

Oleopator P and Oleopass P

Light liquid separator system Class I according to EN 858

Oleopator P

- With integrated silt trap
- With automatic shutoff when max. light liquid storage capacity is reached
- With coalescence insert



Oleopass P

- With integrated silt trap
- With automatic shutoff when max. light liquid storage capacity is reached
- With coalescence insert
- With bypass (partial flow exceeding the nominal inflow of the separator is fed directly to the sewage system)



Please read the operating instructions and other documents accompanying the product to ensure that it is used safely and as intended. To be given to the end user and kept in a safe place until the product is disposed of.

Welcome

ACO Passavant GmbH (hereinafter ACO) appreciates your trust and provides you with a state-of-the-art light liquid separator system (hereinafter plant), which was inspected for correct conditions and operation in our quality control before delivery.



The following guide will assist you in using these operating instructions.

- A list of tables and figures is enclosed in appendix
- The following general abbreviations appear in the text:
 - Fig. = Illustration
 - Chap. = Chapter
 - Max. = Maximum
 - Min. = Minimum
 - Tab. = Table
 - e.g. = For example

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1 Introduction

These operating instructions for the light liquid separator systems Oleopator P and Oleopass P were carefully compiled and contain information that ensure safe operation for many years.

However, if errors have slipped through or information is missing, we ask you to please inform us of this.

1.1 ACO Service

The ACO Service team would be happy to answer any questions you may have on the plant and these operating instructions.

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1.2 Product identification

Identify the plant delivered using the specifications on the type plate,

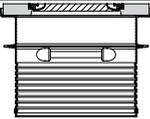
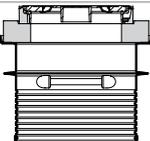
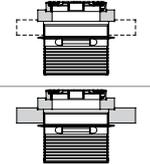
 Chap. 4.6 and note this in the table below.

Tab. 1: Specifications for product identification of the plant

	Article No.	Type	Nominal Size / SF	Fig.*	Year of manufacture	Serial No.:
<input type="radio"/>	3903.80.00	Oleopator P	NS 3/450		_____	_____
<input type="radio"/>	3913.80.00		NS 3/670		_____	_____
<input type="radio"/>	3923.80.00		NS 3/950		_____	_____
<input type="radio"/>	3906.80.00		NS 6/660		_____	_____
<input type="radio"/>	3916.80.00		NS 6/1210		_____	_____
<input type="radio"/>	3918.80.00		NS 8/800		_____	_____
<input type="radio"/>	3910.80.00		NS 10/1080		_____	_____
<input type="radio"/>	3903.81.00	Oleopass P	NS 3/450		_____	_____
<input type="radio"/>	3913.81.00		NS 3/670		_____	_____
<input type="radio"/>	3923.81.00		NS 3/950		_____	_____
<input type="radio"/>	3906.81.00		NS 6/660		_____	_____
<input type="radio"/>	3916.81.00		NS 6/1210		_____	_____
<input type="radio"/>	3918.81.00		NS 8/800		_____	_____
<input type="radio"/>	3910.81.00		NS 10/1080		_____	_____

* Fig. with extension system (B 125 class covers) shown

Tab. 2: Specifications for product identification of the extension system

	Article No.	Cover class	Fig.	Inlet depth T
○	3301.14.00	A 15		420 – 440 mm
○	3301.14.01	A 15		730 – 1050 mm
○	3301.14.02			730 – 1990 mm
○	3301.15.00	B 125		585 – 605 mm
○	3301.15.01	B 125		885 – 1205 mm
○	3301.15.02			885 – 1980 mm
○	3301.17.00*	D 400		865 – 1980 mm
○	3301.16.00**	D 400		

* with on-site load distribution plate ** with load distribution plate

1.3 Warranty

More on warranty,  "General Terms of Business"
www.aco-haustechnik.de/agb.html.

1.4 Symbols used in these operating instructions

In order to improve distinctions in the information, the following symbols will be used in the operating instructions:



Useful tips and additional information to facilitate work



Steps to be taken



References to further information in these operating instructions and other documents



Diagrams of Warnings,  Chap. 2.4

2 For your safety



The safety guidelines in this chapter are to be read before using the plant. Serious injuries or death could occur as a result of misuse.

2.1 Designated use

2.1.1 Area of Application

These plants are designed to keep mineral light liquids out of wastewater.

If mineral oils or mineral light liquids, especially those that are flammable or can form an explosive atmosphere, are able to enter the sewer system, separator systems for light liquids are to be used behind the drainage points.

That applies, e.g. to petrol stations, car parks, parking areas, roadways, car washes, roll-over vehicle washing/brushing systems, engine washes, garages, vehicle recycling, scrapyards, refilling stations, tank pits and transformer stations.

The drainage of areas where no light liquids accumulate, such as roofs and courtyards, should not be fed into separator plants.

The plants are to be installed in a way that no light liquid can escape in the case of backflow from the sewer or automatic closure of the float.

An automatic alarm (Alarm system,  Chap. 4.7) is necessary*.

Only the responsible authority can allow use without an alarm system*. In this case, an adequate vertical exaggeration is needed,  Chap. 4.5.4*.

* Applies only to Germany. Regulations may vary in other countries.

The plants with a bypass (Oleopass) contain a device that allows the flow of liquid exceeding the maximum permissible flow to circumvent the separator. The use of this must be limited to cases in which it is unlikely that a significant amount of pollution through light liquid is present during heavy rains.

The owner is responsible for the layout (planning and calculation), the installation and the operation of the plant.

2.1.2 Limits

The plants are not to be installed in drainage and sewer systems for residential wastewater.

The maximum installation depth (distance of top edge of manhole cover to housing base) equals:

- 3.00 m with NS to 6/SF 600
- 3.60 m with NS from 6/SF 1200

When delivering waste water into the public sewer system, the local hydrocarbon limit is to be observed. If necessary, further sewage treatment is required.



Suitable sewage treatment systems upon request,  ACO Service, Chap. 1.1.

2.1.3 Foreseeable misuse

No substances that pollute the water or limit the functionality of the plant can be fed into or introduced to the plant.

This especially applies to:

- wastewater containing faeces,
- wastewater containing mineral oils and greases,
- wastewater in which a considerable amount of stable emulsions is present

2.2 Qualifications of personnel

All work done on the plant is to be performed by trained personnel, unless this is expressly designated for other individuals (owner, user).

The direct supplier of the plant is responsible for providing these professionals.

In addition to several years of professional experience, trained personnel must be able to demonstrate the following skills:

Tab. 3: Qualifications of personnel

Activities	Person	Skills
Layout Operational changes New context of use	Planner	<ul style="list-style-type: none"> ■ Knowledge of building services and sanitary engineering ■ Assessment of applications of sewage technology and appropriate layout of light liquid separator systems
Transport/storage	Carriers, dealers	<ul style="list-style-type: none"> ■ Proof of training in securing cargo ■ Safe use of lifting and slinging equipment
Installation civil engineering/plumbing/electrical First commissioning, maintenance, repair, decommissioning, disassembly	Trained personnel	<ul style="list-style-type: none"> ■ Excavating and backfilling pit ■ Safe use of machinery ■ Safe use of tools ■ Laying and connecting piping and joints ■ Product specific knowledge for general inspection
Service, operation Operation surveillance, simple maintenance and troubleshooting	Owner, user	<ul style="list-style-type: none"> ■ No specific requirements
Disposal	Trained personnel	<ul style="list-style-type: none"> ■ Appropriate and environmentally friendly disposal of materials and substances ■ Decontamination of hazardous substances ■ Knowledge about recycling

2.3 Personal safety equipment

Personal safety equipment is necessary for a variety of works on the plant.

An adequate amount of safety equipment is to be made available to your personnel by the specialist company and inspections must be made by supervisors to ensure that it is worn.

Tab. 4: Personal safety equipment

Mandatory sign	Meaning	Explanation
	Wear protective footwear	Protective footwear provides good skid resistance, especially on wet surfaces, as well as high puncture resistance against nails, for example, and protects feet from falling objects, e.g. during transport
	Wear safety helmet	Safety helmets protect the wearer from head injuries, e.g. from falling objects or blows
	Wear safety gloves	Safety gloves protect the hands from slight contusions and cuts, especially during transport, commissioning, maintenance, repairs and disassembly
	Wear respiratory protection	Respiratory masks protect the wearer from dangerous substances (gasses), especially during maintenance, repairs and disassembly

2.4 Diagrams of warnings

For better distinction, the risks are marked with the following warning symbols and signal words in the operating instructions:

Tab. 5: Risk levels

Warning symbols and signal words		Meaning	
	DANGER	Personal injury	Identifies a dangerous situation, which leads to death or serious injuries if not avoided.
	WARNING		Identifies a dangerous situation, which may lead to death or serious injuries if not avoided.
	CAUTION		Identifies a dangerous situation, which may lead to moderate or slight injuries if not avoided.
	ATTENTION	Property damage	Identifies a situation, which, if not avoided, may lead to damages of installed parts, the plant, and/or its functions or an object in its proximity.



Warning example:

SIGNAL WORD

Cause of danger

Consequences of danger

Description/list of protection measure(s)

2.5 Unauthorised parts

Extensive product testing was done on the plant before it was released on the market and all components were tested at the maximum workload.

The production of copies (fakes) of high-quality spare parts has increased. Installing unauthorised parts compromises safety and voids the ACO warranty.

Use only original parts from ACO or ACO approved spare parts when exchanging components.

2.6 General risk potential

Risk of explosion

Because an explosive atmosphere can form in the plant when it is operating, adequate gas exchange (open manhole cover to ventilate) must be provided from above and the concentration of gas must be checked before working on the plant. Respiratory masks are to be used.

Smoking and open fire are strictly forbidden in the entire area around the plant, and potential sparking is to be avoided.

If the plant has to be accessed in exceptional cases, it has to be completely emptied and thoroughly vented.

Material/substance risks

Contact with wastewater containing light liquids, e.g. during maintenance, can lead to dry, irritated skin, skin infections, headaches, dizziness, nausea, vision problems, loss of consciousness, and, in serious cases, death.

Light liquids are toxic to aquatic organisms. They can have a long term harmful effect on bodies of water.

2.7 Responsibility of the owner

The owner is responsible for complying with the following points:

- Only operate the plant according to regulations and in proper condition,  Chap. 2.1
- Function of protection devices must not be impaired
- Adhere to maintenance intervals and immediately repair faults. Only repair faults yourself if the measures are described in these operating instructions. ACO Service is responsible for all other measures
- Inspect type plate on the plant for completeness and legibility,  Chap. 4.6
- An adequate amount of personal safety equipment must be available and worn,  Chap. 2.3
- Provide complete and legible operating instructions at the plant's site of installation and training based on this
- Only employ qualified and authorised personnel,  Chap. 2.2

3 Transport and storage

This Chap. provides information on the appropriate transport and storage of the plant.

Packaging

The assembly unit for the plant housing is delivered attached to a pallet. The components of the extension system (extension piece, shaft sections and cover) and the bypass system (Oleopass: inlet, sliding collar and outlet) are attached to a min. of one other pallet. The respective pallet unit is protected by sheeting 📖 Chap. 4.1.

3.1 Safety during transport and storage

The following risks must be considered during transport and storage:



WARNING

Read the following safety instructions carefully before transport or storage. Serious injuries could occur as a result of misuse.

Ensure the required qualifications of transport and storage personnel, 📖 Chap. 2.2.

Transport by people: two people are required, 📖 Chap. 3.2

Physical injury for one person due to heavy weight

Transport by fork-lift or truck

Serious contusions, blows and accidents result from improper transport

- Wear personal protective equipment, 📖 Chap. 2.3
- Transport plant in delivery condition (secured to pallet)
- Adequately secure loading
- Check suitability and integrity of the slinging equipment



WARNING

Transport with crane

Serious contusions and blows from falling objects

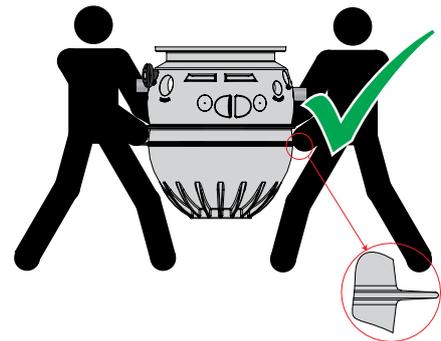
- Wear personal protective equipment,  Chap. 2.3
- Check max. allowable load of crane and slinging equipment
- Never stand under a suspended load
- Ensure that other people cannot enter the entire danger area
- Avoid swinging movements during transport

3.2 Transport

Proper transport with 2 people or a crane is described below.

With 2 people:

- Carry plant with 2 people using circular ring as a grip and the connections for additional stability,  Fig. right.



