



Oil separators
Settling tanks



Oil separators



The oil separators are devices which design allow the separation and storage of light liquids, grease and organic oils from the wastewater.

Oil separators are installed in storm and technological sewerage as one of the device used for treatment of wastewater coming from the catchment area susceptible to contamination with oil from municipal areas, roads and facilities.

Selection of technology

Ecol-Unicon has two oil separation technologies: lamella and coalescence. The choice of the right technology depends on:

- the size of the catchment
- potential occurrence of storm flow
- amount of suspension in sewage

Application



roads and motorways



urban transport zones



parking lots



transport equipment databases



Petrol stations and car washes



industrial plants, etc.



railway areas



Types of oil separation technologies

Technology	Type	Effectiveness compared to the flow Q_{nom} *	Maximal flow through the device Q_{max}	Character of the catchment area	Application
lamella	ESL-Z	< 5mg/dm ³ **	10-times Q_{nom} (NS)	larger catchment areas characterized by varying wastewater flow load and pollutant load in raw wastewater	<ul style="list-style-type: none"> outlets of municipal stormwater networks, large car parks and manoeuvre areas, <ul style="list-style-type: none"> industrial plants and areas, logistic centres, airports, roads and motorways
coalescence	ESK	< 2mg/dm ³	none (only external overflow system)	small catchment areas and catchment areas characterized by a high degree of dispersion of pollutants in raw wastewater	<ul style="list-style-type: none"> workshops and car washes, petrol stations, transport bases, industrial plants, small car parks, <ul style="list-style-type: none"> bridges, railway areas, power industry

* Result obtained when testing the device in accordance with the requirements of EN 858-1 standard

** Lamella separators allow wastewater treatment both in the case of nominal flow (maximum treatment efficiency) and flows larger than the nominal flow, whereas the treatments efficiency decreases with increasing flow rate.

Construction

Separators have a sealed concrete chamber (EU 1000-3000 wells or a separate retention reservoir chamber), usually not requiring additional weight.

To reduce operating costs and improve environmental safety, it is possible to connect an alarm system equipped with sediment, oil and overflow sensors.



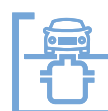
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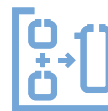
Advantages



high efficiency proved with multiple test



possibility of installation in carriage ways of roads as well as in non-traffic: pedestrians and pedal cyclists areas



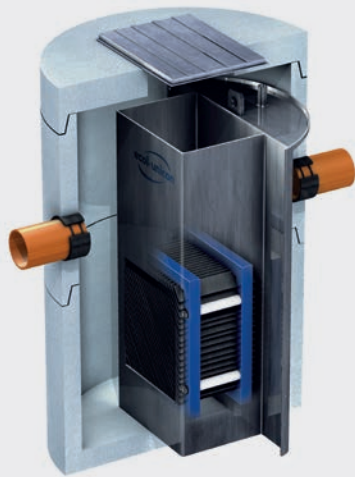
technical solutions adapted to the catchment and receiver conditions



easy assembly and maintenance



possibility of attaching a sample taking device



Lamella separator ESL-Z



Lamella separator with settling tank ESL-ZH

Lamella separators ESL-Z

Construction

Lamella sections are removable components, equipped with dedicated rope set that enables pulling them out of the separator's chamber. The maximum flow reaching the lamella separator is fully subjected to pre-treatment in the lamella insert which is entirely safe for the device construction and is not causing scouring of the accumulated impurities into the outlet. Contaminated wastewater with the suspension should be pre-treated in a settling tank. The sludge can be isolated directly in front of the lamella separator OS + ESL-Z or it can be integrated with the lamella separator (ESL-ZH), where the separated sediment part is located below the lamella packets.

Operation

Wastewater from the sewerage system flows to the separator through the inlet chamber. Separation of impurities occurs during the multi-layer flow through lamella insert located in the treatment section. The applied oil separation technology additionally enables trapping the easily sedimenting suspended solids at the bottom of the separation chamber.

Advantages



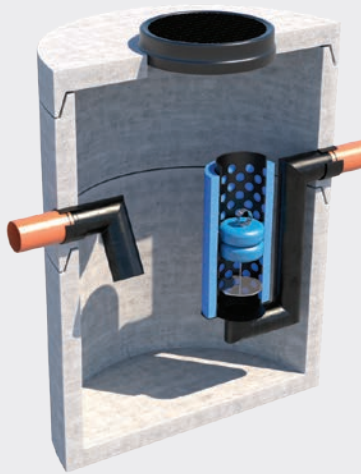
safety - no risk of leaching petroleum substances at the maximum flow



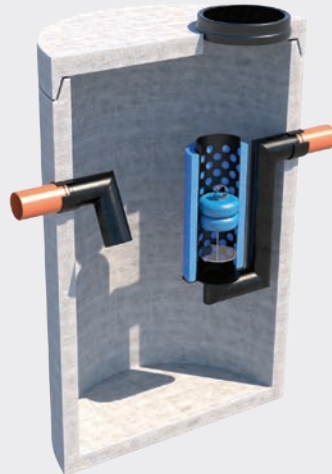
simple connection to the sewage system



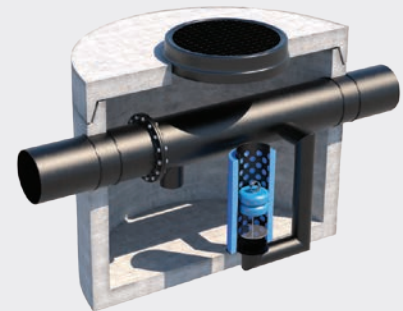
no by-pass - flow does not bypass the cleansing system



Coalescence separator ESK



Coalescence separator with settling tank ESK-H



Coalescence separator with by-pass ESK-B II

Coalescence separators ESK

Construction

Standard technological equipment of the high efficiency coalescence separator consists of the coalescence column as well as the installation that cuts off wastewater outflow after exceeding the permissible oil storage capacity. The float valve closure on the outlet has also a protective feature and prevents the accumulated oil substances from scouring into the outlet pipe.

ESK-B II separators with the inner by-pass pipe, which consists of two flanged elements, are equipped with a precise system of the wastewater flow regulation, that continuously controls its inflow to the interior of the device. This system provides an optimal operation of the coalescence equipment (maximum effectiveness of wastewater treatment).

Contaminated wastewater with suspension should be additionally pre-treated in the settling tank. Settling tank with coalescence separator

- can be isolated in front of the OS + ESK coalescing separator
- or it can be integrated - sedimentary part separated below the coalescing column - ESK-H, ESK-BH II.

Operation

Separation of oil substances in high efficiency coalescence separators is supported by the coalescence material. Oil substances of lower density than water, flow out onto the wastewater surface where they accumulate by forming a layer. Submerged outlet prevents the separated impurities from emerging out of the separator's chamber into the receiver.

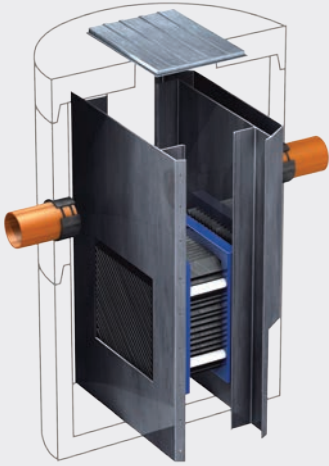
Advantages



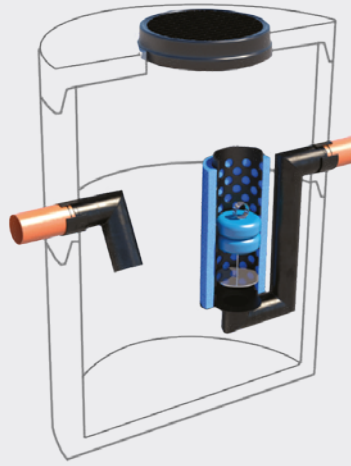
Automatic cutoff of the outflow after exceeding the permissible oil storage capacity



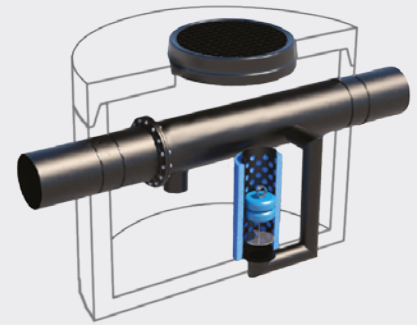
protection from scouring of the accumulated oil substances



Technological equipment of lamella separators ESL-Z



Technological equipment of coalescence separators ESK



Technological equipment of coalescence separators ESK-B II

Technological equipment of separators

Technological equipment of lamella separators ESL-Z

Construction

Lamella sections are removable components, equipped with dedicated rope set that enables pulling them out of the separator's chamber. The maximum flow reaching the lamella separator is fully subjected to pre-treatment in the lamella insert which is entirely safe for the device construction and does not cause scouring of the accumulated impurities into the outlet.

