Separators

Competence in water protection

ACO Light oil separators class I and II

- ACO CURATOR-GG
- ACO COALISATOR-GG
- ACO COALISATOR-R/-RD
- ACO COALISATOR-E with separate sludge trap

An environmental-friendly solution from ACO for every application

Fields of application
- Petrol stations
- Parking spaces
- Parking areas
- Carriageways
- Cleaning sites and car-wash plants
- Workshops
- Vehicle recycling
- Heliports
- Transformer substations
- Elevator shafts

Applications

When should light oil separators be used? Their use is stipulated by the regulations in DIN 1986-100, Section 6.2.3: “If petroleum or light oils, especially those that are combustible or can form explosive atmospheres, enter the sewers, separator systems for light oils must be used downstream of the discharge points.”
Discharging petroleum and light oils into public sewers can cause groundwater and drinking water contamination, and in serious cases, cause extensive environmental damage to flora and fauna. The solution to this problem is a light oil separator. Any light oil in the wastewater is collected in a separator tank and prevented from being discharged from the separator. The discharge outlet closes automatically when the maximum storage capacity has been reached.
The light oil which collects in the separator is disposed of by certified recycling companies at regular intervals.

Standards and tests

All ACO light oil separators are manufactured in accordance with the applicable standards DIN EN 858 and DIN 1999-100.
All the separators in the range are hydraulically tested and have General Building Supervisory Authority Authorisation or the new application authorisation from DIBt Berlin.
The separators also undergo regular inspection by the Bavarian State Trading Agency, which checks the production to make sure it complies with the latest testing standards.

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The functional principle behind light oil separation

Wastewater contaminated with light oil flows into the separator chamber (4) through the inlet pipe. Dense substances (e.g. sand) sink to the base of the tank and accumulate in the sludge trap (5). The light oils (e.g. oil or petrol) rise to the surface where they separate out to form a light oil layer (3). This is gravity separation. In Class II gravity separators of this kind, the wastewater leaving the separator through the outlet pipe can have residual oil concentrations of 100 milligrammes per litre. This level can be reduced to below 5 milligrammes per litre by using a coalescence element (1) in a Class I separator.

Coalescence process (only in Class I separators)

The small oil droplets which cannot be separated from the water on the basis of their difference in density to the water, hit and stick to the lipophilic coalescence unit.

The drops of oil spread out on the coalescence material, and are joined by more oil drops, which causes the oil film to expand.

At some point, enough oil has collected to exceed the adhesive power of the oil film, and a large drop of oil starts to break away.

The principle behind automatic closure

The material collecting in the light oil layer (3) must not enter the sewers. This means that the separators must have an automatic closing device which automatically closes the separator outlet when the maximum volume of light oil has accumulated in the separation tank. The closing mechanism has a float (2) with a specific density which is pressed down further and further by the light oil layer as it builds up.

When the float has shut off the outlet, no more wastewater can be discharged through the separator. Further operation first requires the contents of the separator to be removed by a certified recycling company, followed by refilling with water, which then reopens the outlet pipe.

Normal condition

Float fully immerged

Float seal

The ACO COALISATOR and ACO CURATOR range

Light oil separators
as per EN 858 and DIN 1999-100

Class I	Class II
Residual oil content per litre water: 5 milligrammes	Residual oil content per litre water: ≤ 100 milligrammes

ACO COALISATOR-GG for free-standing installation or for ground installation	**Material** **Cast iron**	**ACO CURATOR-GG** for free-standing installation or for ground installation
ACO COALISATOR-R/-RD **ACO COALISATOR-E** for free-standing installation	**Material** **Stainless steel**	

- Sludge traps for free-standing installation and for ground installation upon request.

- Light oil separators of reinforced concrete:
www.aco-tiefbau.de

For free-standing installation or for ground installation – of cast iron

ACO CURATOR-GG and ACO COALISATOR-GG

ACO CURATOR-GG in an elevator shaft

Applications
ACO light oil separators CURATOR-GG and COALISATOR-GG are suitable for free-standing installation (non-frostproof models), and for ground installation when equipped with the necessary concrete construction components (supplied as standard). The manhole cover is designed for a maximum load of 12.5 tonnes. ACO light oil separator CURATOR-GG can be converted to an ACO COALISATOR-GG with the addition of a coalescence insert. The basic versions of these separators are designed for applications where light oils accumulate with very minor amounts of dirt, e.g. elevator shafts or transformer substations. Sludge traps should be installed upstream of separators when treating wastewater containing high concentrations of dirt.