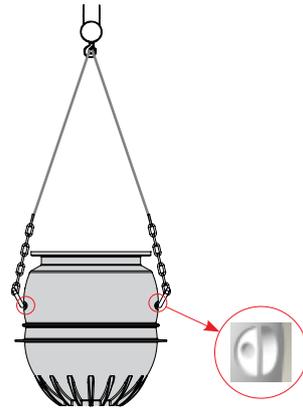
With crane:

ATTENTION Sling attachment points are designed for the load of the housing.

Do not transport the housing with attached shaft sections.



- Attach slinging equipment at the illustrated ○ points,  Fig. right.



3.3 Storage

ATTENTION Improper storage or preservation can lead to damages to the plant.

The following measures are to be taken:

- Store the plant in an enclosed, dry, dust and frost free room
- Store in temperatures between -20°C and +60°C

4 Product description

This Chap. provides an overview of the plant.

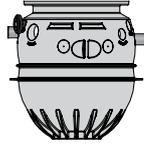
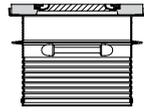
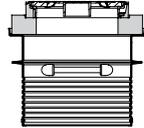
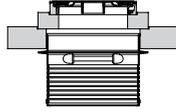
4.1 Scope of delivery

Check integrity and completeness of the delivery using the following table.

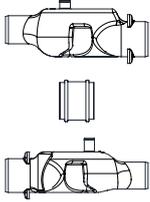
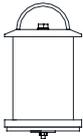
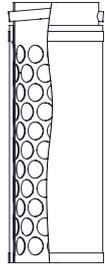
ATTENTION Never install a damaged plant.

Notify the supplier of possible damages to the plant in order to expedite complaint processing.

Tab. 6/1: Individual parts of Oleopator P and Oleopass P

Unit	Individual part	Fig.	Packaging
Housing	<ul style="list-style-type: none"> ■ Housing according to nominal size with installed parts ■ Float (in housing) ■ Coalescence insert (in housing) 		Wood pallet
Extension system Class A 15 or	<ul style="list-style-type: none"> ■ Cover class A ■ Extension piece 700 mm high (optional) ■ Extension piece 1690 mm high (optional) ■ Flat seal ■ Operating key 		Wood pallet
Extension system Class B 125 or	<ul style="list-style-type: none"> ■ Cover class B ■ Adapter plate ■ Extension piece 700 mm high (optional) ■ Extension piece 1690 mm high (optional) ■ Flat seal ■ Operating key 		Wood pallet
Extension system Class D 400	<ul style="list-style-type: none"> ■ Cover class D ■ Adapter plate ■ Load distribution plate 200 mm high and Ø1500 mm (optional) ■ Extension piece 1600 mm high ■ Operating key 		Wood pallet

Tab. 6/2: Individual parts of Oleopator P and Oleopass P plants

Unit	Individual part	Fig.	Packaging
Bypass compl. (only with Oleopass P)	<ul style="list-style-type: none"> ■ Inlet ■ Sliding collar ■ Outlet 		Pallet
Float	<ul style="list-style-type: none"> ■ Float 0.90 		Inserted in plant housing
Coalescence insert	<ul style="list-style-type: none"> ■ Coalescence insert 		Inserted in plant housing
Documentation	<ul style="list-style-type: none"> ■ Operating Instructions ■ Shipping documents ■ Type plate 	-	Plastic bag

4.2 Product features

The important features of the plant are described in this chapter.

Brief description of Oleopator P and Oleopass P plants

According to EN 858, the plants are hydraulically tested and certified by LGA (Landesgewerbeamt) Bayern. Furthermore, the plants are inspected by LGA Bayern regularly, during which the assembly is checked for compliance with current standards.

An existing static type test guarantees the stability for min. 50 years.

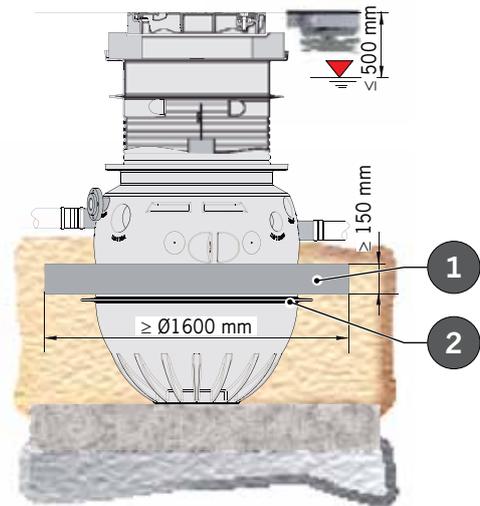
The following load classes are available:

- Load class A: the walkable option – ideal for inner courts and grassed areas
- Load class B: drivable by cars – perfect for drives and parking areas
- Load class D: drivable by trucks – the safe solution for heavy vehicle loads and storage areas, as well as shoulders of roads

Installation with groundwater

Depending on the max. allowable inlet depth, in the case of groundwater the plants are to be installed as follows:

- Load class A and B
- All containers with extension systems in load class A and B are secure against lifting with groundwater levels of up to 0.5 m below ground level. The prerequisite is the professional subsurface installation, 📖 Chap. 6.2
- If a groundwater level higher than 0.5 m below ground level is expected, an on-site concrete casing is necessary. The cement ring (1) is to be attached over the large, lower housing ridge (2), and seated on it, 📖 Fig. right



- Load class D
- All containers with extension systems in load class D are secure against lifting with groundwater levels without additional measures. The prerequisite is the professional subsurface installation, 📖 Chap. 6.2

Installation guidelines

- Light liquid must not escape
The plants must be installed in a way that no light liquid can escape in the case of backflow or automatic closure of the float.
- Alarm must be installed*
The plants must be equipped with automatic alarms, 📖 Chap. 4.5.2. Only the responsible authority can allow use without an alarm system
- Plants must be installed with vertical exaggeration*
If the responsible authority allows use without an alarm, the plants must be installed with vertical exaggeration 📖 Chap. 4.5.3
- Optimal protection against backflow
The principle of communicating pipes makes it possible for separated light liquids to escape the plant in the case of backflow from the sewer. The water is delivered to the sewer free of backflow through a downstream pump station, 📖 Chap. 4.5.2

- Possibility of sampling*
Sampling facilities are to be placed directly behind the separator in the direction of flow, either as an integral component of the plant or separately.

* Applies only to Germany. Regulations may vary in other countries.

Distinctions between Oleopator P and Oleopass P

- Float
Both plant types are equipped with an automatic closure, the float. The float has a density of 0.90 g/cm^3 and is set in a way that the outlet is closed and no light liquid can escape when the max. capacity of light liquid storage is reached.
- Coalescence insert
The plants are equipped with a coalescence insert. The coalescence material used meets the high separator requirements according to class I.
- Bypass model with Oleopass P
Unlike the Oleopator P plants, with the Oleopass P "Bypass System" the water flows in a way that smaller and thus contaminated amounts of water only up to the nominal size of the coalescence separator are directed over the plant and handled according to requirements. Only with larger amounts is a partial flow fed over the bypass directly into the outlet.

Disposal of plant contents

The contents of the plant must be removed and disposed of in the following cases*:

- If the amount of retained light liquid has reached 80% of the max. storage capacity
- If the separated amount of sludge has reached half of the silt trap volume or the sludge collecting chamber is full

The separator must then be refilled with water (e.g. drinking water, operating water, treated wastewater from the plant) that meets the local feed regulations.

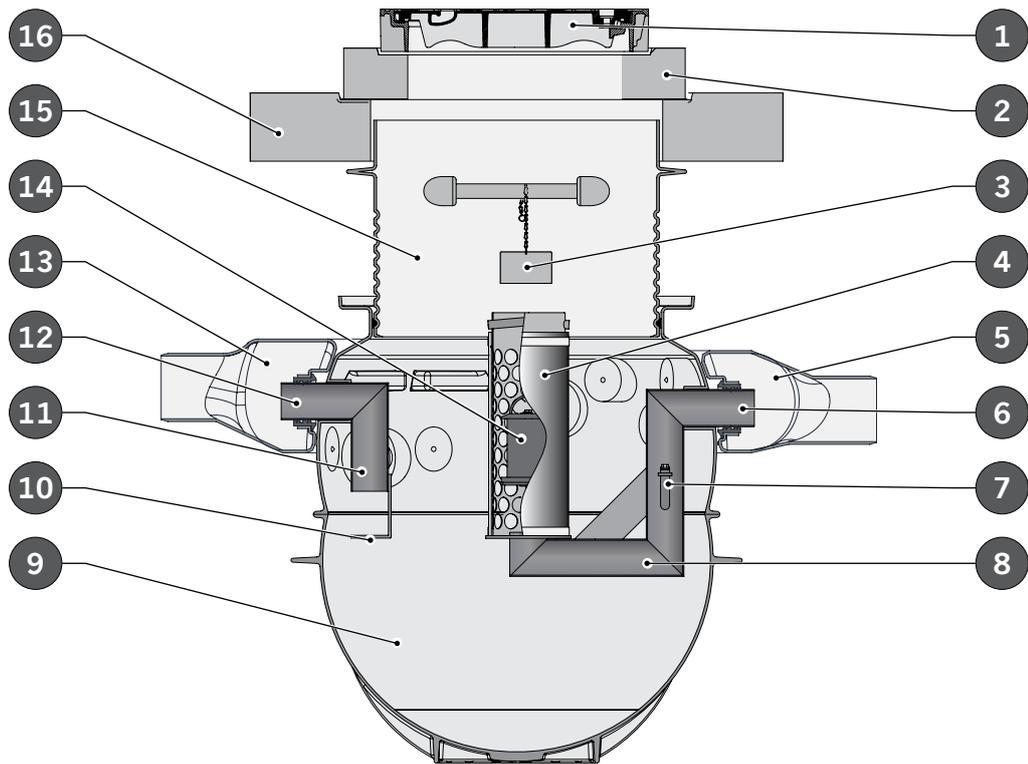
* Applies only to Germany. Regulations may vary in other countries.

Tab. 7: Features of plants

General information				
<ul style="list-style-type: none"> ■ LGA test certificate: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">No. 7310434-01 for NS 3</td> <td style="width: 50%;">No. 7310512-01 for NS 8</td> </tr> <tr> <td>No. 7310434-02 for NS 6</td> <td>No. 7310434-03 for NS 10</td> </tr> </table> ■ Low weight, ready to hook up, quick assembly 	No. 7310434-01 for NS 3	No. 7310512-01 for NS 8	No. 7310434-02 for NS 6	No. 7310434-03 for NS 10
No. 7310434-01 for NS 3	No. 7310512-01 for NS 8			
No. 7310434-02 for NS 6	No. 7310434-03 for NS 10			
Polyethylene housing and installed parts				
<ul style="list-style-type: none"> ■ NS 3: Inlet and outlet connections DN 100 (Outer diameter Ø110 mm) ■ NS 6 – 10: Inlet and outlet connections DN 150 (Outer diameter Ø160 mm) ■ 3x closed sleeve DN 100 (for pipe with outer diameter of Ø110 mm, sleeve gasket optional) to attach a venting pipe ■ Bottom edge of housing not lower than: 3.00 m (to NS 6/SF 600) or 3.60 m (from NS 6/SF 1200) 				
Extension systems				
<ul style="list-style-type: none"> ■ Extension system load class A 15 <ul style="list-style-type: none"> □ Load class according to DIN 124 □ Loosely placed cover, clear width Ø600 mm, with frame from EN-GJL according to DIN 1561/ concrete and cover from EN-GJL □ With top extension piece 700 or 1690 mm high (depending on type, not applicable with min. feed depth) ■ Extension system load class B 125 <ul style="list-style-type: none"> □ Load class according to DIN 124 □ Loosely placed cover, clear width Ø600 mm, with frame from EN-GJL according to DIN 1561/ concrete and cover from EN-GJL or EN-GJS □ Adapter plate Ø1000 mm x 150 mm high, concrete □ With top extension piece 700 or 1690 mm high (depending on type, not applicable with min. feed depth) ■ Extension system load class D 400 <ul style="list-style-type: none"> □ Load class according to DIN 124 □ Loosely placed cover, clear width Ø600 mm, with frame from EN-GJL according to DIN 1561/ concrete and cover from EN-GJS □ Adapter plate Ø1000 mm x 150 mm high, concrete– □ With load distribution plate Ø1500 mm x 200 mm high, concrete (can also be supplied by customer) □ With extension piece 1600 mm high 				
Separate components				
<ul style="list-style-type: none"> ■ Float DN 100/tared to density 0.90 g/cm³ (for NS 3) ■ Float DN 150/tared to density 0.90 g/cm³ (for NS 6– 10) ■ Coalescence insert DN 100 (for NS 3) ■ Coalescence insert DN 150 (for NS 6 – 10) 				

4.3 Components

The following Fig. shows the assembly and location of individual plant components and allows a clear classification of the descriptions in later chapters.