Technological equipment of coalescence separators ESK

Construction

Standard technological equipment of the high efficiency coalescence separator consists of the coalescence column as well as the installation that cuts off wastewater outflow after exceeding the permissible oil storage capacity. The float valve closure on the outlet has also a protective feature and prevents the accumulated oil substances from scouring into the outlet pipe..

Technological equipment of coalescence separators ESK-B II

Construction

ESK-B II separators with the inner by-pass pipe, which consists of two flanged elements, are equipped with a precise system of wastewater flow regulation, that continuously controls its inflow to the interior of the device. This system provides an optimal operation conditions for the coalescence equipment (maximal effectiveness of wastewater treatment). First class separators ESK-B II conform with EN 858-1 and are CE marked.





Settling tanks



Settling tanks pretreat rainwater from easily deposited sediments.

Ecol-Unicon settling tanks enable:

- effective pretreatment of wastewater from easily deposited sediments to the level below 100 mg/dm^3 (in accordance with the Minister of Environment Regulation of 18 November 2014, Journal of Laws 2014 item 1800)
- protection against excessive amount of sediments inflowing into devices (installed e.g. before a separator(s) or water treatment plants)

Ecol-Unicon settling tanks guarantee:

- high effectiveness in treating wastewater from sediments
- low maintenance costs
- easy access during maintenance
- the possibility of installation in right-of-way and green areas
- the possibility of installation on various depths
- the device may be customised accordingly to the Clients needs - optimal specification
- quality confirmed by Technical Approval

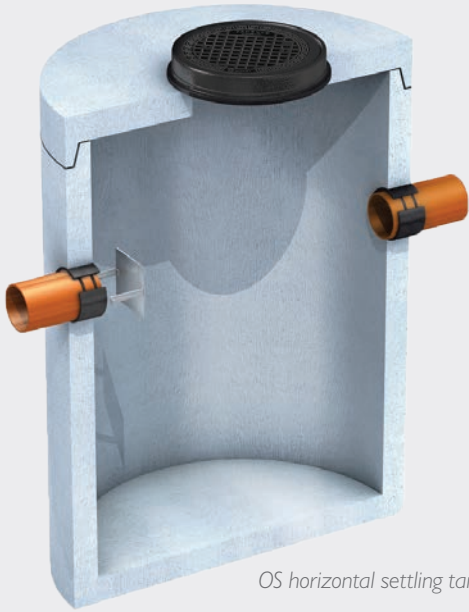


The technology of vortex settling tanks is used for example in Hydrozone tanks, which are multifunctional tanks for rainwater and snow melt retention.

Hydrozone Benefit - pretreatment retention tanks that use the retained and pretreated water for green areas watering.

Construction

Ecol-Unicon settling tanks have a sealed concrete or reinforced concrete body. They are fitted with alarm installations such as sediment sensors, which signal the need for cleaning the tank, what reduces maintenance costs.



OS horizontal settling tank



Manage your installations with **BUMERANG** – an intelligent management system.

It enables constant monitoring of crucial data as well as effective control and management of the operation of your facilities.



OS Horizontal Settling Tank

Operation

OS settling tank slows down the flow and accumulates suspended solids – total suspended solids and particular solids. The deflector mounted at the inlet increases the effectiveness of the device.

Application



parking lots



roads and motorways



industrial plants, etc.

Advantages



simple connection to the sewage system



effective elimination of suspended solids from the inflowing water



Up to
130 dm³/s

– the device based on a EU chambers with diameter up to 3000 mm



Over
130 dm³/s

– the device based on tanks with diameter of over 3000 mm





EOW-1 vortex settling tanks



EOW-2 double chamber vortex settling tank

EOW Vortex Settling Tanks

Operation

In all EOW vortex settling tanks mineral suspended solids are eliminated and stored in the first tank. In a two-chamber EOW-2 vortex settling tank, the second tank is divided into two sections, where the first section is a “trap” for any particles lighter than water, including oils, and the second section is basically an outflow chamber.

Implementation



urban areas



large traffic junctions

Advantages



high performance



reduction of investment costs

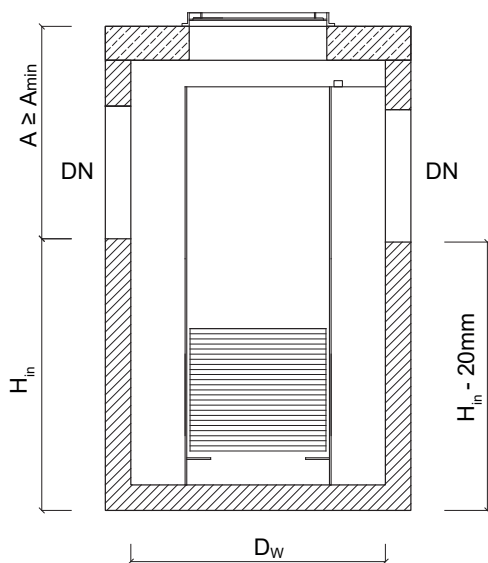


space-saving solution



easy installation

High-efficiency lamella separator ESL-Z



The technical specifications of each device series with technical description and possible modifications of the dimensions can be found at www.ecol-unicon.com

ESL-Z separators were tested for nominal and maximum flows and the results of the tests were confirmed by the Building Research Institute by issuing the National Technical Assessment ITB-KOT-2017/0212 edition 1. ESL-Z separators represent class I (according to EN 858-1), it also obtained CE mark allowing to be applied in all EU countries.

The chamber is made in accordance with Norm EN 1917 or National Technical Assessment ITB, concrete of class at least C35/45 waterproof $\geq W8$, with water absorption lower than 5%, frost resistant F150 in the water and F50 in 2% NaCl, stable for petroleum products in accordance with EN 858-1.



