
W-SL-FOZ-PE-80-16	80	16 000	10 670	2 063	2 163	1 567	315	2 900
W-SL-FOZ-PE-90-9	90	9 000	7 870	2 063	2 163	1 567	315	2 280
W-SL-FOZ-PE-90-18	90	18 000	9 450	2 295	2 395	1 783	315	3 040
W-SL-FOZ-PE-100-10	100	10 000	7 280	2 295	2 395	1 698	400	2 490
W-SL-FOZ-PE-100-20	100	20 000	11 100	2 295	2 395	1 698	400	3 460
W-SL-FOZ-PE-120-12	120	12 000	8 740	2 295	2 395	1 698	400	2 860
W-SL-FOZ-PE-120-24	120	24 000	10 730	2 507	2 632	1 929	400	4 290
W-SL-FOZ-PE-140-14	140	140 000	8 210	2 507	2 632	1 929	400	3 480
W-SL-FOZ-PE-140-28	140	28 000	12 530	2 507	2 632	1 875	400	4 860
W-SL-FOZ-PE-160-16	160	16 000	9 400	2 507	2 632	1 929	400	3 860
W-SL-FOZ-PE-160-32	160	32 000	9 860	2 947	2 997	2 324	400	5 590
W-SL-FOZ-PE-180-18	180	18 000	7 300	2 947	2 997	2 324	400	4 460
W-SL-FOZ-PE-180-36	180	36 000	11 140	2 947	2 997	2 300	400	6 160
W-SL-FOZ-PE-200-20	200	20 000	8 100	2 947	2 997	2 324	400	4 820
W-SL-FOZ-PE-200-40	200	40 000	12 350	2 947	2 997	2 324	400	6 690
W-SL-FOZ-PE-250-25	250	25 000	10 580	2 947	2 997	2 224	500	5 910
W-SL-FOZ-PE-250-50	250	50 000	11 750	3 390	3 465	2 670	500	9 160
W-SL-FOZ-PE-300-30	300	30 000	11 300	2 947	2 997	2 124	600	6 230
W-SL-FOZ-PE-300-60	300	60 000	14 650	3 390	3 465	2 570	600	10 930

De value is given for SN8 stiffness.

The superstructure dimensions are specific to the drainage system burial depth at the separator connection.

The standard W-SL separators are intended for integration with the ML superstructure.

Other separator specifications available on special request.

BASIC SYSTEM EQUIPMENT INCLUDES

SETTLING TANK COMPARTMENT AND SEPARATION CHAMBER COMPARTMENT

NOTE

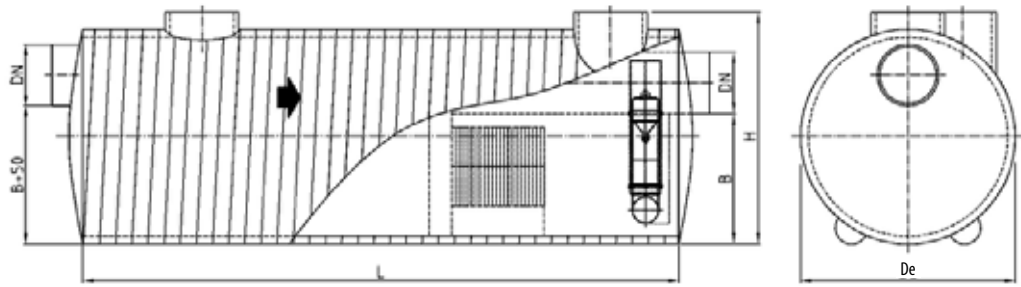
- W-SL-FOZP separators with non-standard flow rate and performance specifications are available on request;
- optional other connection sizes – acc. to project;
- connections up to DN500 – made with smooth PE-HD piping, which determines the outer diameter of the pipe;
- connection from DN600 – made with two-wall structural PE-HD piping, which determines the inner diameter of the pipe.