1 = Cover
2 = Adapter plate *
3 = Type plate
4 = Coalescence insert
5 = Bypass outlet***
6 = Outlet connections

7 = Sampler connection
8 = Outlet immersion pipe
9 = Housing
10 = Baffle plate
11 = Inlet immersion pipe
12 = Inlet connection

13 = Bypass inlet***
14 = Float
15 = Extension
16 = Load distribution plate **

* only with load class B + D ** only with load class D *** only with Oleopass P

Fig. 1: Diagram of components

4.4 Functional principle

The function of the plant is described in this chapter using Oleopass P as an example.



1 = Extension system
2 = Coalescence insert
3 = Float
4 = Outlet pipe
5 = Bypass outlet

6 = Outlet immersion pipe
7 = Silt trap
8 = Housing
9 = Baffle plate
10 = Sliding collar

11 = Inlet immersion pipe
12 = Inlet pipe
13 = Bypass inlet
14 = Separator

Fig. 2: Functional principle

The plant consists of the housing (8) and an extension system (1): Extension piece, adapter plate, load distribution plate and cover (depending on inlet depth and load class).

The separator (14) and the silt trap (7) are stacked in the housing (8). The plant works entirely physically according to the gravity principle (difference in density): heavy wastewater substances sink to the bottom, light substances such as mineral oil and greases rise up into the housing (8).

Before operation the housing (8) must be filled with water until it overflows into the outlet pipe (4). Afterwards the float (3) and coalescence insert (2) are used.

The wastewater to be treated runs by gravity via the inlet pipe (12), the overflow into the bypass inlet (13), the inlet immersion pipe (11) in the plant and is distributed in the housing (8) by a baffle plate (9). During the period in which the wastewater is in the housing (8), the heavy substances sink into the silt trap (7) and the light substances rise up into the separator (14). The treated wastewater flows via the outlet immersion pipe (6), the overflow into the bypass outlet (5), into the outlet pipe (4) to the sewer. Through the immersion pipes (11) + (6) at the inlet and outlet and the constructive formation of the silt trap (7) and the separator (14), the freely separable and settleable substances remain in the housing (8).

After reaching 80% of the max. storage capacity of oil or 50% of the max. storage of sludge, the entire contents must be disposed of.

Before restarting, the plant must be filled with fresh water again.

If the incoming flow of liquid exceeds the plant's max. permissible flow, the surplus is delivered directly into the outlet pipe (4) through the bypass (13+5).

Optional:

A sampler can be installed on the sampler connection on the output immersion pipe (6) via the extension system (1) and a wastewater sample can be taken. Alternatively, a sampling pit is available.

Sampler and sampling pit,  Chap. 4.7.

4.5 Recommendations for installation

Potential and professional installation situations are presented in this chapter.

4.5.1 Installation proposal

In the following Fig. a possible installation situation with the class B 125 extension system is presented.

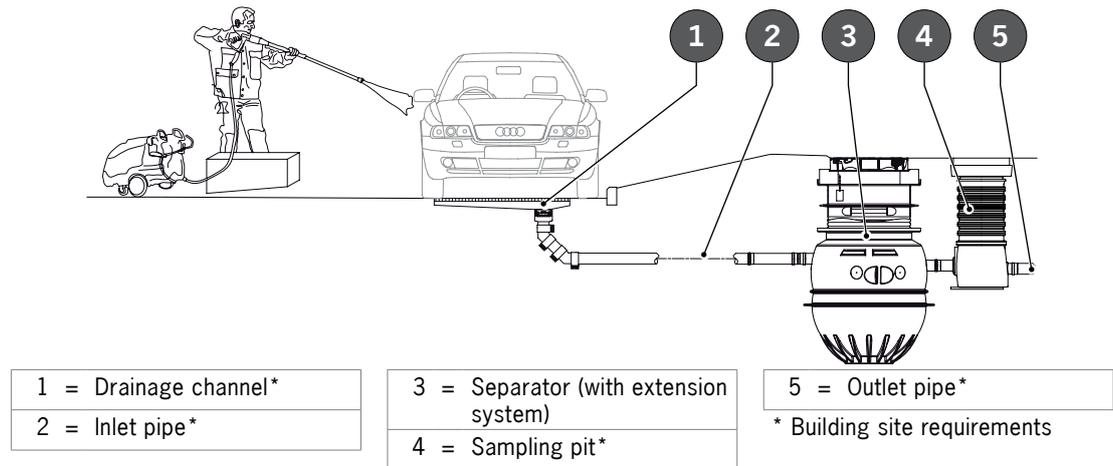


Fig. 3: Installation proposal

In this Chap. professional installation situations are presented and described using schematic diagrams of separation plants without vertical exaggeration. Here the first priority is ensuring that no light liquid can escape from the cover of the plant.

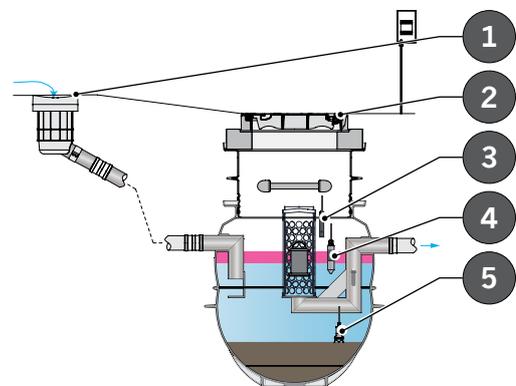
Without vertical exaggeration = top edge of the cover (2) is at the same level or lower than the top edge of the output (1).

Installation with alarm

(optional, 📖 accessory Chap. 4.7)

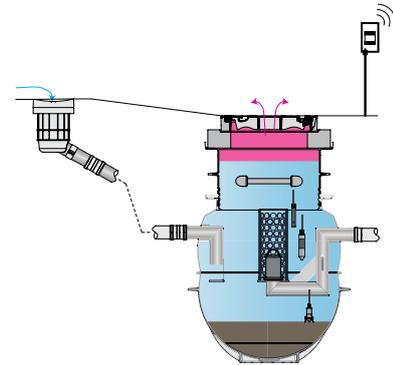
Requirement according to EN 858

- Alarm system registers:
 - 80% oil (oil layer sensor 4)
 - 50% sludge (sludge level sensor 5)
 - Blockage (Blockage sensor 3)



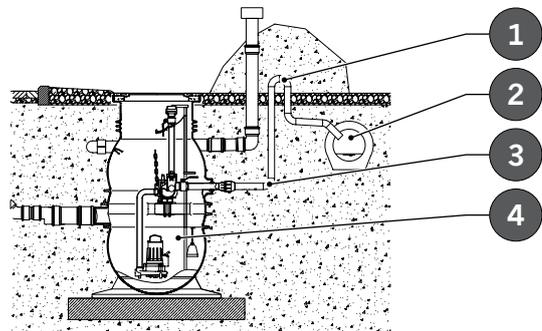
ATTENTION

If reports from the alarm system are ignored or if the alarm is defective, oil will escape from the cover when the float closes.



Protection against backflow

- Upon backflow from the sewer (2), the pump station (4) downstream of the separation plant provides safe protection against backflow with a backflow loop (1) formed in the delivery pipe (3)
- This way no blockage develops in the separator and the oil cannot escape via the cover



4.5.2 Professional installation proposal with vertical exaggeration

In this Chap. professional installation situations with vertical exaggeration are presented and described. Here the first priority is ensuring that no light liquid can escape from the cover of the plant.

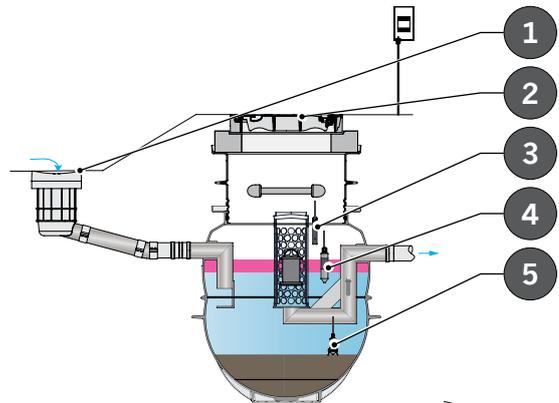
Vertical exaggeration = top edge of cover (2) is higher than the top edge of the outlet (1) by a defined measurement,  Chap. 4.5.4.

Installation with alarm

(optional,  accessory Chap. 4.7)

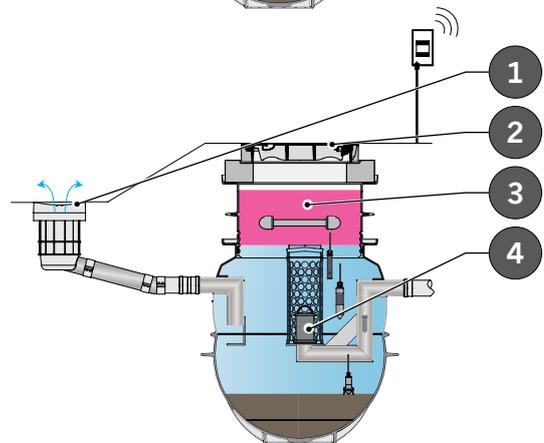
Requirement according to EN 858.

- Alarm system registers:
 - 80% oil (oil layer sensor 4)
 - 50% sludge (sludge level sensor 5)
 - Blockage (Blockage sensor 3)



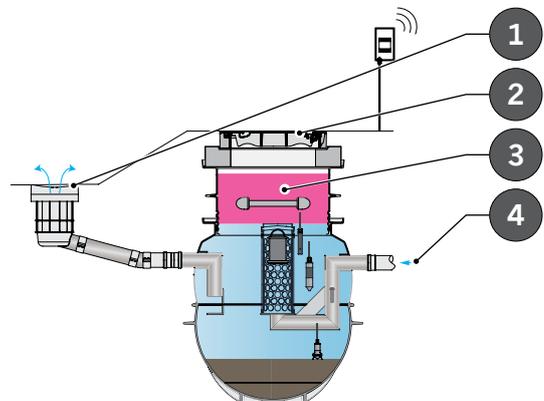
Advantage

- When float closes (4) the oil (3) remains in the plant
- Oil (3) does not escape from the cover (2) of the plant
- The wastewater runs out of the outlet (1) and is distributed on the site



Protection against backflow

- With backflow (4) the oil (3) remains in the plant
- Oil (3) does not escape from the cover (2) of the plant
- The wastewater runs out of the outlet (1) and is distributed on the site



4.5.3 Necessary vertical exaggeration

In the following Fig. and Tab. the values for the necessary vertical exaggeration are provided.

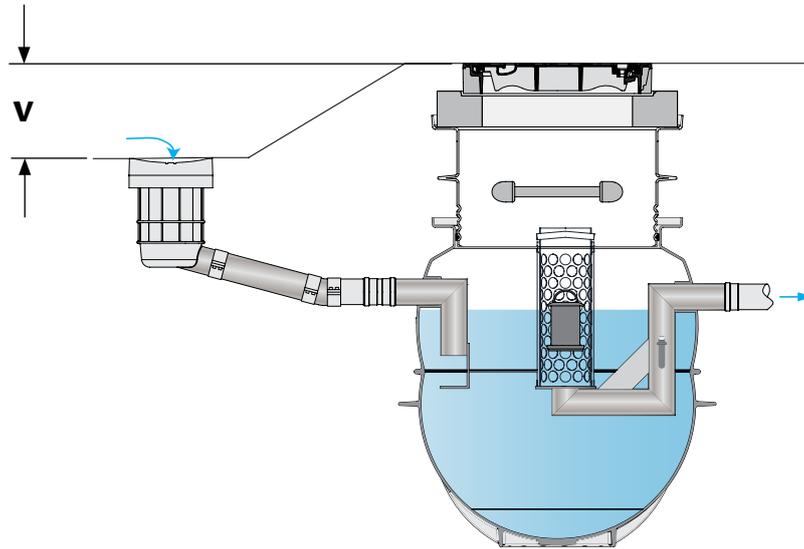


Fig. 4: Vertical exaggeration

Tab 8: Vertical exaggeration

Rated size	SF	Vertical exaggeration V				
		T1*		T2*		T3*
	[l]	A 15 [mm]	B 125 [mm]	A 15 [mm]	B 125 [mm]	D 400 [mm]
NS 3	450	45	115	70	135	150
NS 3	670	45	115	70	135	150
NS 3	950	45	115	70	135	150
NS 6	660	40	110	65	130	145
NS 6	1210	40	110	65	130	145
NS 8	820	50	120	75	140	155
NS 10	1080	50	120	75	140	155

* Assignment, Chap. 5

4.5.4 Potential installation situations

In the following Tab. potential installation situations and the resulting operating situations are presented schematically.