Model Q_{nom}/Q_{max}^*	Q_{nom} [dm ³ /s] (NS)	Q_{max} [dm ³ /s] (NS)	D_w [mm]	H_{in} [mm]	A_{min}^{**} [mm]	Diameter of inlet/outlet pipes DN [mm]	Actual capacity of sedimentary section [dm ³]	Oil storage volume [dm ³]	Weight of the heaviest element [kg]	Total weight [kg]
ESL-Z 1,5/15	1,5	15	1200	1220	830	max 400	180	150	2900	3700
ESL-Z 3/30	3	30	1200	1220	830	max 400	180	150	2900	3700
ESL-Z 6/60	6	60	1200	1220	830	max 400	180	150	2900	3700
ESL-Z 10/100	10	100	1200	1220	830	max 400	180	150	2900	3700
ESL-Z 15/150	15	150	1200	1530	1020	max 600	180	300	3600	4400
ESL-Z 20/200	20	200	1200	1530	1020	max 600	180	300	3600	4400
ESL-Z 30/300	30	300	1500	1600	1250	max 800	300	750	5600	6600
ESL-Z 40/400	40	400	1500	1600	1250	max 800	300	750	5600	6600
ESL-Z 50/500	50	500	1500	1600	1250	max 800	300	750	5600	6600
ESL-Z 60/600	60	600	2000	1510	1310	max 800	550	1200	7600	9300
ESL-Z 65/650	65	650	2000	1510	1310	max 800	550	1200	7600	9300
ESL-Z 70/700	70	700	2000	1510	1310	max 800	550	1200	7600	9300
ESL-Z 75/750	75	750	2000	1510	1310	max 800	550	1200	7600	9300
ESL-Z 80/800	80	800	2000	1510	1310	max 800	550	1200	7600	9300
ESL-Z 90/900 S	90	900	2500	1620	1700	max 1200	790	1950	6700	14300
ESL-Z 100/1000 S	100	1000	2500	1620	1700	max 1200	790	1950	6700	14300
ESL-Z 110/1100 S	110	1100	2500	1620	1700	max 1200	790	1950	6700	14300
ESL-Z 120/1200 S	120	1200	2500	1620	1700	max 1200	790	1950	6700	14300
ESL-Z 125/1250 S	125	1250	2500	1620	1700	max 1200	790	1950	6700	14300
ESL-Z 130/1300 S	130	1300	2500	1620	1700	max 1200	790	1950	6700	14300
ESL-Z 140/1400 S	140	1400	3000	1630	1720	max 1200	1070	2400	7200	18900
ESL-Z 150/1500 S	150	1500	3000	1630	1720	max 1200	1070	2400	7200	18900
ESL-Z 160/1600 S	160	1600	3000	1630	1720	max 1200	1070	2400	7200	18900
ESL-Z 170/1700 S	170	1700	3000	1810	1790	max 1200	1070	3150	7500	17200
ESL-Z 180/1800 S	180	1800	3000	1810	1790	max 1200	1070	3150	7500	17200
ESL-Z 190/1900 S	190	1900	3000	1810	1790	max 1200	1070	3150	7500	17200
ESL-Z 200/2000 S	200	2000	3000	1810	1790	max 1200	1070	3150	7500	17200
ESL-Z 210/2100 S	210	2100	3000	1810	1790	max 1200	1070	3150	7500	17200

*) Q_{nom} [dm³/s] (NS) – nominal flow value for which > 99% impurities is stopped (value obtained during the tests according to norm EN 858-1).

Q_{max} [dm³/s] – maximum hydraulic flow capacity of the device, at which there is no danger of flushing out accumulated dirt.

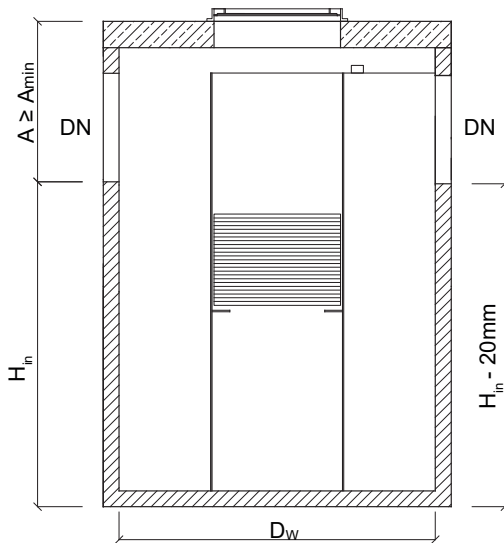
**) Increasing the A value through the use of additional superstructure rings.

S - devices delivered to the construction site in the elements.

Ecol-Unicon Company reserves the right to implement changes in equipment design without prior notice.



High-efficiency lamella separators with settling tank ESL-ZH



The technical specifications of each device series with technical description and possible modifications of the dimensions can be found at www.ecol-unicon.com

ESL-ZH separators were tested for nominal and maximum flows and the results of the tests were confirmed by the Building Research Institute by issuing the National Technical Assessment ITB-KOT-2017/0212 edition I. ESL-ZH separators represent class I (according to EN 858-1), it also obtained CE mark allowing to be applied in all EU countries.

The chamber is made in accordance with Norm EN 1917 or National Technical Assessment ITB, concrete of class at least C35/45 waterproof \geq VW8, with water absorption lower than 5%, frost resistant F150 in the water and F50 in 2% NaCl, stable for petroleum products in accordance with EN 858-1.



Model $Q_{nom}/Q_{max}/V_{os}^*$	Q_{nom} [dm ³ /s] (NS)	Q_{max} [dm ³ /s] (NS)	D_w [mm]	H_{in} [mm]	A_{min}^{**} [mm]	Diameter of inlet/outlet pipes DN [mm]	Actual capacity of sedimentary section [dm ³]	Oil storage volume [dm ³]	Weight of the heaviest element [kg]	Total weight [kg]
ESL-ZH 1,5/15/150	1,5	15	1200	1220	830	max 400	150	150	2900	3700
ESL-ZH 1,5/15/300	1,5	15	1200	1540	1010	max 400	600	90	2900	3700
ESL-ZH 1,5/15/450	1,5	15	1200	1540	1010	max 400	600	90	2900	3700
ESL-ZH 3/30/300	3	30	1200	1540	1010	max 400	600	90	2900	3700
ESL-ZH 3/30/600	3	30	1200	1540	1010	max 400	600	90	2900	3700
ESL-ZH 3/30/900	3	30	1500	1750	850	max 400	1200	150	5600	6900
ESL-ZH 6/60/600	6	60	1200	1540	1010	max 400	600	90	2900	3700
ESL-ZH 6/60/1200	6	60	1500	1750	850	max 400	1200	150	5600	6900
ESL-ZH 6/60/1800	6	60	2000	2000	820	max 600	2000	300	7600	9600
ESL-ZH 10/100/1000	10	100	1500	1750	850	max 400	1200	150	5600	6900
ESL-ZH 10/100/2000	10	100	2000	2000	820	max 600	2000	300	7600	9600
ESL-ZH 10/100/3000 S	10	100	2000	2670	900	max 600	4000	300	5800	11600
ESL-ZH 15/150/1500	15	150	2000	2000	820	max 600	2000	300	7600	9600
ESL-ZH 15/150/3000 S	15	150	2000	2670	900	max 600	4000	300	5800	11600
ESL-ZH 15/150/4500 S	15	150	2000	2670	900	max 600	4500	225	5800	11600
ESL-ZH 20/200/2000	20	200	2000	2000	820	max 600	2000	300	7600	9600
ESL-ZH 20/200/4000 S	20	200	2000	2670	900	max 600	4000	300	5800	11600
ESL-ZH 20/200/6000 S (DN2000)	20	200	2000	3340	980	max 600	6000	300	7600	13400
ESL-ZH 20/200/6000 S (DN2500)	20	200	2500	2600	970	max 800	6000	300	6700	16500
ESL-ZH 30/300/3000 S	30	300	2000	2560	1010	max 800	4000	600	5800	11200
ESL-ZH 30/300/6000 S	30	300	2500	3240	1330	max 800	8000	1200	6700	18700
ESL-ZH 30/300/9000 S	30	300	3000	3080	1520	max 1200	10000	1500	5800	21100
ESL-ZH 40/400/4000 S	40	400	2000	2560	1010	max 800	4000	600	5800	11200
ESL-ZH 40/400/8000 S	40	400	2500	3240	1330	max 800	8000	1200	6700	18700
ESL-ZH 40/400/12000 S	40	400	4600	2650	1900	max 1200	20000	1500	52100	12400
ESL-ZH 50/500/5000 S	50	500	2500	3240	1330	max 800	8000	1200	6700	18700
ESL-ZH 50/500/10000 S	50	500	3000	3080	1520	max 1200	10000	1500	5800	21100
ESL-ZH 50/500/15000 S	50	500	4600	2650	1900	max 1200	20000	1500	52100	12400
ESL-ZH 60/600/6000 S	60	600	2500	3240	1330	max 800	8000	1200	6700	18700
ESL-ZH 60/600/12000 S	60	600	4600	2650	1900	max 1200	20000	1500	52100	12400
ESL-ZH 65/650/6500 S	65	650	2500	3240	1330	max 800	8000	1200	6700	18700
ESL-ZH 65/650/13000 S	65	650	4600	2650	1900	max 1200	20000	1500	52100	12400
ESL-ZH 70/700/7000 S	70	700	2500	3240	1330	max 800	8000	1200	6700	18700
ESL-ZH 70/700/14000 S	70	700	4600	2650	1900	max 1200	20000	1500	52100	12400
ESL-ZH 75/750/7500 S	75	750	2500	3240	1330	max 800	8000	1200	6700	18700
ESL-ZH 75/750/15000 S	75	750	4600	2650	1900	max 1200	20000	1500	52100	12400
ESL-ZH 80/800/8000 S	80	800	2500	3240	1330	max 800	8000	1200	6700	18700
ESL-ZH 80/800/16000 S	80	800	4600	2650	1900	max 1200	20000	1500	52100	12400
ESL-ZH 90/900/9000 S	90	900	3000	3080	1520	max 1200	10000	1500	5800	21100
ESL-ZH 90/900/18000 S	90	900	4600	2650	1900	max 1200	20000	1500	52100	12400
ESL-ZH 100/1000/10000 S	100	1000	3000	3080	1520	max 1200	10000	1500	5800	21100
ESL-ZH 100/1000/20000 S	100	1000	4600	2650	1900	max 1200	20000	1500	52100	12400