Official test sign Z-54.5-114
(ACO CURATOR-GG)
Official test sign Z-54.8-218
(ACO COALISATOR-GG)

Dimensions
ACO CURATOR-GG/ACO COALISATOR-GG

	NS 1.5			NS 3			NS 6		
Inlet/outlet	DN 100			DN 100			DN 100		
L1 x W1 (mm)	820 x 316			1050 x 420			1260 x 420		
L2 x W2 (mainten. opening, mm)	433 x 255			615 x 315			615 x 315		
Light oil storage capacity	20 l			45 l			65 l		
Total wastewater content	55 l			150 l			185 l		
Installation depth (mm)	H1	H2	H3	H1	H23	H3	H1	H2	H3
Non-frostfree	230	255	600	230	255	740	255	290	800
400	–	–	–	405	430	910	435	470	980
500	485	510	850	–	–	–	–	–	–
600	–	–	–	615	640	1120	645	680	1190
800	795	820	1160	825	850	1330	855	890	1600
1000	1005	1030	1370	1025	1050	1530	1055	1090	1600
1200	1215	1240	1580	1235	1260	1740	1265	1300	1810

ACO CURATOR-GG – NS 1.5/3/6 – class II

Light oil separator as per EN 858 and DIN 1999-100, of cast iron DIN EN 1561.
With manhole cover load class B125 incl. lifting key, stainless steel float, material grade 1.4301 for automatic seal.
Light oil storage capacity: …… litres
Total wastewater contents: …… litres
Connections DN …… as per DIN EN 877 for SML pipe,
Float density …… g/cm³

- Supplementary components as from page 14
- Sludge traps upon request

	Float density	Installation depth in mm						
		Non-frostfee	400	500	600	800	1000	1200
NS 1,5	Density 0.85	6701.11.00	_	6711.11.00	_	6721.11.00	6731.11.00	6741.11.00
	Density 0.95	6701.31.00	_	6711.31.00	_	6721.31.00	6731.31.00	6741.31.00
	Weight	115 kg	_	155 kg	_	205 kg	235 kg	265 kg
NS 3	Density 0.85	6703.11.00	6753.11.00	–	6713.11.00	6723.11.00	6733.11.00	6743.11.00
	Density 0.95	6703.31.00	6753.31.00	–	6713.31.00	6723.31.00	6733.31.00	6743.31.00
	Weight	220 kg	260 kg	–	305 kg	350 kg	390 kg	435 kg
NS 6	Density 0.85	6706.11.00	6756.11.00	–	6716.11.00	6726.11.00	6736.11.00	6746.11.00
	Density 0.95	6706.31.00	6756.31.00	–	6716.31.00	6726.31.00	6736.31.00	6746.31.00
	Weight	290 kg	330 kg	–	395 kg	420 kg	465 kg	510 kg

ACO COALISATOR-GG – NS 1.5/3/6 – class I

Light oil separator with coalescence insert as per EN 858 and DIN 1999-100, of cast iron DIN EN 1561.
With manhole cover load class B125 incl. lifting key, stainless steel float, material grade 1.4301 for automatic seal.
Light oil storage capacity: …… litres
Total wastewater contents: …… litres
Connections DN …… as per DIN EN 877 for SML pipe,
Float density …… g/cm³

- Supplementary components as from page 14
- Sludge traps upon request

	Float density	Installation depth in mm						
		Non-frostfree	400	500	600	800	1000	1200
NS 1,5	Density 0.85	6701.11.30	_	6711.11.30	_	6721.11.30	6731.11.30	6741.11.30
	Density 0.95	6701.31.30	_	6711.31.30	_	6721.31.30	6731.31.30	6741.31.30
	Weight	115 kg	_	155 kg	_	205 kg	235 kg	265 kg
NS 3	Density 0.85	6703.11.30	6753.11.30	–	6713.11.30	6723.11.30	6733.11.30	6743.11.30
	Density 0.95	6703.31.30	6753.31.30	–	6713.31.30	6723.31.30	6733.31.30	6743.31.30
	Weight	220 kg	260 kg	–	305 kg	350 kg	390 kg	435 kg
NS 6	Density 0.85	6706.11.30	6756.11.30	–	6716.11.30	6726.11.30	6736.11.30	6746.11.30
	Density 0.95	6706.31.30	6756.31.30	–	6716.31.30	6726.31.30	6736.31.30	6746.31.30
	Weight	290 kg	330 kg	–	395 kg	420 kg	465 kg	510 kg

For free-standing installation of stainless steel class I with integrated sludge trap

ACO COALISATOR-R – NS 3/6/10

ACO COALISATOR-R in a car-wash plant

Applications

ACO light oil separator COALISATOR-R is suitable for free-standing installation in frost-free rooms. The round modules allow the separator to be dismantled on site for easier transport into small spaces.