Tab. 9: Overview of installation situations

		Installation situation			
		No	No	Yes	Yes
Vertical exaggeration		No	No	Yes	Yes
Alarm system		No	Yes	No	Yes
Operating situations	Ready for use				
	Waste removal date: 80% oil or 50% sludge				
	Max. oil = float closure = blockage				
	Backflow from sewer				

4.6 Type plate

A type plate is fixed in the shaft system under the cover. The following information should be taken from there and kept at hand for information and inquiries of any kind.

- Plant type
- EN 858, Class I
- Rated size
- Plant contents
- Silt trap contents
- Storage capacity of light liquid
- Thickness of max. storage capacity
- Year of manufacture
- Article No.
- Serial No.

4.7 Accessories

Information on appropriate accessories,  Product Catalogue, www.aco-haustechnik.de or ACO Service.

5 Technical data

This Chap. provides information on the plant components' technical data.

In the following Tab. you will find information such as dimensions of inlets and outlets, storage capacities, contents and weights.

Tab. 10: Technical description of plant

Type	Rated size	SF	Flow	Inlet/ outlet	Storage capacities		Total content	Weight
	NS [-]	Type [-]	Max. [l/s]	DN [-]	Sludge [l]	Oil [l]	[l]	[kg]
Oleopator P	3	450	3	100	450	240	775	67
	3	670	3	100	670	240	995	83
	3	950	3	100	950	240	1280	84
	6	660	6	150	660	235	970	91
	6	1210	6	150	1210	235	1525	101
	8	820	8	150	820	260	1280	94
	10	1080	10	150	1080	260	1615	105
Oleopass P	3	450	15	200	450	240	775	67
	3	670	15	200	670	240	995	83
	3	950	15	200	950	240	1280	84
	6	660	30	250	660	235	970	91
	6	1210	30	250	1210	235	1525	101
	8	820	50	250	820	260	1280	104
	10	1080	50	250	1080	260	1615	105

In the following Fig. and Tab. dimensions and connection measurements are presented.

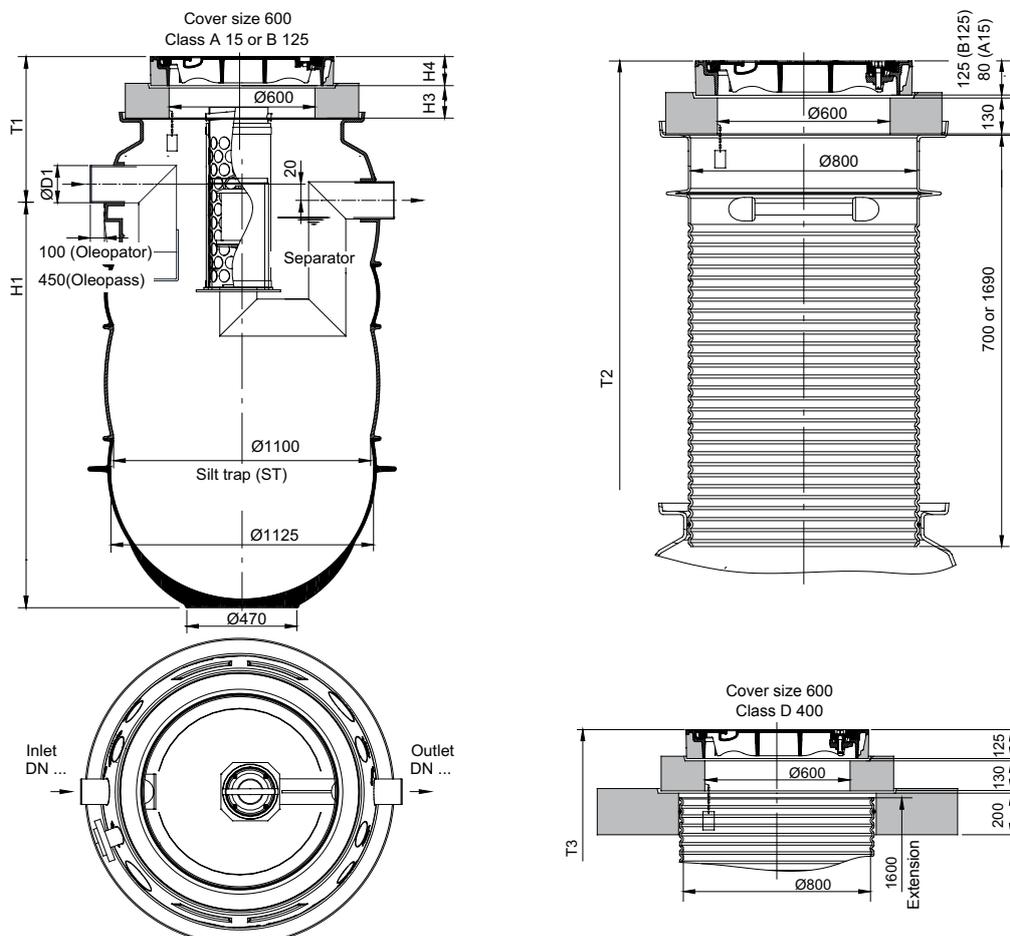


Fig. 5: Plant dimensions

Tab 11: Dimensions of Oleopator P

Rated size	SF	DN	Dimensions										
			D1	H1	H3		H4		T1		T2		T3
					A 15	B 125	A 15	B 125	A 15	B 125	A 15	B 125	
[l]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	D 400
NS 3	450	100	110	1020	0	130	80	125	420	585	730-1990	885-1980	865-1980
NS 3	670	100	110	1230	0	130	80	125	420	585	730-1780	885-1770	865-1770
NS 3	950	100	110	1500	0	130	80	125	420	585	730-1510	885-1500	865-1500
NS 6	660	150	160	1210	0	130	80	125	440	605	750-1800	905-1790	885-1790
NS 6	1210	150	160	1740	0	130	80	125	440	605	750-1870	905-1860	885-1860
NS 8	820	150	160	1480	0	130	80	125	440	605	750-1870	905-1860	885-1860
NS 10	1080	150	160	1740	0	130	80	125	440	605	750-1870	905-1860	885-1860

Tab 12: Dimensions of Oleopass P

Rated size	SF	DN	Dimensions										
			D1	H1	H3		H4		T1		T2		T3 D 400
					A 15	B 125	A 15	B 125	A 15	B 125	A 15	B 125	
[l]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
NS 3	450	200	200	1020	0	130	80	125	420	585	730-1990	885-1980	865-1980
NS 3	670	200	200	1230	0	130	80	125	420	585	730-1780	885-1770	865-1770
NS 3	950	200	200	1500	0	130	80	125	420	585	730-1510	885-1500	865-1500
NS 6	660	250	250	1210	0	130	80	125	440	605	750-1800	905-1790	885-1790
NS 6	1210	250	250	1740	0	130	80	125	440	605	750-1870	905-1860	885-1860
NS 8	820	250	250	1480	0	130	80	125	440	605	750-1870	905-1860	885-1860
NS 10	1080	250	250	1740	0	130	80	125	440	605	750-1870	905-1860	885-1860

6 Installation

This chapter provides information about how to install the system components. The table below lists what you will need (machines, tools, parts, installation material) for the installation:

Tab. 13: Requirements for installation

Tools, parts, installation material		
<ul style="list-style-type: none"> ▪ Excavator ▪ Double sling min. 5 m long with NG 5 shackle ▪ Triple sling min. 3 m long with NG 1 shackle ▪ Truck 	<ul style="list-style-type: none"> ▪ Piping DN 100, 150, 200 and 250 ▪ Vibrating plate compactor ▪ Manhole ring sling with clamps ▪ Shovel 	<ul style="list-style-type: none"> ▪ Acid-free grease ▪ Level gauge (spirit level) ▪ Marking aid ▪ Tape measure

The planner is responsible for the layout of the piping system.

6.1 Safety during installation

The following hazards must be considered when installation work is being carried out:



WARNING

Read the following safety instructions carefully before commencing installation. You could suffer serious injury if these are ignored.

Ensure that the personnel are suitably qualified,  Chap. 2.2.

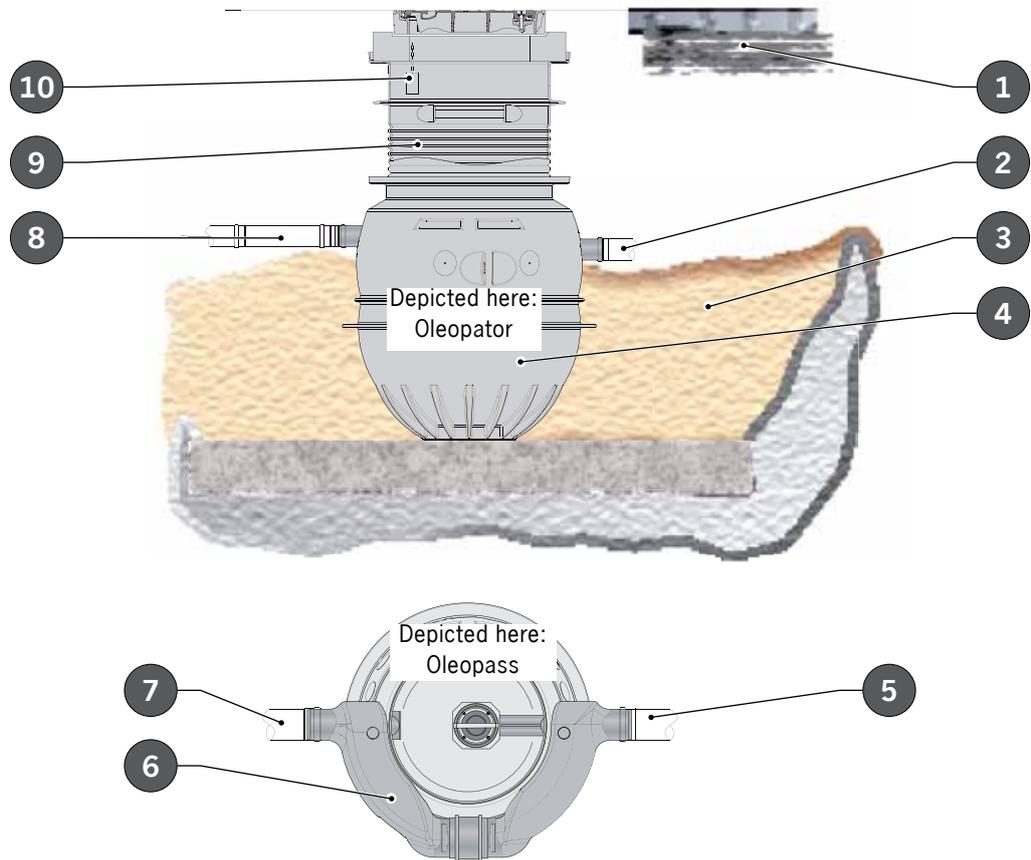
Mechanical hazards

Serious crushing if components fall down (e.g. housing, parts of the extension system, etc.)

- Wear personal protective equipment,  Chap. 2.3

6.2 Installation

The figure below gives an overview of the installation work and the requirements at the building site; these are described in more detail in the next chapter.



1 = Backfill the pit*, 📖 Chap. 6.2.7
2 = Install and connect the Oleopator outlet piping*, 📖 Chap. 6.2.5
3 = Excavate and secure the pit*, 📖 Chap. 6.2.2
4 = Install and align the housing, 📖 Chap. 6.2.3

5 = Install and connect the Oleopass outlet piping*, 📖 Chap. 6.2.5
6 = Install the bypass, 📖 Chap. 6.2.1
7 = Install and connect the Oleopass inlet piping*, 📖 Chap. 6.2.4

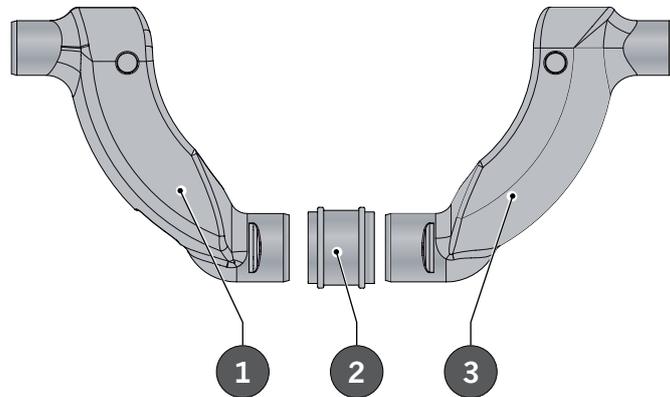
8 = Install and connect the Oleopator inlet piping*, 📖 Chap. 6.2.4
9 = Install the extension system, 📖 Chap. 6.2.6
10 = Install the type plate, 📖 Chap. 6.2.8

* Building site requirements

Fig. 6: Groundwork and installation

6.2.1 Installing the bypass (only Oleopass)

ATTENTION The parts for the bypass are delivered separately and have to be installed before the housing is installed.