*) Q_{nom} [dm³/s] (NS) - nominal flow value for which > 99% impurities is stopped (value obtained during the tests according to norm EN 858-1).

Q_{max} [dm³/s] - maximum hydraulic flow capacity of the device, at which there is no danger of flushing out accumulated dirt.

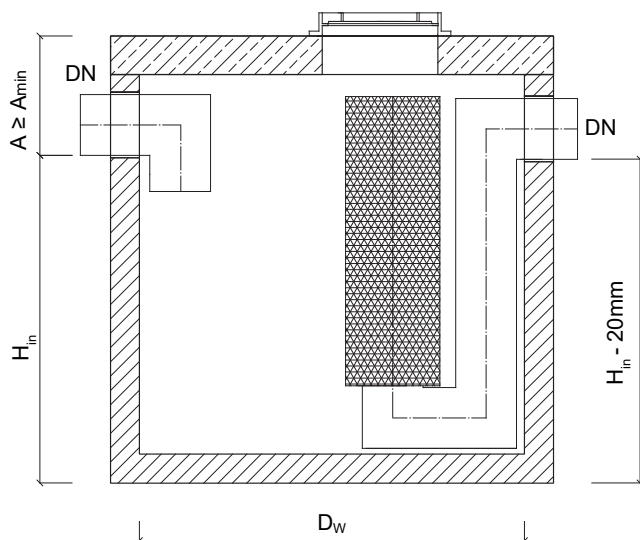
V_{os} [dm³] - capacity of the sedimentary section.

***) Increasing the A value through the use of additional superstructure rings.

S - devices delivered to the construction site in the elements.

Ecol-Unicon Company reserves the right to implement changes in equipment design without prior notice.

High-efficiency coalescence separator ESK



The technical specifications of each device series with technical description and possible modifications of the dimensions can be found at www.ecol-unicon.com

ESK separators were tested for nominal and maximum flows and the results of the tests were confirmed by the Building Research Institute by issuing the National Technical Assessment ITB-KOT-2017/0212 edition I. ESK separators represent class I (according to EN 858-1), it also obtained CE mark allowing to be applied in all EU countries..

The chamber is made in accordance with Norm EN 1917 or National Technical Assessment ITB, concrete of class at least C35/45 waterproof \geq W8, with water absorption lower than 5%, frost resistant F150 in the water and F50 in 2% NaCl, stable for petroleum products in accordance with EN 858-1.



Model Q_{nom}^*	Przepust Q_{nom} [dm ³ /s] (NS)	Średnica D_w [mm]	H_{in} [mm]	A_{min}^{**} [mm]	Diameter of inlet/outlet pipes DN [mm]	Oil storage volume [dm ³]	Weight of the heaviest element [kg]	Total weight [kg]
ESK 1,5	1,5	1000	730	540	160	180	1400	1900
ESK 3	3	1000	730	540	160	180	1400	1900
ESK 6	6	1000	730	540	160	180	1400	1900
ESK 10	10	1000	730	540	160	180	1400	1900
ESK 15	15	1200	950	600	200	480	2200	2900
ESK 20	20	1200	950	600	200	480	2200	2900
ESK 30	30	1500	1200	650	315	970	3900	5100
ESK 40	40	1500	1200	650	315	970	3900	5100
ESK 50	50	2000	1700	620	315	1900	6300	8200
ESK 60	60	2000	1700	620	315	1900	6300	8200
ESK 65	65	2000	1700	620	315	1900	6300	8200
ESK 70	70	2000	1700	620	315	1900	6300	8200
ESK 80	80	2000	1700	620	315	1900	6300	8200
ESK 90	90	2000	1700	620	315	1900	6300	8200
ESK 100	100	2000	1700	620	315	1900	6300	8200

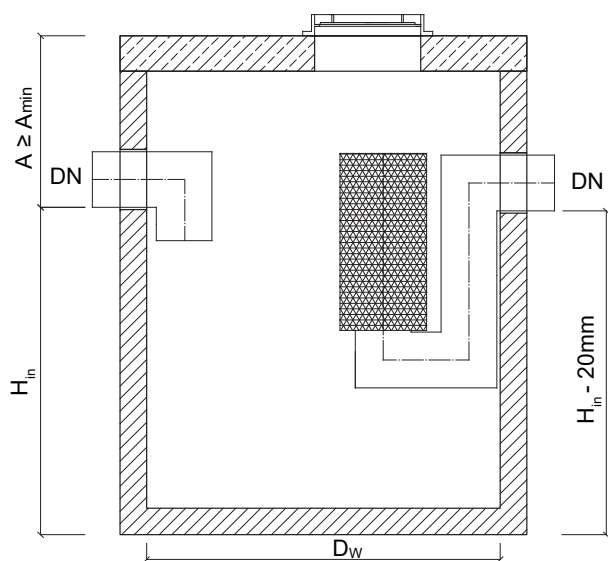
*) Q_{nom} [dm³/s] (NS) – nominal flow of the device, at which retention of oil is > 99 % (value obtained during the tests of the device according to norm EN 858-1).

**) Increasing the A value through the use of additional superstructure rings.

Ecol-Unicon Company reserves the right to implement changes in equipment design without prior notice.



Coalescence separator with the setting tank ESK-H



The technical specifications of each device series with technical description and possible modifications of the dimensions can be found at www.ecol-unicon.com

ESK-H separators were tested for nominal and maximum flows and the results of the tests were confirmed by the Building Research Institute by issuing the National Technical Assessment ITB-KOT-2017/0212 edition 1. ESK-H separators represent class I (according to EN 858-1), it also obtained CE mark allowing to be applied in all EU countries.

The chamber is made in accordance with Norm EN 1917 or National Technical Assessment ITB, concrete of class at least C35/45 waterproof $\geq W8$, with water absorption lower than 5%, frost resistant F150 in the water and F50 in 2% NaCl, stable for petroleum products in accordance with EN 858-1.