W-SL-FOZP-PE

40 ÷ 90 [l/s]

Lamellar coalescing oil separator made of PE-HD with automatic cut-off, five-fold throughput storm flow bypass, integrated with the settling tank

Maximum flow rate 200 to 450 [l/s]



W-SL-FOZP-PE separators	Nominal flow rate [l/s]	Maximum flow rate [l/s]	Settling tank capacity [L]	L [mm]	De [mm]	H [mm]	B [mm]	DN [mm]	Weight [kg]
W-SL-FOZP-PE-40/200-4	40	200	4 000	5 420	1 828	1 928	1 164	500	1 280
W-SL-FOZP-PE-40/200-8	40	200	8 000	8 270	1 828	1 928	1 164	500	1 760
W-SL-FOZP-PE-50/250-5	50	250	5 000	6 800	1 828	1 928	1 164	500	1 510
W-SL-FOZP-PE-50/250-10	50	250	10 000	7 690	2 063	2 163	1 382	500	2 240
W-SL-FOZP-PE-60/300-6	60	300	6 000	6 040	2 063	2 163	1 382	500	1 860
W-SL-FOZP-PE-60/300-12	60	300	12 000	9 220	2 063	2 163	1 382	500	2 580
W-SL-FOZP-PE-70/350-7	70	350	7 000	7 030	2 063	2 163	1 382	500	2 090
W-SL-FOZP-PE-70/350-14	70	350	14 000	10 730	2 063	2 163	1 382	500	2 920
W-SL-FOZP-PE-80/400-8	80	400	8 000	8 080	2 063	2 163	1 382	500	2 320
W-SL-FOZP-PE-80/400-16	80	400	16 000	9 510	2 295	2 420	1 623	500	3 060
W-SL-FOZP-PE-90/450-9	90	450	9 000	7 030	2 295	2 420	1 623	500	2 420

De value is given for SN8 stiffness.

The superstructure dimensions are specific to the drainage system burial depth at the separator connection.

The standard SL separators are intended for integration with the ML superstructure.

Other separator specifications available on special request.

BASIC SYSTEM EQUIPMENT INCLUDES

SETTLING TANK COMPARTMENT AND SEPARATION CHAMBER COMPARTMENT

NOTE

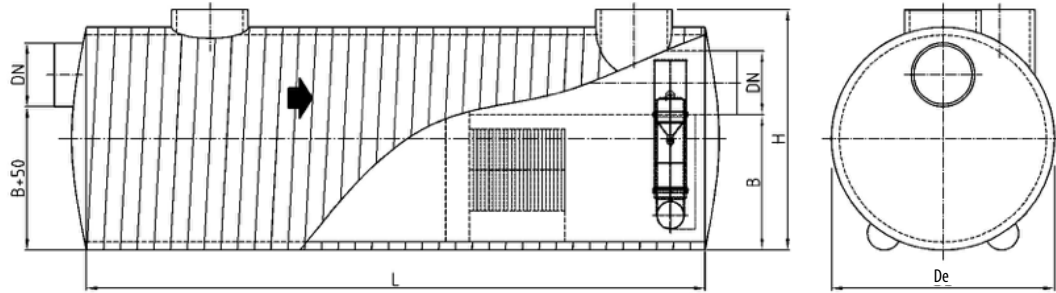
- W-SL-FOZP separators with non-standard flow rate and performance specifications are available on special request;
- optional other connection – acc. to project;
- connections to DN500 – made with smooth PE-HD piping, which determines the outer diameter of the pipe;
- connection from DN600 – made with two-wall structural PE-HD piping, which determines the inner diameter of the pipe.

W-SL-FOZP-PE

40 ÷ 300 [l/s]

Lamellar coalescing oil separator made of PE-HD with automatic cut-off, ten-fold throughput storm flow bypass, integrated with the settling tank

Maximum flow rate 400 to 3000 [l/s]