1 = Bypass inlet

2 = Sliding collar

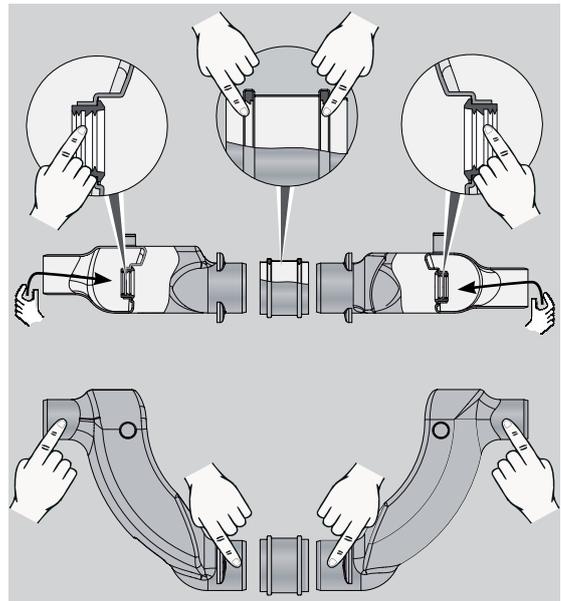
3 = Bypass outlet

Fig. 7: Bypass parts

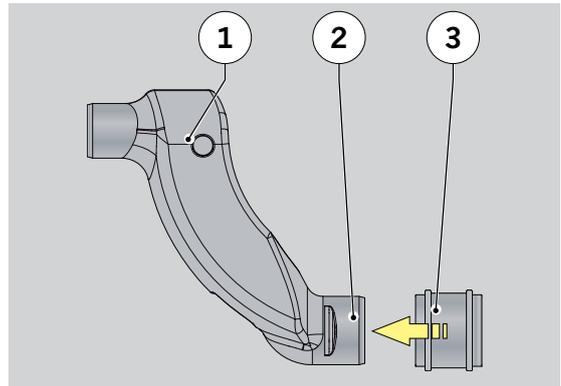
Requirements:

- Acid-free grease
- Clamps

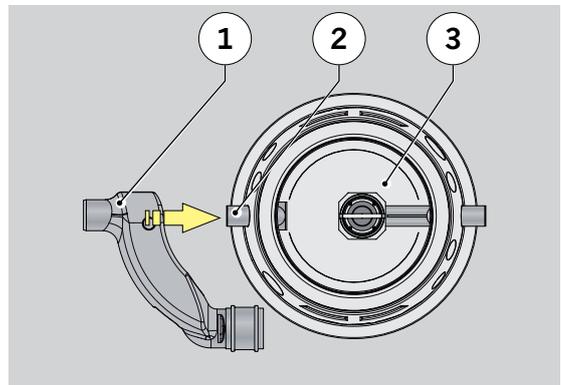
→ Grease  the spigot ends of the pipes and the seals with acid-free grease.



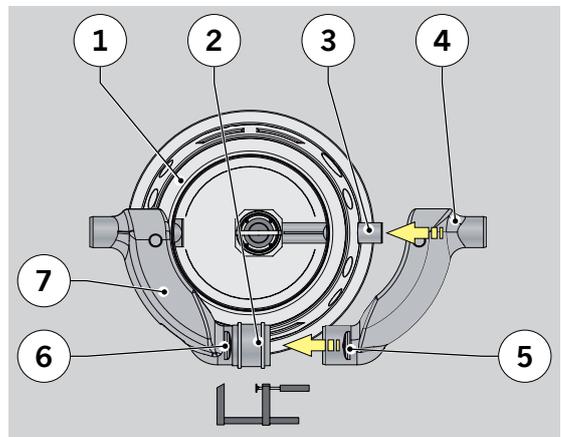
- Slide the sliding collar (3) on to the spigot end (2) of the bypass inlet (1).



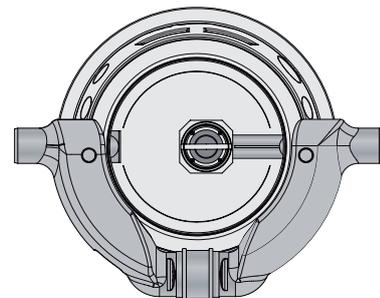
- Slide the bypass inlet assembly (1) on to the spigot end inlet (2) of the plant (3).



- Slide the bypass outlet (4) on to the outlet connections (3) of the plant (1) and into the sliding collar (2) of the bypass inlet assembly (7).
- Pull together the pipe connections over the cam noses (5 + 6) (e.g. using clamps).



The bypass is complete.



6.2.2 Excavating and securing the pit

When a suitable location has been chosen,  Chap. 4.2, the pit for the system has to be excavated.



WARNING

In order to avoid property damage, malfunctions of the plant and risks to people, the max. feed depths of T1, T2 and T3 cannot be exceeded,  Fig. 5 and Tab. 11+12.

ATTENTION When excavating the pit, observe the following:

- The earthworks are to be carried out according to DIN 18300, embankment/working area/pit linings according to DIN 4124
- In non-cohesive and soft cohesive soils, the inclination of the trench is to be $\leq 45^\circ$ and in hard and semi-hard soils the inclination must be less than 60°
- Steeper inclinations must be lined properly and be secured with other measures
- The base must be non-cohesive soil (Group G1 acc. to ATV-DVWK-A127 or soil groups GW, GE, GI, SW, SI, SE according to DIN 18196)
- If there is no traffic load, a well compacted, non-cohesive soil (e.g. gravel sand 0-32) is adequate
- The base filling must be at least 30 cm thick and be compacted to a Proctor density of $D_{pr} \geq 97\%$
- Make sure that the base for the housing remains level



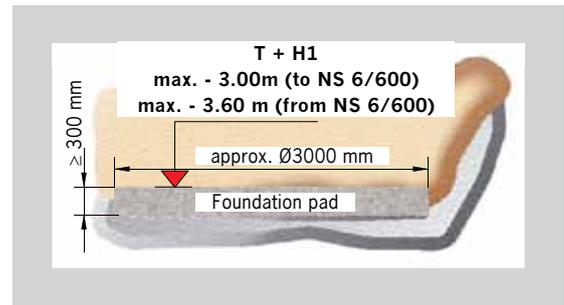
To be observed during the construction phase:

During the construction phase you should have a foundation or earth strip for potential equalisation

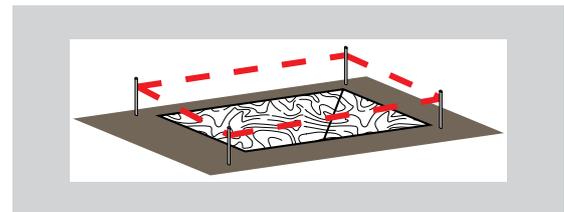
Requirements:

- Spirit level and tape measure
- Excavator
- Truck
- Vibrating plate compactor
- Shovel

→ Excavate the pit.



→ Secure the pit.



6.2.3 Installing and aligning the housing

CAUTION The installation direction must correspond to the flow direction (inlet and outlet are marked in the factory) and the longitudinal axis across the inlet and outlet of the housing must run in the axis line of the connection pipes.

A mark on the base of the pit and on the housing makes the work easier.

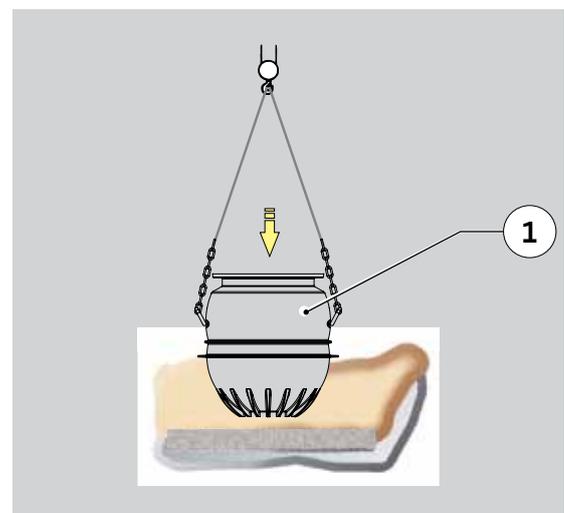
Requirements:

- Excavator
- Double sling, min. 5 m long, shackle NG 5 acc. to DIN 82101
- Spirit level

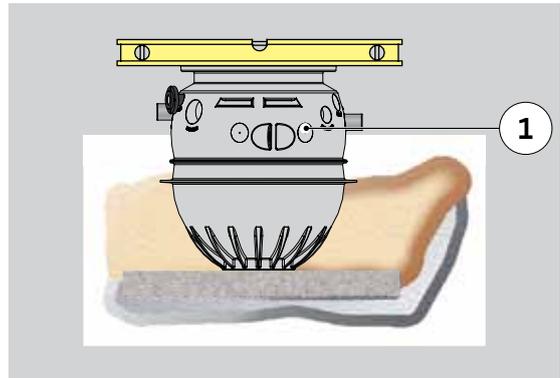
→ Paying attention to the safety instructions, lower the housing (1) into the pit.

Tab 14: Housing weight

Rated size	SF [!]	Weight (housing)	
		Oleopator P [kg]	Oleopass P [kg]
NS 3	450	67	90
NS 3	670	83	106
NS 3	950	84	107
NS 6	660	91	114
NS 6	1210	101	124
NS 8	820	94	125
NS 10	1080	105	130



- Align the housing (1) (housing axis vertical).



6.2.4 Installing and connecting the inlet piping

A pipe connection marked with "Inlet" (2) projects to height H1,  Fig. 5 and Tab. 11+12 out of the housing (3).

Depending on the rated size of the system:

- Oleopator in nominal size DN 100 or 150 (outer diameters are: 110 mm or 160 mm)
- Oleopass in nominal size DN 200 or 250 (outer diameters are: 200 mm or 250 mm)

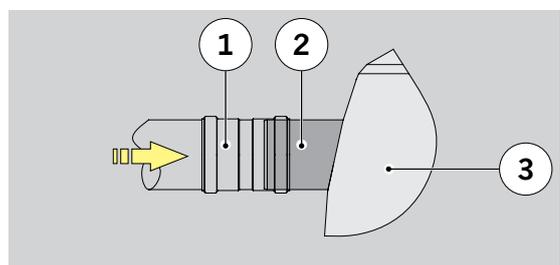
CAUTION

- Pipes and pipe connections in the plant's inlet must be light liquid resistant
- The cross-section of the piping must not be reduced in the flow direction
- The inlet piping of light liquid separator systems must be installed sloping towards the system

Requirement:

- Piping DN 100, 150, 200 and 250

- Connect inlet pipe (1) at pipe socket (2) (pipe fitting, sliding collar, etc.).



6.2.5 Installing and connecting the outlet piping

A pipe socket (2) opposite the inlet connection (marked "Outlet") projects to height H1 - 70 mm,  Chap. 4.3, out of the housing (1).

Depending on the rated size of the system:

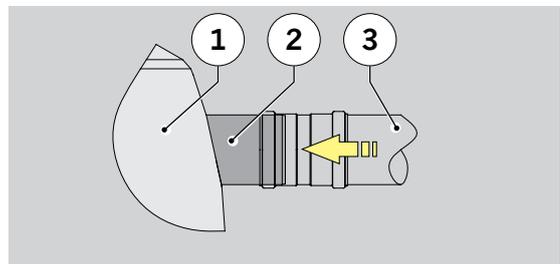
- Oleopator in nominal size DN 100 or 150 (outer diameters are: 110 mm or 160 mm)
- Oleopass in nominal size DN 200 or 250 (outer diameters are: 200 mm or 250 mm)

CAUTION

- The cross-section of the piping must not be reduced in the flow direction
- Separators have to be operated free from backflow and with free incline
- Separators in which the static water level is below the backflow level (generally, if nothing to the contrary has been defined, height of kerb top - see also European standard EN 752-1), have to be drained by means of a downstream lifting system or a double pump station. The pressure line of the wastewater lifting system and the base of the backflow loop must be above the backflow level.

Requirement:

- Piping DN 100, 150, 200 and 250
- Connect the outlet pipe (3) to the pipe socket (2) (pipe fitting, sliding collar, etc.) and install sloping towards the sewage system.



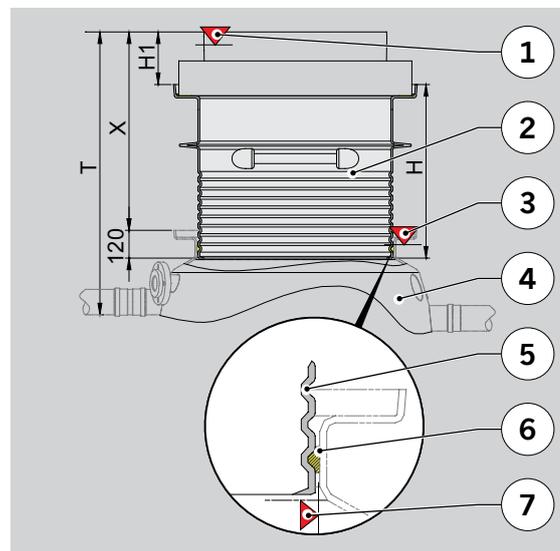
6.2.6 Installing the extension systems

For load classes A and B cut the extension piece to size and install it

Depending on the required feed depth (dimension T), the extension piece (2) is 700 mm (25 kg) or 1690 mm (50 kg) high. It is inserted approx. 120 mm into the housing and the size H1 for Class A is 30 mm and for Class B 210 mm. The height adjustment and installation of the extension piece is described below.