Model Q_{nom} / V_{os}^*	Q_{nom} [dm ³ /s] (NS)	D_w [mm]	H_{in} [mm]	A_{min}^{**} [mm]	Diameters of inlet/outlet pipes DNR [mm]	Actual capacity of sedimentary section [dm ³]	Oil storage volume [dm ³]	Weight of the heaviest element [kg]	Total weight [kg]
ESK-H 1,5/150	1,5	1000	730	540	160	160	180	1300	1800
ESK-H 1,5/300	1,5	1000	1030	740	160	380	180	1800	2300
ESK-H 3/300	3	1000	1030	740	160	380	180	1800	2300
ESK-H 3/900	3	1500	1130	720	160	1000	410	4000	5200
ESK-H 3/1200	3	1500	1230	620	160	1240	410	4000	5200
ESK-H 3/600	3	1200	1080	700	160	630	260	2500	3300
ESK-H 3/2500	3	2000	1390	680	160	2670	750	5700	7700
ESK-H 6/600	6	1200	1080	700	160	630	260	2500	3300
ESK-H 6/1200	6	1500	1230	620	160	1240	410	4000	5200
ESK-H 6/2500	6	2000	1390	680	160	2670	750	5700	7700
ESK-H 6/5000	6	2500	1600	720	160	5200	1180	8000	11200
ESK-H 10/1000	10	1500	1130	720	160	1070	410	4000	5200
ESK-H 10/2000	10	2000	1230	590	160	2200	750	5100	7000
ESK-H 10/5000	10	2500	1600	720	160	5200	1180	8000	11200
ESK-H 15/1500 DNI500	15	1500	1650	630	200	1600	930	4500	5700
ESK-H 15/1500 DN2000	15	2000	1200	620	200	1580	1400	5100	7000
ESK-H 15/3000	15	2000	1700	620	200	3150	1400	6400	8300
ESK-H 20/2000	20	2000	1400	920	200	2200	1400	6400	8300
ESK-H 20/4000	20	2500	1600	720	200	4370	2200	8000	11200
ESK-H 30/3000	30	2000	1850	970	315	3150	1800	7600	9500
ESK-H 30/6000 S	30	2500	2120	700	315	6240	2900	5200	12700
ESK-H 40/4000	40	2500	1700	870	315	4180	2900	8700	11900
ESK-H 40/8000 S	40	3000	2030	820	315	8350	4800	7300	17200
ESK-H 50/5000 S	50	3000	2170	680	315	5310	4460	7300	17200
ESK-H 50/10000 S	50	3000	2800	800	315	10250	4460	8300	20000
ESK-H 60/6000 S	60	3000	2210	890	315	6120	4460	8200	18200
ESK-H 65/6500 S	65	3000	2310	790	315	6820	4460	8300	18200
ESK-H 70/7000 S	70	3000	2350	750	315	7110	4460	8300	18200
ESK-H 80/8000 S	80	3000	2530	820	315	8380	4460	8300	19300
ESK-H 90/9000 S	90	3000	2640	710	315	9150	4460	8300	19300
ESK-H 100/10000 S	100	3000	2800	800	315	10250	4460	8300	20000

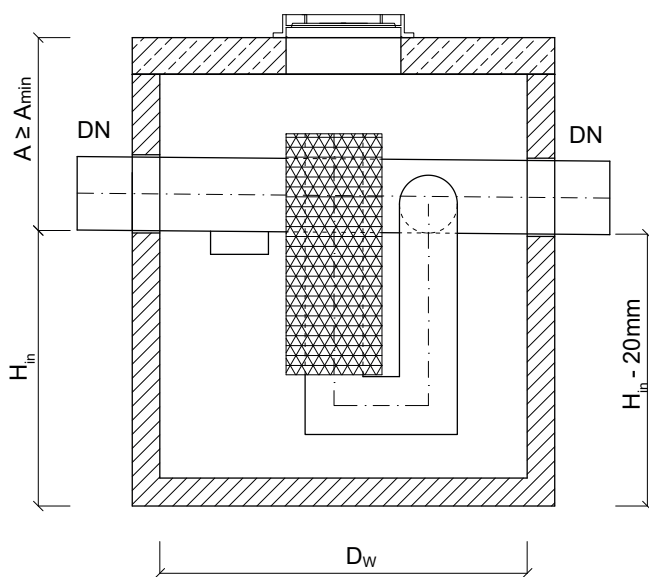
*) Q_{nom} [dm³/s] (NS) - nominal flow value for which > 99% impurities is stopped (value obtained during the tests according to norm EN 858-1).
 V_{os} [dm³] - capacity of the sedimentary section.

***) Increasing the A value through the use of additional superstructure rings.

S - devices delivered to the construction site in the elements.

Ecol-Unicon Company reserves the right to implement changes in equipment design without prior notice.

Coalescence separator with the setting tank ESK-B II



The technical specifications of each device series with technical description and possible modifications of the dimensions can be found at www.ecol-unicon.com

ESK-B II separators were tested for nominal and maximum flows and the results of the tests were confirmed by the Building Research Institute by issuing the National Technical Assessment ITB-KOT-2017/0212 edition I. ESK-B II separators represent class I (according to EN 858-1), it also obtained CE mark allowing to be applied in all EU countries.

The chamber is made in accordance with Norm EN 1917 or National Technical Assessment ITB, concrete of class at least C35/45 waterproof $\geq W8$, with water absorption lower than 5%, frost resistant F150 in the water and F50 in 2% NaCl, stable for petroleum products in accordance with EN 858-1.



Model $Q_{nom}/Q_{max}/DN_R^{**}$	Q_{nom} [dm ³ /s] (NS)	Q_{max} [dm ³ /s] (NS)	D_w [mm]	H_{in} [mm]	A_{min}^{**} [mm]	Diameters of inlet/outlet pipes DN_R [mm]	Oil storage volume [dm ³]	Weight of the heaviest element [kg]	Total weight [kg]
ESK-B II 3/30/250	3	30	1200	730	820	250	220	2300	3050
ESK-B II 6/60/250	6	60	1200	730	820	250	220	2300	3050
ESK-B II 10/100/250	10	100	1200	730	820	250	220	2300	3050
ESK-B II 10/100/315	10	100	1200	730	820	315	220	2300	3050
ESK-B II 15/150/315	15	150	1500	950	900	315	500	3700	4800
ESK-B II 15/150/400	15	150	1500	950	900	400	500	3700	4800
ESK-B II 20/200/315	20	200	1500	950	900	315	500	3700	4800
ESK-B II 20/200/400	20	200	1500	950	900	400	500	3700	4800
ESK-B II 30/300/315	30	300	2000	1130	940	315	1450	5800	7600
ESK-B II 30/300/400	30	300	2000	1130	940	400	1450	5800	7600
ESK-B II 30/300/500	30	300	2000	1130	940	500	1450	5800	7600
ESK-B II 40/400/315	40	400	2000	1130	940	315	1450	5800	7600
ESK-B II 40/400/400	40	400	2000	1130	940	400	1450	5800	7600
ESK-B II 40/400/500	40	400	2000	1130	940	500	1450	5800	7600
ESK-B II 50/500/400	50	500	2000	1500	1050	400	3000	5200	8800
ESK-B II 50/500/500	50	500	2000	1500	1050	500	3000	5200	8800
ESK-B II 60/600/400	60	600	2000	1500	1050	400	3000	5200	8800
ESK-B II 60/600/500	60	600	2000	1500	1050	500	3000	5200	8800
ESK-B II 60/600/630	60	600	2000	1500	1050	630	3000	5200	8800

*) Q_{nom} [dm³/s] (NS) – nominal flow of the device, at which retention of oil is > 99% (value obtained during the tests of the device according to norm EN 858-1).

Q_{max} [dm³/s] – maximum hydraulic flow capacity of the device.

DN_R [mm] – diameters of inlet and outlet pipes.

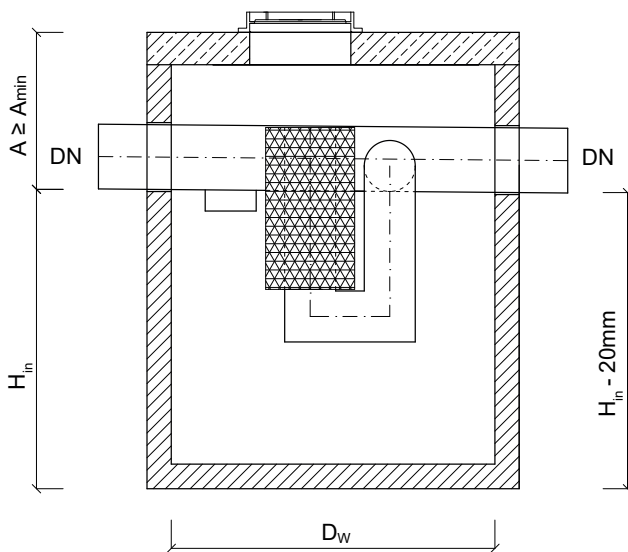
***) Increasing the A value through the use of additional superstructure rings.