W-SL-FOZP-PE separators	Nominal flow rate [l/s]	Maximum flow rate [l/s]	Settling tank capacity [L]	L [mm]	De [mm]	H [mm]	B [mm]	DN [mm]	Weight [kg]
W-SL-FOZP-PE-40/400-4	40	400	4 000	5 430	1 828	1 928	1 164	500	1 280
W-SL-FOZP-PE-40/400-8	40	400	8 000	8 300	1 828	1 928	1 164	500	1 760
W-SL-FOZP-PE-50/500-5	50	500	5 000	6 800	1 828	1 928	1 164	500	1 510
W-SL-FOZP-PE-50/500-10	50	500	10 000	7 690	2 063	2 163	1 382	500	2 240
W-SL-FOZP-PE-60/600-6	60	600	6 000	6 840	2 063	2 163	1 282	600	2 050
W-SL-FOZP-PE-60/600-12	60	600	12 000	10 440	2 063	2 163	1 282	600	2 860
W-SL-FOZP-PE-70/700-7	70	700	7 000	7 750	2 063	2 163	1 282	600	2 250
W-SL-FOZP-PE-70/700-14	70	700	14 000	9 220	2 295	2 420	1 523	600	2 980
W-SL-FOZP-PE-80/800-8	80	800	8 000	6 920	2 295	2 420	1 523	600	2 400
W-SL-FOZP-PE-80/800-16	80	800	16 000	10 560	2 295	2 420	1 523	600	3 320
W-SL-FOZP-PE-90/900-9	90	900	9 000	9 160	2 295	2 420	1 323	800	2 970
W-SL-FOZP-PE-90/900-18	90	900	18 000	10 670	2 507	2 632	1 529	800	4 270
W-SL-FOZP-PE-100/1000-10	100	1 000	10 000	7 790	2 507	2 632	1 529	800	3 340
W-SL-FOZP-PE-100/1000-20	100	1 000	20 000	11 890	2 507	2 632	1 529	800	4 660
W-SL-FOZP-PE-120/1200-12	120	1 200	12 000	6 000	2 947	2 997	1 924	800	3 890
W-SL-FOZP-PE-120/1200-24	120	1 200	24 000	9 160	2 947	2 997	1 924	800	5 280
W-SL-FOZP-PE-140/1400-14	140	1 400	14 000	8 060	2 947	2 997	1 724	1 000	4 800
W-SL-FOZP-PE-140/1400-28	140	1 400	28 000	13 000	2 947	2 997	1 724	1 000	6 980
W-SL-FOZP-PE-160/1600-16	160	1 600	16 000	9 220	2 947	2 997	1 724	1 000	5 310
W-SL-FOZP-PE-160/1600-32	160	1 600	32 000	14 070	2 947	2 997	1 724	1 000	7 450
W-SL-FOZP-PE-180/1800-18	180	1 800	18 000	10 360	2 947	2 997	1 724	1 000	5 810
W-SL-FOZP-PE-180/1800-36	180	1 800	36 000	10 730	3 390	3 465	2 170	1 000	8 540
W-SL-FOZP-PE-200/2000-20	200	2 000	20 000	11 510	2 947	2 997	1 724	1 000	6 320
W-SL-FOZP-PE-200/2000-40	200	2 000	40 000	11 890	3 390	3 465	2 170	1 000	9 250
W-SL-FOZP-PE-250/2500-25	250	2 500	25 000	14 400	2 947	2 997	1 724	1 000	7 600
W-SL-FOZP-PE-250/2500-50	250	2 500	50 000	14 910	3 390	3 465	2 170	1 000	11 090
W-SL-FOZP-PE-300/3000-30	300	3 000	30 000	11 720	3 390	3 465	2 170	1 000	9 150
W-SL-FOZP-PE-300/3000-60	300	3 000	60 000	17 900	3 390	3 465	2 170	1 000	12 920

De value is given for SN8 stiffness.

The superstructure dimensions are specific to the drainage system burial depth at the separator connection.

The standard SL separators are intended for integration with the ML superstructure.

Other separator specifications available on special request.

BASIC SYSTEM EQUIPMENT INCLUDES

SETTLING TANK COMPARTMENT AND SEPARATION CHAMBER COMPARTMENT

NOTE

- W-SL-FOZP separators with non-standard flow rate and performance specifications are available on special request;
- optional other connection – acc. to project;
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Uponor Infra Sp. z o.o.
T +48 22 864 52 25
E infra.pl@uponor.com



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