Requirements:

- Saw
 - Acid-free grease
 - Spirit level
- Determine dimension X, top level of housing (3) to top level of the ground (1).
 - Transfer dimension H ($X - H1 + 120$ mm) to the extension piece (2) and separate it at the corresponding cutting notch (5, notches are 40 mm apart).
 - Remove the seal (6) from the separated piece and replace it in the first notch above the cut (piece with dimension H).
 - Grease the seal (6) and "collar (7)" surface on the housing (4) with acid-free grease.
 - Slide the extension (2) into the housing (4, to 120 mm) and align it.



Install the cover for load class A and B and the cover and adapter plate for load class B

The extension parts for classes A and B, cover (5)/adapter plate (6, for Class B) and the flat seal (3) are delivered separately. These are to be installed as follows:



Conventional support rings can be installed between the cover and the adapter plate for adjusting to the top level of the ground (e.g. asphalt) (applies to class B 125).

CAUTION Before the adapter plate (6) and the cover (5) are installed the pit has to be backfilled to this height, Chap. 6.2.7, and the area (8) has to be compacted.

Requirements:

- Excavator
- Manhole ring sling with clamps
- Spirit level

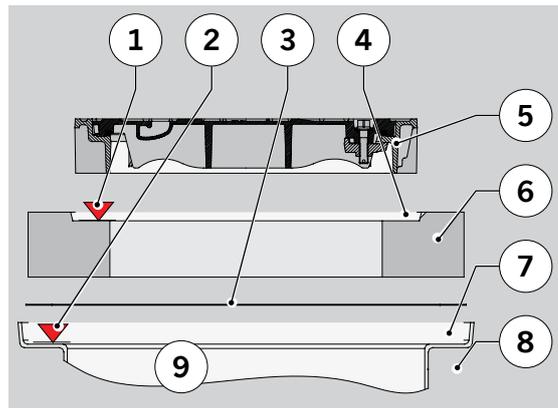
→ Clean the surfaces (2) on the housing (9) and the extension piece (9).

Class A

- Place a flat seal (3) on the surface (2).
- Insert the cover 145 kg (5) into its intended position (7).

Class B

- Place a flat seal (3) on the surface (2).
- Insert the adapter plate 170 kg (6) into its intended position (7).
- Clean the surface (1) of the adapter plate (6) where it sits in position.
- Place mortar bed, see instructions of mortar supplier, on surface (1) and insert the cover 110 kg (5) into the intended position/retainer (4) of the adapter plate (6) and align it.



CAUTION The extension system may be loaded only when the pit has been completely backfilled and when the materials have bonded sufficiently.

For load class D cut the extension piece to the required length and install with the load distribution plate

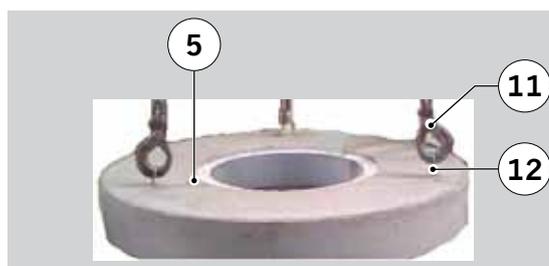
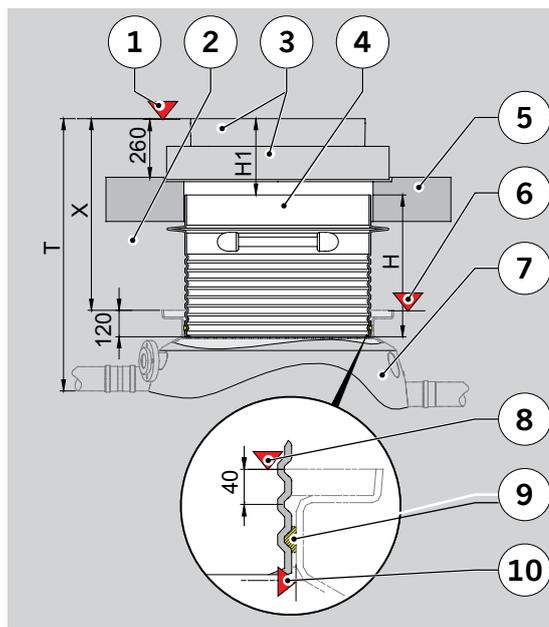
Depending on the required inlet depth (dimension T), shorten the extension piece (4) to 1600 mm high. It is inserted approx. 120 mm into the housing and the size $H1 = 340$ mm. The height adjustment and installation of the extension piece (50 kg) together with the load distribution plate (700 kg) are described below.

CAUTION Before the load distribution plate (5, observing the safety instructions) can be placed on top of the extension piece (4) the pit has to be backfilled to this height,  Chap. 6.2.7, and the area (2) has to be compacted.

Requirements:

- Excavator
- Triple sling, min. 2-3 m long, shackle NG 1 acc. to DIN 82101
- Spirit level

- Determine dimension X, top level of housing (6) to top level of ground (1).
- Transfer dimension H ($X - H1 + 120$ mm) to the extension piece (4) and separate it at the corresponding cutting notch (8, notches are 40 mm apart).
- Remove the seal (9) from the separated piece and replace it in the first notch above the cut (piece with dimension H).
- Grease the seal (9) and "collar (10)" surface on the housing (7) with acid-free grease.
- Slide the extension (4) into the housing (to 120 mm) and align it.
- Attach the load distribution plate (5) with lifting gear (11) to the 3 loops (12), place it above the extension piece (4) with the openings aligned and fix it at a height of 260 mm.



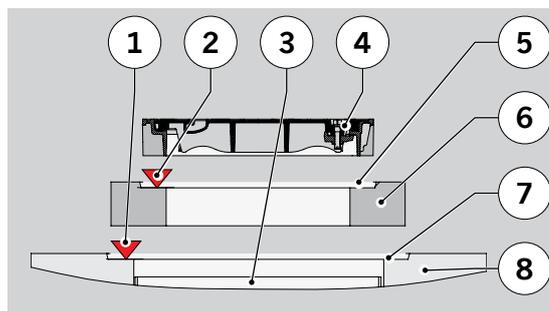
Install cover and adapter plate for load class D

The extension parts for class D, cover (4, 110 kg) and adapter plate (6, 170 kg) are delivered separately. These are to be installed as follows:

Requirements:

- Excavator
- Manhole ring sling with clamps
- Spirit level

- Clean the surface (1) of the load distribution plate (8).
- Place a mortar bed, 📖 see instructions from mortar supplier, on surface (1) and place the adapter plate (6) into the retainer (7) of the load distribution plate (8).
- Clean the surface (2) of the adapter plate (6).
- Place a mortar bed, 📖 see instructions from mortar supplier, on the surface (2) and place the cover (4) into the retainer (5) of the adapter plate (8).



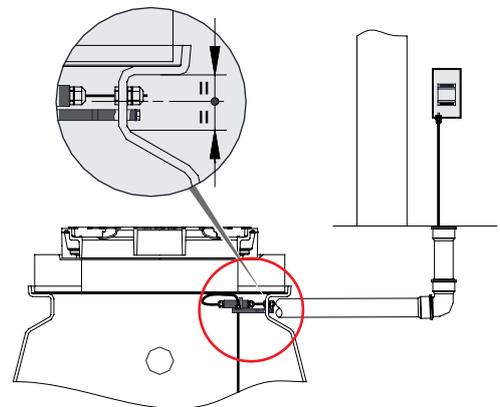
CAUTION The extension system may be loaded only when the pit has been completely backfilled and when the materials have bonded sufficiently.

6.2.7 Backfilling the pit

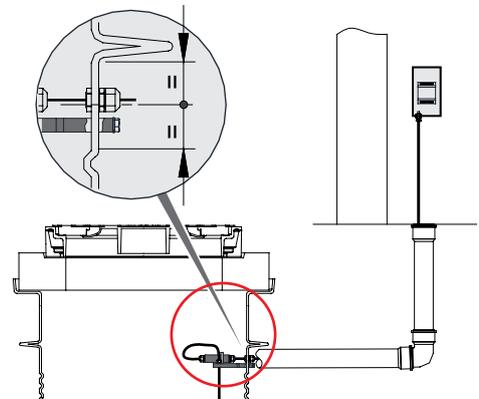
ATTENTION If a Securat alarm system (optional,  Chap. 4.7) is used, on-site preparations are necessary before backfilling the pit,  assembly instructions 0150.36.46 (included in delivery of Securat alarm system).

Some diagrams from the assembly instructions are shown in the figures below. The cable and extension cable (optional) must be laid through on-site empty ductwork extending to the surveillance device.

Separator without extension system

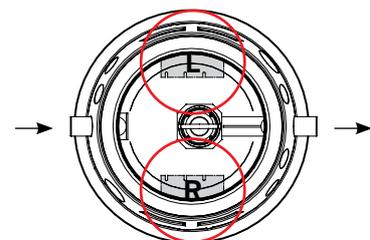


Separator with extension system



The preferred fitting positions are marked with red circles.

ATTENTION Do not install the Securat alarm system mount over the inlet or outlet.



ATTENTION

- The building materials and installation process must not cause any damaging deformation, damage or unfavourable load cases for the system
- The system must be surrounded (≥ 1.0 m) with a low fine grain sand-gravel or sand-ballast mixture in soil groups GW or GI according to DIN 18196
- The layers of filling (≤ 30 cm high) are to be compacted with a lightweight compacting device to a Proctor density of $D_{pr} \geq 97\%$
- The frame of the cover must not be higher than the surrounding ground; in fact it is better if the surrounding ground is slightly higher and is drawn towards the edge of the frame

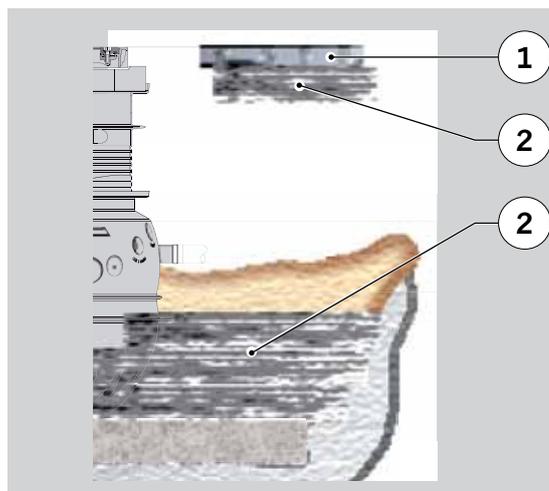
Requirements:

- Excavator
- Truck
- Lightweight compacting device (vibrating plate compactor)

→ Backfill the pit (2).

CAUTION When the final layer is being filled the cover must not be moved.

→ To complete (1) backfilling, install the required surface (e.g. asphalt).



6.2.8 Installing the type plate

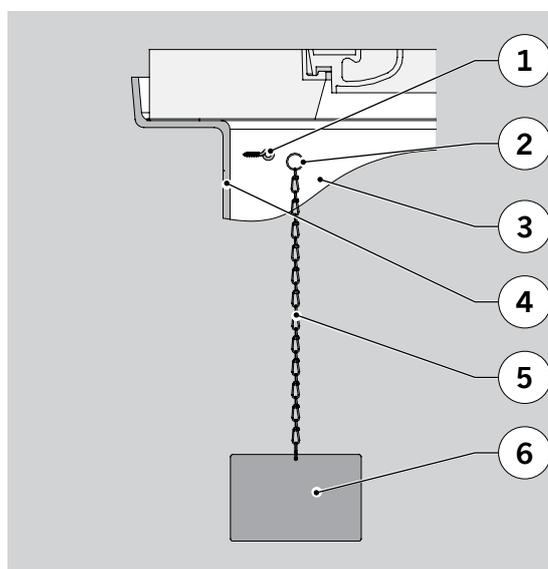
The type plate for the system is delivered in a plastic bag (together with the instructions and the delivery documents). It must be installed underneath the cover.