S - devices delivered to the construction site in the elements.

Ecol-Unicon Company reserves the right to implement changes in equipment design without prior notice.



High-efficiency coalescence separator with by-pass and settling tank ESK-BH II



The technical specifications of each device series with technical description and possible modifications of the dimensions can be found at www.ecol-unicon.com

ESK-BH II separators were tested for nominal and maximum flows and the results of the tests were confirmed by the Building Research Institute by issuing the National Technical Assessment ITB-KOT-2017/0212 edition I. ESK-BH II separators represent class I (according to EN 858-1), it also obtained CE mark allowing to be applied in all EU countries.

The chamber is made in accordance with Norm EN 1917 or National Technical Assessment ITB, concrete of class at least C35/45 waterproof $\geq W8$, with water absorption lower than 5%, frost resistant F150 in the water and F50 in 2% NaCl, stable for petroleum products in accordance with EN 858-1.



Model $Q_{nom} / Q_{max} / V_{os} / DN_R^{**}$	Q_{nom} [dm ³ /s] (NS)	Q_{max} [dm ³ /s] (NS)	D_w [mm]	H_{in} [mm]	A_{min}^{**} [mm]	Diameters of inlet/outlet pipes DN_R [mm]	Actual capacity of sedimentary section [dm ³]	Oil storage volume [dm ³]	Weight of the heaviest element [kg]	Total weight [kg]
ESK-BH II 3/30/300/250	3	30	1200	800	750	250	300	220	2300	3000
ESK-BH II 3/30/600/250	3	30	1200	1060	740	250	600	220	2600	3300
ESK-BH II 6/60/600/250	6	60	1200	1060	740	250	600	220	2600	3300
ESK-BH II 6/60/1200/250	6	60	1200	1580	700	250	1200	220	3300	3400
ESK-BH II 10/100/1000/250	10	100	1200	1400	650	250	1000	220	3000	3700
ESK-BH II 10/100/1000/315	10	100	1200	1400	880	315	1000	220	3300	4000
ESK-BH II 10/100/2000/250 S	10	100	1200	2290	760	250	2000	220	2300	5100
ESK-BH II 10/100/2000/315 S	10	100	1200	2290	760	315	2000	220	2300	5100
ESK-BH II 10/100/2000/250	10	100	1500	1750	1030	250	2000	300	5600	6600
ESK-BH II 10/100/2000/315	10	100	1500	1750	1030	315	2000	300	5600	6600
ESK-BH II 10/100/3000/250	10	100	2000	1520	800	250	3000	580	6400	8500
ESK-BH II 10/100/3000/315	10	100	2000	1520	800	315	3000	580	6400	8500
ESK-BH II 15/150/1500/315	15	150	1500	1480	800	315	1500	500	4600	5600
ESK-BH II 15/150/1500/400	15	150	1500	1480	800	400	1500	500	4600	5600
ESK-BH II 15/150/3000/315	15	150	2000	1610	710	315	3000	900	6400	8200
ESK-BH II 15/150/3000/400	15	150	2000	1610	940	400	3000	900	7000	8700
ESK-BH II 20/200/2000/315	20	200	1500	1880	970	315	2000	500	5700	6700
ESK-BH II 20/200/2000/400	20	200	1500	1880	970	400	2000	500	5700	6700
ESK-BH II 20/200/4000/315	20	200	2000	2020	800	315	4000	900	6500	9700
ESK-BH II 20/200/4000/400	20	200	2000	2020	800	400	4000	900	6500	9700
ESK-BH II 30/300/3000/315	30	300	2000	1850	970	315	3000	1450	7800	11000
ESK-BH II 30/300/3000/400	30	300	2000	1850	970	400	3000	1450	7800	11000
ESK-BH II 30/300/3000/500	30	300	2000	1850	970	500	3000	1450	7800	11000
ESK-BH II 30/300/6000/315 S	30	300	2500	2120	950	315	6000	2300	6200	13500
ESK-BH II 30/300/6000/400 S	30	300	2500	2120	950	400	6000	2300	6200	13500
ESK-BH II 30/300/6000/500 S	30	300	2500	2120	950	500	6000	2300	6200	13500
ESK-BH II 40/400/4000/315 S	40	400	2000	2180	890	315	4000	1450	4400	10000
ESK-BH II 40/400/4000/400 S	40	400	2000	2180	890	400	4000	1450	4400	10000
ESK-BH II 40/400/4000/500 S	40	400	2000	2180	890	500	4000	1450	4400	10000
ESK-BH II 40/400/8000/400 S	40	400	2500	2520	1050	400	8000	2300	6200	15000
ESK-BH II 40/400/8000/500 S	40	400	2500	2520	1050	500	8000	2300	6200	15000
ESK-BH II 50/500/5000/400 S	50	500	2500	2410	910	400	5000	4700	4400	15000
ESK-BH II 50/500/5000/500 S	50	500	2500	2410	910	500	5000	4700	4400	15000
ESK-BH II 50/500/10000/400 S	50	500	3000	2810	1040	400	10000	6800	7400	20500
ESK-BH II 50/500/10000/500 S	50	500	3000	2810	1040	500	10000	6800	7400	20500

* Q_{nom} [dm³/s] (NS) - nominal flow value for which > 99% impurities is stopped (value obtained during the tests according to norm EN 858-1).

Q_{max} [dm³/s] - maximum hydraulic flow capacity of the device, at which there is no danger of flushing out accumulated dirt.

V_{os} [dm³] - capacity of the sedimentary section.

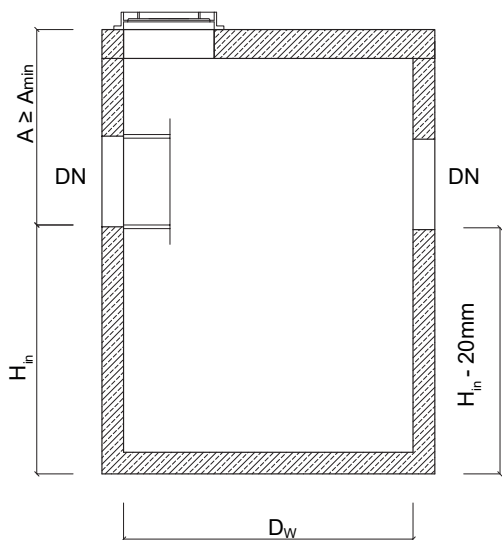
DN_R [mm] - diameters of inlet and outlet pipes.

***) Increasing the A value through the use of additional superstructure rings.

S - devices delivered to the construction site in the elements.

Ecol-Unicon Company reserves the right to implement changes in equipment design without prior notice.

Horizontal settling tanks OS-O



The technical specifications of each device series with technical description and possible modifications of the dimensions can be found at www.ecol-unicon.com

OS-O settling tanks has the AT / 2015- approval 08-0231 / A2.

The chamber is made in accordance with Norm EN 1917 or National Technical Assessment ITB, concrete of class at least C35/45 waterproof $\geq W8$, with water absorption lower than 5%, frost resistant F150 in the water and F50 in 2% NaCl, stable for petroleum products in accordance with EN 858-1.