ACO light oil separator COALISATOR-R has an integrated and optimised sludge trap pursuant to DIN EN 858, and can therefore be used in applications where wastewater is contaminated by light oil and only moderate amounts of dirt, e.g. car inspection pits (oil suction upon request).

Official test sign Z-54.8-381

Light oil separator with coalescence insert as per EN 858 and DIN 1999-100 of stainless steel, material grade 1.4301 for free-standing installation in frostproof rooms.
Float made of stainless steel, material grade 1.4301 for automatic seal, tared with density 0.90 g/cm³.
Light oil storage capacity: ..... litres
Total wastewater capacity: ..... litres
Connections DN ... as per DIN 19522 and DIN EN 877 for connection to SML pipe, incl. loosely applied maintenance opening DN 500.

■ Supplementary components as from page 14

Nom. size	Type	Capacity in litres			Inlet/ outlet DN	Dimensions in mm						Number of segments	Weight in kg		Art. no.
		Sludge trap	Oil storage	Total		H1	H2	H3	Ø L1	L2	L3		Total	Component.	
3	600	448	163	725	100	985	965	1450	980	1180	1090	785/2	170	85	7603.00.50
6	1200	617	160	980	150	1330	1310	1800	980	1180	1090	830/3	195	65	7606.00.50
10	2500	798	798	2570	150	1095	1075	1600	1750	1950	2060	600/3	300	100	7610.00.50

For free-standing installation of stainless steel class I with integrated sludge trap

ACO COALISATOR-RD – NS 3/6/10 – with direct suction

ACO COALISATOR-RD
in a workshop

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Applications

ACO light oil separator COALISATOR-RD is suitable for free-standing installation in frost-free rooms. The round modules allow the separator to be dismantled on site for easier transport into small spaces.

ACO light oil separator COALISATOR-RD has an integrated and optimised sludge trap pursuant to DIN EN 858, and can therefore be used in applications where wastewater is contaminated by light oil and only moderate amounts of dirt, e.g. car inspection pits.
Disposal of the separator contents can be done by direct DN65 suction pipe, also with a connection outside the building.

Official test sign Z-54.8-381

Light oil separator with coalescence insert as per EN 858 and DIN 1999-100 of stainless steel, material grade 1.4301 for free-standing installation in frostproof rooms.
With direct suction DN 65 with fire hose quick coupling Storz 75 B R 2 ½“ as per DIN 14308,
float made of stainless steel, material grade 1.4301 for automatic seal, tared with density 0.90 g/cm³.
Light oil storage capacity: ..... litres
Total wastewater capacity: ..... litres
Connections DN ... as per DIN 19522 and DIN EN 877 for connection to SML pipe, incl. loosely applied maintenance opening DN 500.

■ Supplementary components as from page 14

om. size	Type	Contents in litres			Inlet/ outlet DN	Dimensions in mm							Number of segments	Weight in kg		Art. no.	
		Sludge trap	Oil storage	Total		H1	H2	H3	H4	Ø L1	L2	L3		Total	Compon.	left	right
3	600	448	163	725	100	985	965	1450	1650	980	1180	1090	785/2	170	85	7603.10.50	7603.11.5
6	1200	617	160	980	150	1330	1310	1800	2000	980	1180	1090	830/3	195	65	7606.10.50	7606.11.5
10	2500	798	798	2570	150	1095	1075	1600	1800	1750	1950	2060	600/3	300	100	7610.10.50	7610.11.5

For free-standing installation of stainless steel class I with separate sludge trap 2.500 litres

ACO COALISATOR-E – NS 10/20

ACO COALISATOR-E with sludge trap E type 2500 at a heliport

Applications

ACO light oil separator COALISATOR-E is suitable for free-standing installation in frost-free rooms.

ACO light oil separator COALISATOR-E has a separate and large sludge trap pursuant to DIN EN 858, and can therefore be used in applications where wastewater is contaminated by light oil and large amounts of dirt, e.g. vehicle workshops or heliports.

Official test sign Z-54.3-408

Light oil separator with coalescence insert as per EN 858 and DIN 1999-100 of stainless steel, material grade 1.4301 for free-standing installation in frostproof rooms.
Float made of stainless steel, material grade 1.4301 for automatic seal, float density …… g/cm³.
Light oil storage capacity: …… litres
Total wastewater capacity: …… litres

Connections DN 200 as per DIN 19522 and DIN EN 877 for connection to SML pipe, incl. loosely applied cover hoods.