Requirements:

- Pliers
- Eyebolt with tapping thread

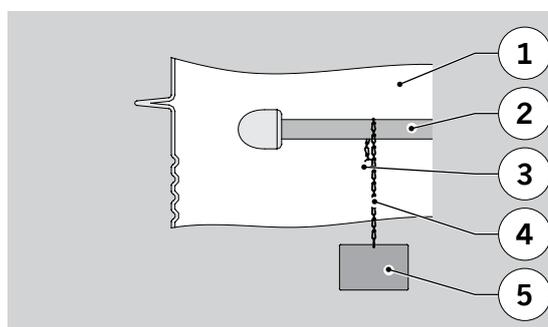
Fixing on systems with no extension

- Screw the eyebolt (to be provided by customer) with the tapping thread (1) into the collar (4) of the plant housing (3).
- Fix key ring (2), delivered as a unit with the knotted chain (5) and type plate (6), to the eyebolt (1).



Fixing on systems with an extension

- Twist the knotted chain (4), delivered as a unit with the key ring (3) and type plate (5), around the pipe (2) in the extension piece (1) and fix it to the knotted chain (4) with the key ring (3).



7 Operation

Information about correctly commissioning and operating the plant for the first time is provided in this chapter.

7.1 Safety at first commissioning and operation

The following risks must be considered at first commissioning and during operation:



DANGER

Read the following safety instructions carefully before the first commissioning and operation. Serious injuries or death could occur if these are ignored.

Ensure that the personnel are suitably qualified,  Chap. 2.2.

Formation of explosive atmosphere in the plant during operation

Explosion hazard

- Wear personal protective equipment,  Chap. 2.3
- Provide adequate gas exchange from above (open manhole cover to ventilate) and check the concentration of gas before working on the system
- If it is necessary to access the plant, it must be completely emptied and thoroughly vented beforehand.



WARNING

Contact with wastewater containing light liquids

Injuries to skin and eyes, risk of infection

- Wear personal protective equipment,  Chap. 2.3
- In the case of skin contact: immediately wash thoroughly with soap and disinfect affected skin
- In the case of contact with eyes: rinse eyes
- Seek medical attention in the case of watering eyes, headache, dizziness, nausea, vision problems

7.2 First commissioning

This chapter provides information on the requirements for the first commissioning, the initial operation of the plant and the handover to the user.

7.2.1 Execution and presence

Requirements for first commissioning:

- All installation work has been completed,  Chap. 6
- Pipes are flushed
- Housing has been thoroughly cleaned (of debris or dust)
- No wastewater is running in the plant

Required personnel for first commissioning:

- Fitter
- Owner or user

ATTENTION In order to ensure safe operation of the plant, the following order must be observed:

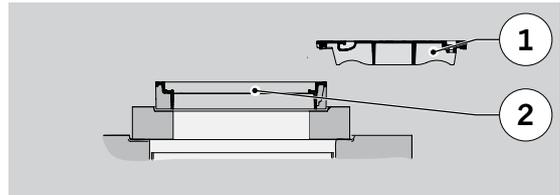
1. Remove coalescence insert and float from the plant,  Chap. 7.2.2
2. Complete first filling of the plant,  Chap. 7.2.3
3. Install float and coalescence insert in the system,  Chap. 7.2.4
4. Carry out inspections,  Chap. 7.2.5
5. Handover plant to owner or user,  Chap. 7.2.6

7.2.2 Removing coalescence insert and float from the plant

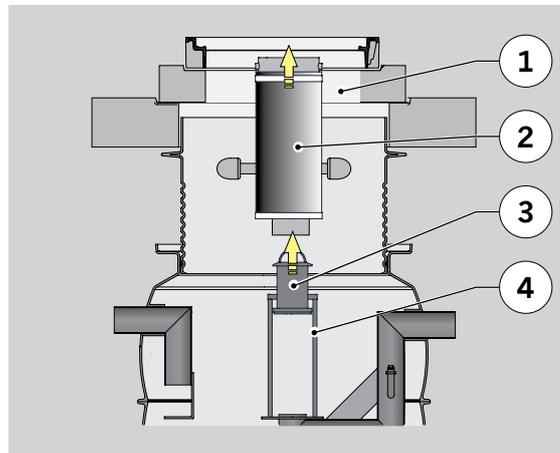
When delivered the coalescence insert and the float are inside the plant and protected by sheeting.

Both must be removed from the plant before the first filling.

- Lift the cover (1) out of its frame (2) and put it aside (use lifting device depending on classification).



- Lift coalescence insert (2), located above the supporting basket (4), out of the extension system (1).
- Lift float (2), located in the supporting basket (4), out of the extension system (1).
- Remove sheeting from coalescence insert (2).
- Store coalescence insert (1) and float (2) on the side of the plant.



7.2.3 Initial filling of plant

The first filling of the plant is described below.

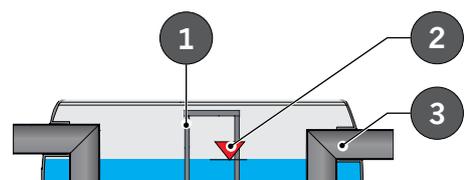


In addition to fresh water, rain water or operating water can be used to fill the plant if it complies with local discharge conditions.

If wastewater from the disposal vehicle is used to refill the plant, compliance with the local limits for wastewater must be documented.

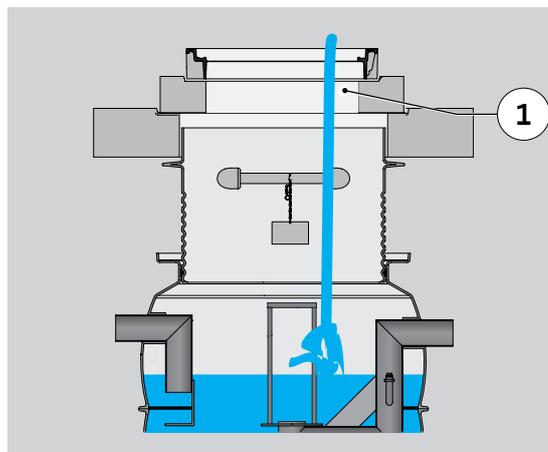
The disposal company must hand the corresponding papers to the owner or user.

ATTENTION The housing (1) must be filled until the water overflows into the outlet pipe (3) or reaches the level of the pipe base of the outlet connection (2) (check through open cover or the downstream sampling pit).



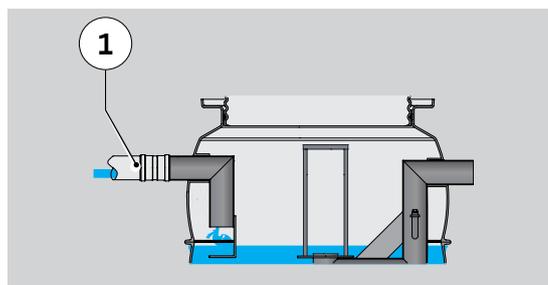
Complete first filling:

→ Fill via the extension system (1).



or

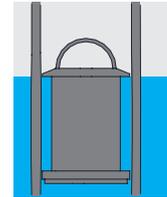
→ Fill via the inlet pipe (1).



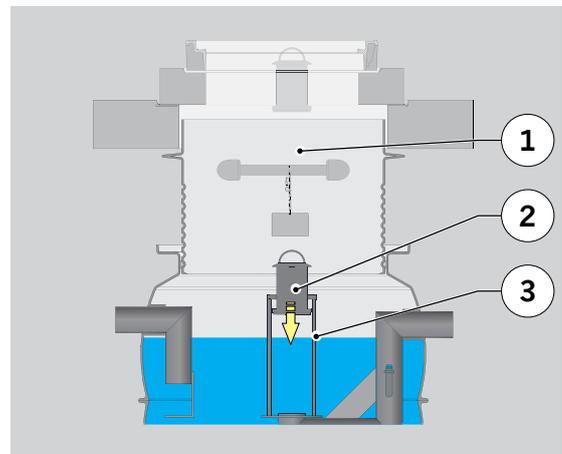
7.2.4 Installing float and coalescence insert in the plant

After the plant has been filled, the float and the coalescence insert must be installed in the plant.

ATTENTION After being inserted, the float must be in the fresh water receiver in the floating position,  Fig. right.

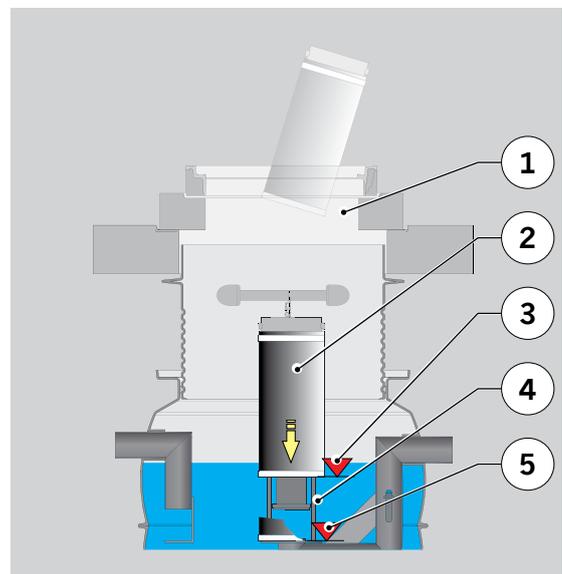


- Place float (2) in the supporting basket (3) through the plant's open extension system (1).

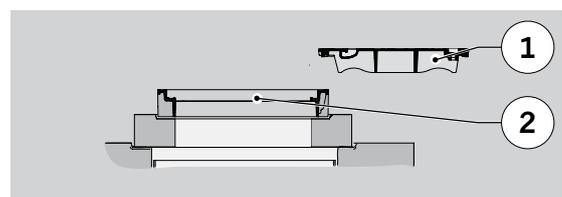


- Place coalescence insert (2) over the supporting basket (4) through the plant's open extension system (1).

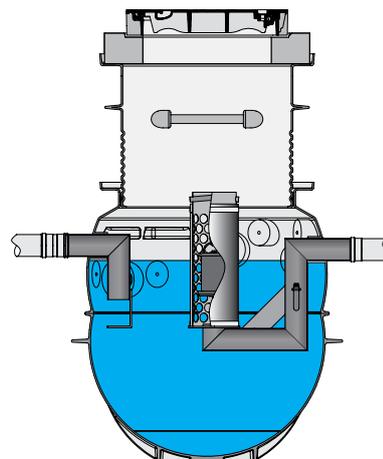
ATTENTION The lower edge of the coalescence insert (4) must stand on the outlet immersion pipe support (5).



- Replace cover (1) in its frame (2) (use lifting device depending on classification).



The plant is ready for operation.



7.2.5 Carrying out inspections

The following must be done or inspected before or during the first commissioning:

- General inspection of the plant
- Check watertightness in accordance with DIN 1999-100 (applies only to Germany, requirements may vary in other countries)
- Check structural condition
- Check the condition of the installed parts
- Check buoyancy of automatic closure device (float)
- Check alarm (if present)
- Check vertical exaggeration (if present)
- Check sampling facility (if present)
- Check correct position of float, 📖 Chap. 7.2.4
- Check correct position of coalescence insert, 📖 Chap. 7.2.4

7.2.6 Handing over plant to owner or user

Handover procedure:

1. Explain how the plant works to the owner or user
2. Handover the working plant to the owner or user
3. Provide handover report with essential information for first commissioning
4. Provide operating instructions

7.2.7 ACO Maintenance contract

We recommend having the work done directly by the manufacturer, ACO, to ensure the retention of value and function of the plant, being also the prerequisite of the warranty. This not only ensures constant operational safety, you also profit from revisions and modernisations which we carry out within the framework of our product development. To request an offer for a maintenance contract, please copy the section below, fill it in completely and fax to:

Telefax + 49 (0) 3 3 69 / 81 81 9 -3.

Our ACO Service team would be happy to answer any questions, 📖 Chap. 1.1.

Request:

Maintenance contract for light liquid separator system

Please send a non-binding offer for regularly servicing and maintaining the plant.

Customer

Type:

Installation date:

Post Code

City



7.3 Operation

This chapter provides information on correctly operating the plant

7.3.1 Full operation

ATTENTION The plant must only be operated according to its intended use,  Chap. 2.1.



The plant works without intervention by the user. Work required during operation is limited to:

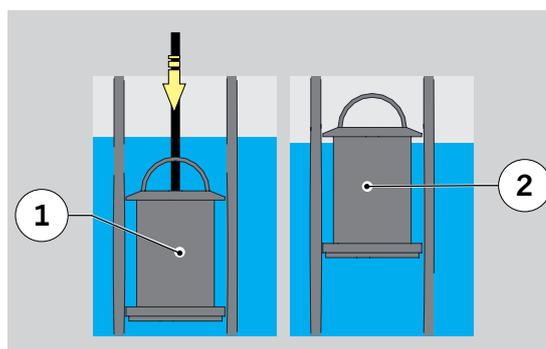
- Monthly inspections for the user,  Chap. 7.3.2
- Maintenance for the user,  Chap. 8.2
- Arranging annual service,  Chap. 8.3
- Arranging plant inspection,  Chap. 8.4

7.3.2 Monthly inspections for the user

After opening the cover of the plant, the following must be checked and carried out:

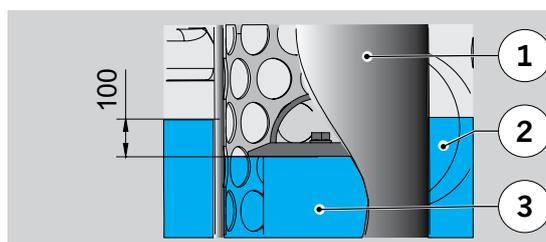
- Condition of the housing and the extension system (what is visible from above)
- Condition of installed parts (what is visible from above)
- Remove and dispose of any coarse floating matter on the water surface
- Condition of sampling pit (if present)
- Check function of float (1):
→ Push float (1) down gently and let go.