Model D_w / V_{cz}^*	D_w [mm]	Area A_p [m ²]	Active volume V_{cz} [m ³]	H_{in} [mm]	A_{min}^{**} [mm]	Diameter of pipes DN [mm]	Sediment layer thickness [cm]	Total weight [kg]
OS-O 1200 / 1,0	1200	1,13	1,0	1050	850	max 600	44	3750
OS-O 1200 / 1,5	1200	1,13	1,5	1500	900	max 600	66	4340
OS-O 1200 / 2,0	1200	1,13	2,0	1940	960	max 600	88	5030
OS-O 1500 / 2,0	1500	1,77	2,0	1300	1050	max 800	56	6300
OS-O 1500 / 2,5	1500	1,77	2,5	1590	1110	max 800	71	6770
OS-O 1500 / 3,0	1500	1,77	3,0	1870	1080	max 800	85	7250
OS-O 2000 / 3,0	2000	3,14	3,0	1130	1290	max 1000	48	8880
OS-O 2000 / 3,5	2000	3,14	3,5	1290	1380	max 1000	56	9520
OS-O 2000 / 4,0	2000	3,14	4,0	1450	1470	max 1000	64	10130
OS-O 2000 / 5,0	2000	3,14	5,0	1770	1400	max 1000	80	10750
OS-O 2000 / 6,0	2000	3,14	6,0	2080	1340	max 1000	95	11370
OS-O 2000 / 7,0	2000	3,14	7,0	2400	1270	max 1000	111	12000
OS-O 2000 / 7,5	2000	3,14	7,5	2560	1360	max 1000	119	12610
OS-O 2000 / 8,0	2000	3,14	8,0	2720	1450	max 1000	127	13240
OS-O 2500 / 5,0	2500	4,91	5,0	1190	1480	max 1200	51	12840
OS-O 2500 / 6,0	2500	4,91	6,0	1400	1520	max 1200	61	13600
OS-O 2500 / 7,0	2500	4,91	7,0	1600	1570	max 1200	71	14360
OS-O 2500 / 7,5	2500	4,91	7,5	1700	1720	max 1200	76	15130
OS-O 2500 / 8,0	2500	4,91	8,0	1810	1610	max 1200	82	15130
OS-O 2500 / 9,0	2500	4,91	9,0	2020	1650	max 1200	92	15890
OS-O 2500 / 10,0	2500	4,91	10,0	2230	1690	max 1200	103	16650
OS-O 2500 / 11,0	2500	4,91	11,0	2450	1720	max 1200	114	17420
OS-O 2500 / 12,0	2500	4,91	12,0	2640	1530	max 1200	123	17420
OS-O 2500 / 12,5	2500	4,91	12,5	2720	1700	max 1200	127	18180
OS-O 2500 / 13,0	2500	4,91	13,0	2840	1610	max 1200	133	18180
OS-O 3000 / 10,0	3000	7,07	10,0	1590	2110	max 1500	71	20570
OS-O 3000 / 11,0	3000	7,07	11,0	1730	2220	max 1500	78	21480
OS-O 3000 / 12,0	3000	7,07	12,0	1870	2080	max 1500	85	21480
OS-O 3000 / 12,5	3000	7,07	12,5	1940	2260	max 1500	88	22370
OS-O 3000 / 13,0	3000	7,07	13,0	2010	2190	max 1500	92	22370
OS-O 3000 / 14,0	3000	7,07	14,0	2160	2290	max 1500	99	23280
OS-O 3000 / 15,0	3000	7,07	15,0	2300	2400	max 1500	106	24190
OS-O 3000 / 16,0	3000	7,07	16,0	2440	2260	max 1500	113	24190
OS-O 3000 / 17,0	3000	7,07	17,0	2580	2370	max 1500	120	25080
OS-O 3000 / 18,0	3000	7,07	18,0	2720	2230	max 1500	127	25080
OS-O 3000 / 19,0	3000	7,07	19,0	2860	2590	max 1500	134	26900
OS-O 3000 / 20,0	3000	7,07	20,0	3000	2450	max 1500	141	26900
OS-O 3000 / 22,5	3000	7,07	22,5	3360	2340	max 1500	159	27790
OS-O 3000 / 25,0	3000	7,07	25,0	3710	2240	max 1500	177	28700
OS-O 3000 / 27,5	3000	7,07	27,5	4070	2380	max 1500	195	30500
OS-O 3000 / 30,0	3000	7,07	30,0	4420	2530	max 1500	212	32320

*) D_w [mm] - inner diameter clarifier.

V_{cz} [m³] - the active volume of the settler.

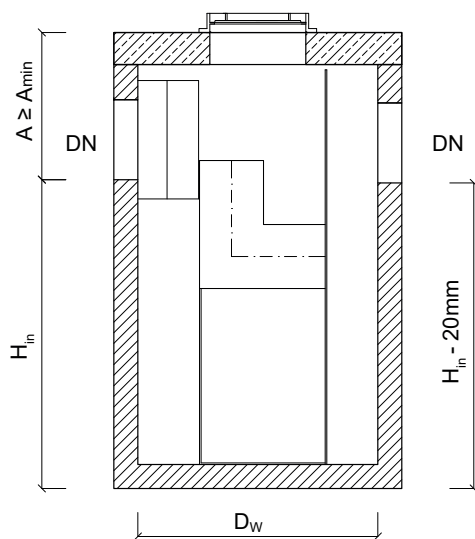
**) Increasing the value of A_{min} through the use of additional superstructure rings. For a pipe with a diameter smaller than the maximum diameter DN.

A_{min} value may be smaller. Increasing the size H_{in} reduces by a certain dimension of A .

Ecol-Unicon Company reserves the right to implement changes in equipment design without prior notice.



Vortex settling tanks EOW-I



The technical specifications of each device series with technical description and possible modifications of the dimensions can be found at www.ecol-unicon.com

EOW-I vortex settling tanks has the AT / 2015- approval 08-0378.

The chamber is made in accordance with Norm EN 1917 or National Technical Assessment ITB, concrete of class at least C35/45 waterproof $\geq W8$, with water absorption lower than 5%, frost resistant F150 in the water and F50 in 2% NaCl, stable for petroleum products in accordance with EN 858-1.



Model $Q_{nom} (80\%) / Q_{max}^*$	Q_{nom} [dm ³ /s] (NS)	Q_{max} [dm ³ /s] (NS)	D_w [mm]	H_{in} [mm]	A_{min}^{**} [mm]	Diameter of inlet/outlet pipes DN [mm]	Sediment trap volume [dm ³]	Sediment layer thickness [cm]	Weight of the heaviest element [kg]	Total weight [kg]
EOW-I 3/30	3	30	1000	950	820	max 315	510	63	1900	2400
EOW-I 6/60	6	60	1000	950	820	max 315	510	46	1900	2400
EOW-I 10/100	10	100	1200	1560	990	max 400	1290	75	3600	4400
EOW-I 15/150	15	150	1200	1560	990	max 400	1290	50	3600	4400
EOW-I 20/200	20	200	1500	1340	940	max 500	1730	52	4500	5700
EOW-I 30/300	30	300	1500	1930	920	max 500	2610	50	5800	7000
EOW-I 40/400	40	400	2000	1480	1340	max 600	3450	42	7600	9600
EOW-I 50/500	50	500	2500	1540	1280	max 800	5640	66	9500	12700
EOW-I 60/600	60	600	2500	1540	1280	max 800	5640	55	9500	12700
EOW-I 65/650	65	650	2500	1540	1280	max 800	5640	51	9500	12700
EOW-I 70/700 S	70	700	2500	1860	1460	max 800	6960	57	6800	14300
EOW-I 75/750 S	75	750	2500	1860	1460	max 800	6960	53	6800	14300
EOW-I 80/800 S	80	800	2500	1860	1460	max 800	6960	50	6800	14300
EOW-I 90/900 S	90	900	3000	1630	1720	max 1000	8660	61	7300	18900
EOW-I 100/1000 S	100	1000	3000	1630	1720	max 1000	8660	55	7300	18900
EOW-I 110/1100 S	110	1100	3000	2220	1630	max 1000	12170	67	8300	20900
EOW-I 120/1200 S	120	1200	3000	2220	1630	max 1000	12170	61	8300	20900
EOW-I 125/1250 S	125	1250	3000	2220	1630	max 1000	12170	59	8300	20900
EOW-I 130/1300 S	130	1300	3000	2220	1630	max 1000	12170	57	8300	20900
EOW-I 140/1400 S	140	1400	3000	2220	1630	max 1000	12170	53	8300	20900
EOW-I 260/2600 S	260	2600	4600	3570	2480	max 1400	47520	87	14100	75200
EOW-I 360/3600 S	360	3600	5000	3570	2480	max 1400	59730	63	16200	86100
EOW-I 480/4800 S	480	4800	5600	3570	2480	max 1600	76230	63	19500	103700
EOW-I 540/5400 S	540	5400	6000	3570	2480	max 1600	90420	56	21900	114200

^{*)} $Q_{nom} (80\%)$ [dm³/s] (NS) - nominal flow value for the settling efficiency of 80%.