Sludge trap E, type 2500

ACO COALIS ATOREX ...

NS	Sludge trap type	DN	Contents in litres			Dimensions in mm							Weight in kg		Float density 0.85	Float density 0.95
			Sludge trap	Oil storage	Total	A	B	C	D	H1	H2	H3	Total	Compon.	Art. no.	Art. no.
10	2500	200	2550	155	2980	1340	525	590	520	640	620	900	600	420	7608.15.70	7608.35.70
20	2500	200	2550	425	4280	1860	1090	650	1080	890	870	1300	850	420	7609.15.70	7609.35.70

Separate sludge trap E type 2500
Sludge trap with 2500 litres capacity, of stainless steel, material 1.4301, for free-standing installation, consisting of:
Inlet and outlet DN 200 for SML connection as per DIN 19522. With baffle plate and three maintenance openings.

Three covers 787 x 787 mm (clear opening), without snap closures, loosely applied, dimensions (LxWxH): 2660 mm x 1090 mm x 1300 mm
Weight: app. 400 kg
Art. no.: 7226.20.30

■ Supplementary components as from page 14

Supplementary components for light oil separators

Description	Design	Art. no.	
SECURAT 2004 SB 1 Alarm device for separator type CURATOR-GG with visual and audible signal. Mains connection: 230 V / 47 ... 64 Hz. app. 8 VA Alarm device, consisting of: – SECURAT 2004, monitoring device – Oil probe with 5 m blue connecting cable – Fixation consisting of retaining ring with set screw and guide bar – Terminal strip and fixing material Weight app. 5 kg	For ACO CURATOR-GG NS 1.5 and 3 For ACO CURATOR-GG NS 6	**6751.03.00** **6751.13.00**	
SECURAT 2004 SK 2 Alarm device for separator type COALISATOR-GG and COALISATOR-R with visual and audible signal. Mains connection: 230 V / 47 ... 64 Hz. app. 8 VA Alarm device, consisting of: – SECURAT 2004, monitoring device – Oil probe with 5 m blue connecting cable – Accumulation probe with 5 m blue connecting cable – Terminal strip and fixing material Weight app. 5 kg	For ACO COALISATOR-GG NS 1.5 – 6 For ACO COALISATOR-R/-RD NS 3/6/10 and ACO COALISATOR-E NS 10 and 20	**6751.63.00** **6751.64.00**	
Extension cable For SECURAT SB 1 and SECURAT SK 2 alarm devices Type: HELUKABEL OZ-BL-CY 4 x 1.0, to be laid in ground or/and in blank pipe	1 meter	**0150.07.94**	
Sampling pipe For installation in horizontal pipeline, of stainless steel, material grade 1.4571, with CE connector and claw, connections as per DIN 19522 to SML pipe.	DN 100 DN 150 DN 200	**7300.09.10** **7300.09.20** **7300.09.30**	

Description	Design	Art. no.	
GG cover For ACO CURATOR-GG and ACO COALISATOR-GG	NS 1.5 NS 3 and NS 6	**6701.11.20** **6703.11.20**	
Float, complete For ACO CURATOR-GG and ACO COALISATOR-GG	NS 1.5 – density 0.85 g/cm³ NS 3 and 6 – density 0.85 g/cm³ NS 1.5 – density 0.95 g/cm³ NS 3 and 6 – density 0.95 g/cm³	**6701.10.15** **6703.10.15** **6701.30.15** **6703.30.15**	
Coalescence insert, complete For ACO COALISATOR-GG	NS 1.5 NS 3 NS 6	**6701.10.16** **6703.10.16** **6706.10.16**	
Coalescence mats (one set) For ACO COALISATOR-GG	NS 1.5 NS 3 NS 6	**6701.10.06** **6703.10.06** **6706.10.06**	
Lifting key for manhole cover For ACO CURATOR-GG and ACO COALISATOR-GG		**4145.00.00**	
Lifting key **for coalescence insert** For ACO COALISATOR-GG		**6701.00.08**	

The ACO Haustechnik product range

Draining

- Flat roof, balcony and terrace drains
- Floor drains and channels
- Bath drainage
- Pipe systems
- Backflow stops
- Manhole covers

Separating

- Grease separators
- Starch separators
- Process technology

Pumping

- Wastewater lifting plants
- Submerged pumps
- Prefabricated pumping stations