Q_{max} [dm³/s] - maximum hydraulic flow capacity of the device, at which there is no danger of flushing out accumulated dirt.

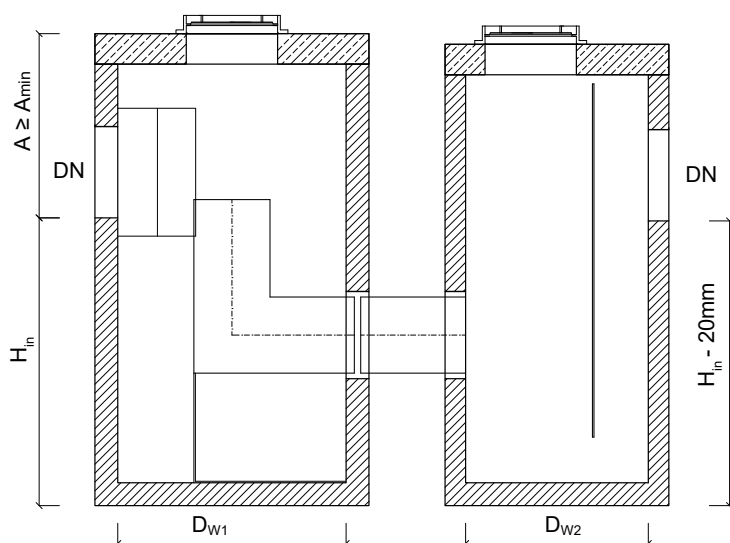
V_{sed} [dm³] - capacity of the sedimentary section.

^{**)} Increasing the A value through the use of additional superstructure rings.

S - devices delivered to the construction site in the elements.

Ecol-Unicon Company reserves the right to implement changes in equipment design without prior notice.

Vortex settling tanks EOW-2



The technical specifications of each device series with technical description and possible modifications of the dimensions can be found at www.ecol-unicon.com

EOW-2 vortex settling tanks has the AT / 2015- approval 08-0378.

The chamber is made in accordance with Norm EN 1917 or National Technical Assessment ITB, concrete of class at least C35/45 waterproof \geq W8, with water absorption lower than 5%, frost resistant F150 in the water and F50 in 2% NaCl, stable for petroleum products in accordance with EN 858-1.



Model $Q_{nom} (80\%) / Q_{max}^*$	Q_{nom} [dm ³ /s] (NS)	Q_{max} [dm ³ /s] (NS)	D_{w1} [mm]	D_{w2} [mm]	H_{in} [mm]	A_{min}^{**} [mm]	Diameter of inlet/outlet pipes DN [mm]	Sediment trap volume [dm ³]	Oil storage volume [dm ³]	Allowable sediment trap volume [cm]	Permissible oil layer thickness [cm]	Weight of the heaviest element [kg]	Total weight [kg]
EOW-2 3/30	3	30	1000	1000	900	870	max 400	580	350	58	20	1900	4700
EOW-2 6/60	6	60	1000	1000	900	870	max 400	580	350	58	20	1900	4700
EOW-2 10/100	10	100	1200	1000	1710	1090	max 500	1750	790	132	20	4000	8100
EOW-2 15/150	15	150	1200	1000	1710	1090	max 500	1750	790	88	20	4000	8100
EOW-2 20/200	20	200	1200	1000	1710	1090	max 500	1750	790	66	20	4000	8100
EOW-2 25/250 S	25	250	1200	1200	2100	950	max 500	2190	1350	66	20	2200	10100
EOW-2 30/300	30	300	1500	1200	1640	1210	max 600	2610	970	62	20	5800	11700
EOW-2 35/350 S	35	350	1500	1200	1890	1210	max 600	3050	1180	62	20	4000	12600
EOW-2 40/400	40	400	2000	1200	1550	1270	max 700	4340	900	62	20	7600	14300
EOW-2 50/500	50	500	2000	1200	1550	1270	max 700	4340	900	49	20	7600	14300
EOW-2 60/600 S	60	600	2000	1500	1990	1580	max 800	5720	960	71	20	5100	19500
EOW-2 65/650 S	65	650	2000	1500	1990	1580	max 800	5720	960	65	20	5100	19500
EOW-2 70/700	70	700	2500	1500	1490	1330	max 800	6490	1100	46	20	9500	19700
EOW-2 75/750	75	750	2500	1500	1490	1330	max 800	6490	1100	43	20	9500	19700
EOW-2 80/800 S	80	800	2500	1500	1940	1630	max 900	8700	1680	65	20	6500	23100
EOW-2 90/900 S	90	900	2500	1500	1940	1630	max 900	8700	1680	58	20	6500	23100
EOW-2 100/1000 S	100	1000	2500	1500	1940	1630	max 900	8700	1680	52	20	6500	23100
EOW-2 110/1100 S	110	1100	3000	2000	1870	1730	max 1000	12020	2600	57	20	8300	31100
EOW-2 120/1200 S	120	1200	3000	2000	1870	1730	max 1000	12020	2600	52	20	8300	31100
EOW-2 125/1250 S	125	1250	3000	2000	1870	1730	max 1000	12020	2600	50	20	8300	31100
EOW-2 130/1300 S	130	1300	3000	2000	1870	1730	max 1000	12020	2600	48	20	8300	31100
EOW-2 140/1400 S	140	1400	3000	2000	2140	1960	max 1200	13930	3230	74	20	9300	34300
EOW-2 150/1500 S	150	1500	3000	2000	2140	1960	max 1200	13930	3230	70	20	9300	34300
EOW-2 160/1600 S	160	1600	3000	2000	2140	1960	max 1200	13930	3230	65	20	9300	34300
EOW-2 300/3000 S	300	3000	4600	2500	3570	2480	max 1400	54850	9570	76	20	14100	103200
EOW-2 360/3600 S	360	3600	5000	3000	3570	2480	max 1400	67650	13260	63	20	16200	114100
EOW-2 480/4800 S	480	4800	5600	3000	3570	2480	max 1600	88440	13260	63	20	19500	131700
EOW-2 560/5600 S	560	5600	6000	3000	3570	2480	max 1600	103950	13260	54	20	21900	142200

*) $Q_{nom} (80\%)$ [dm³/s] (NS) - nominal flow value for the settling efficiency of 80%.

Q_{max} [dm³/s] - maximum hydraulic flow capacity of the device, at which there is no danger of flushing out accumulated dirt.

***) Increasing the A value through the use of additional superstructure rings.

S - devices delivered to the construction site in the elements.

Ecol-Unicon Company reserves the right to implement changes in equipment design without prior notice.





The Art of Water Treatment

| Our company

Ecol-Unicon was founded in 1996. We are the leading producer and distributor of water-protection devices in Poland. We have four production facilities, a professional sales and support network with branches in major Polish cities and also a rapidly developing export department.

| Our mission

In the interest of the environment, we operate without compromise.

| Our offer

Our offer can be divided into three main groups: rain management products, pumping stations and wastewater treatment plants. We offer cutting-edge solutions for odour elimination as well as BUMERANG, an intelligent monitoring and management system. We also provide services such as construction of engineering projects, maintenance and operation.



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