If the float (1) returns to its original position (2), the float is working properly.



- Visibly inspect porousness of coalescence insert (1):

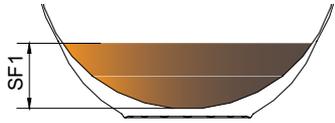
If the difference between the water level inside (3) and outside (2) the coalescence insert (1) is less than 100 mm, it is working properly.



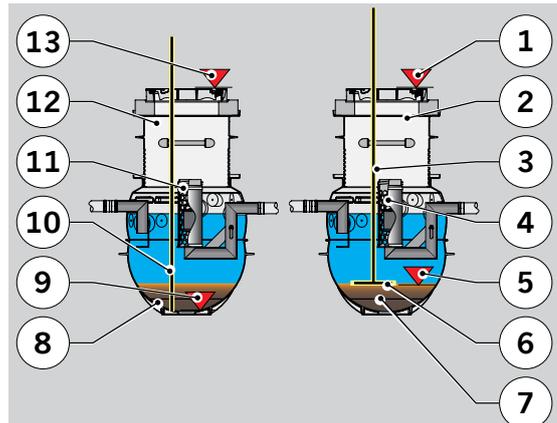
- Thickness of separated sludge

ATTENTION If the silt trap is filled halfway, the measurement in the housing is SF1,  Tab. 15, and the plant must be completely emptied,  Chap. 7.4.

Tab. 15: Filling 1/2 of silt trap

Type	Rated size [-]	SF Type [-]	SF1 [mm]	Fig.
Oleopator P and Oleopass P	3	450	320	
	3	670	450	
	3	950	450	
	6	660	720	
	6	1210	500	
	8	820	420	
	10	1080	580	

- In the middle of the plant (12), feed rod (10) down along side the coalescence insert (11) through the sludge layer (8) to the level (9).
- Mark level (13) on the rod (10), pull the rod out of the plant, and determine the measurement to the end of the rod (measurement = H1).
- Fix plate (6) on the rod (3) and (starting with the plate) feed it into the plant until the plate (6) is sitting on the sludge layer (7).
- Mark level (1) on the rod (3), pull the rod out of the plant, and determine the measurement to the plate (measurement = H2).
- Subtract H2 measurement from H1 measurement = existing sludge layer in the plant.



If the result is larger or equal to the value SF1,  Tab. 15:

- Empty the plant,  Chap. 7.4.

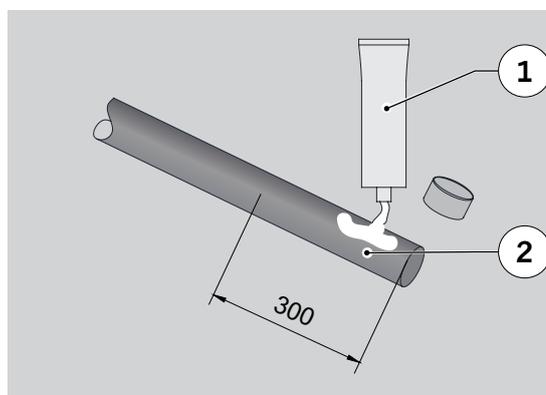
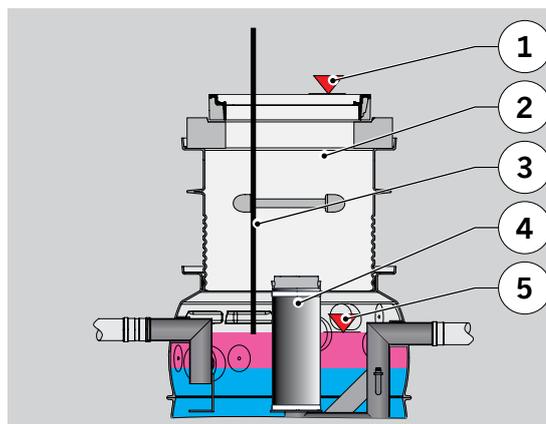
- Determine thickness of separated light liquid

ATTENTION If the separation space is 80% filled with light liquid, there is a thickness with the measurement Oil1 in the housing  Tab. 16, and the plant must be completely emptied,  Chap. 7.4.

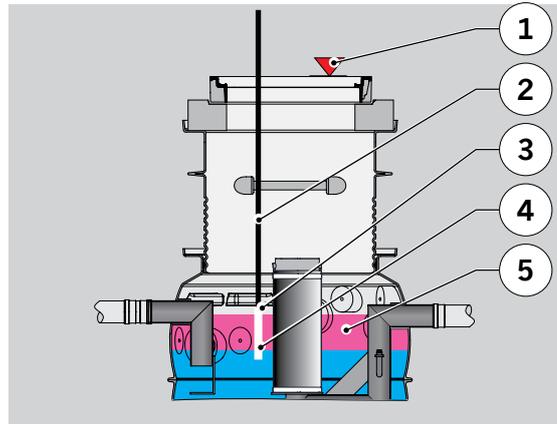
Tab. 16: 80% oil filling

Type	Rated size	SF	Oil1	Fig.
	NS	Type	-	
	[-]	[-]	[mm]	
Oleopator P and Oleopass P	3	450	170	
	3	670	170	
	3	950	170	
	6	660	170	
	6	1210	170	
	8	820	190	
	10	1080	190	

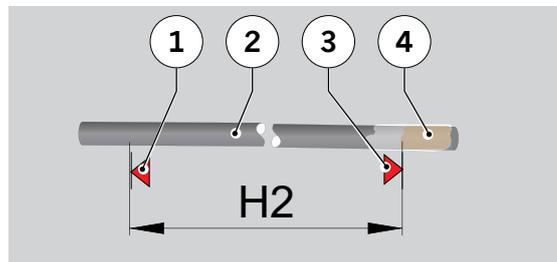
- Near the middle of the plant (2), feed rod (3) down along side the coalescence insert (4) to top of the light liquid(5).
- Mark level (1) on the rod (3), pull the rod out of the plant, and determine the measurement to the end of the rod (measurement = H1).
- Cover approx. 300 mm of one end of the rod (1) with a water-detection paste, refer to  specialist shop.



- Insert the covered end (4) of the rod (2) into the light liquid layer (5) until approx. 55 mm of the water-detection paste (4) is visible from above.
- Mark level of top cover edge (1) on the rod (3) and pull rod (2) out of the plant.



- Determine measurement from the marked top edge of cover (1) to the end (3) of the discoloured section of the water-detection paste (4) (measurement = H2).
- Subtract H1 measurement from H2 measurement = existing oil layer in the plant.



If the result is larger or equal to the value Oil1, Tab. 16:

- empty the plant, Chap. 7.4.

7.4 Drain-down

This chapter provides information on the correct procedure when emptying the plant contents into the suction truck.

ATTENTION Emptying must be done immediately if:

- The silt trap is half full
- 80% of the max. light liquid volume has been reached in the separator



The accrued emptying volume is composed of:

1.15 x total content, Original type plate.

An adequately large disposal vehicle must be provided.

The drainage date and removal by a suction truck (disposal vehicle) is to be arranged with an authorised disposal company.

ATTENTION Compliance with applicable state/national regulations is required.

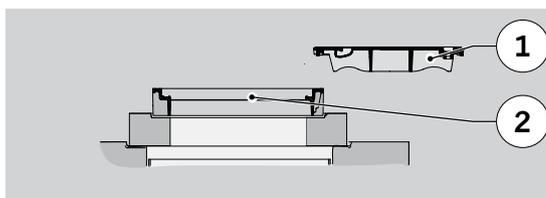
The plant should be emptied during a break in operation (no inlet).



By alternating with a second coalescence insert the interruptions in operation will be shortened and the costs of emptying (waiting periods) will be minimised.

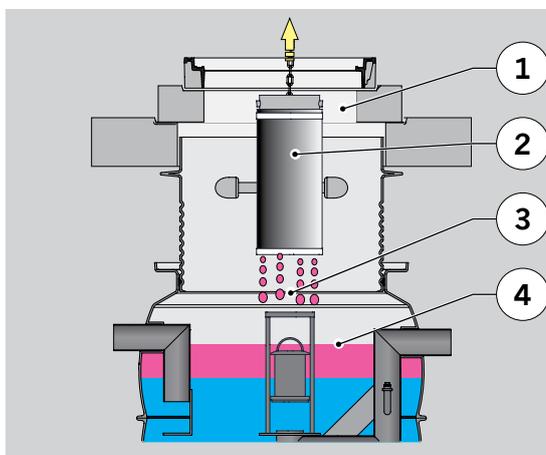
Cleaning the soiled coalescence insert can be done later. However, in order to prevent the soilage from drying, the coalescence insert should be stored in a container or plastic bag filled with water until the cleaning.

- Lift the cover (1) out of its frame (2) and put it aside (use lifting device depending on classification).



- Pull the coalescence insert up (2, max. approx. 10 kg), with a lifting device if necessary, above the water surface (4) and allow it to drain briefly (3).

- Lift coalescence insert (2) out of the extension system (1) and clean in a collecting tray.



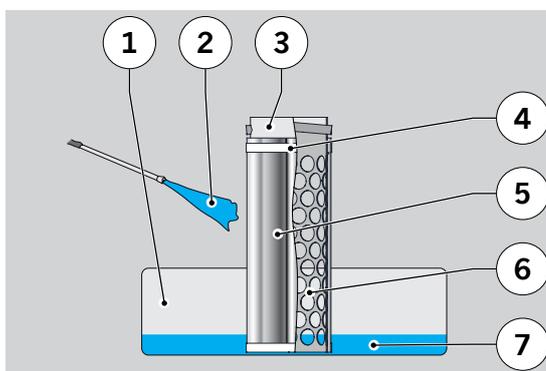
The coalescence matt (5) can remain mounted on the supporting basket (6) with Velcro straps (4) when cleaning the coalescence insert (3).

The coalescence matt is only to be separated from the supporting basket if the degree of soilage is especially high.

- Put coalescence insert (3) in a collecting tray (1).
- Spray coalescence insert (3) with water using either:
 - Hose min. 3/4 inch under mains pressure (min. 4 bar)
 - High-pressure device at max. 60 bar and using cold water or

Only if absolutely necessary:

- High-pressure device with max. 60 bar and 60°C water with separator-friendly cleaning product

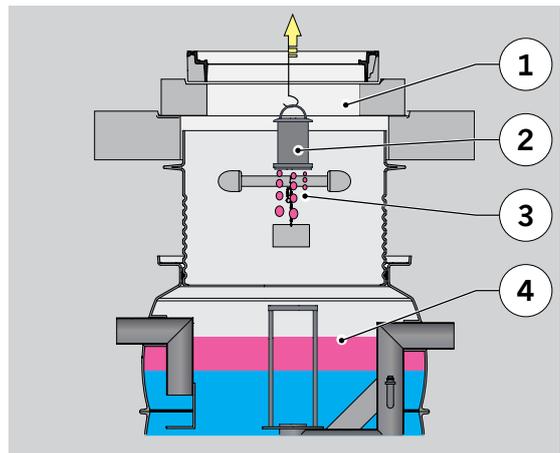




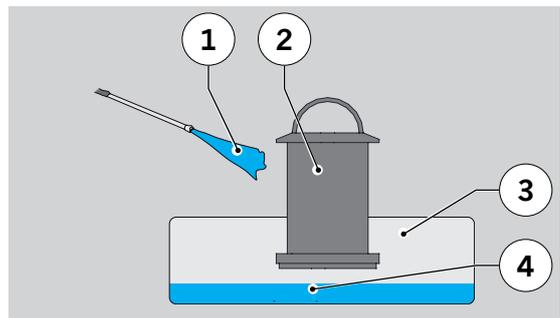
By alternating with a second float, the interruptions in operation will be shortened and the costs of emptying (waiting periods) will be minimised.

Cleaning the soiled float can be done later. However, in order to prevent the soilage from drying, the float should be stored in a container or plastic bag filled with water until the cleaning.

- Pull the float up (2, max. approx. 5 kg), with a lifting device if necessary, above the water surface (4) and allow it to drain briefly (3).
- Lift float (2) out of the extension system (1) and clean in a collecting tray.

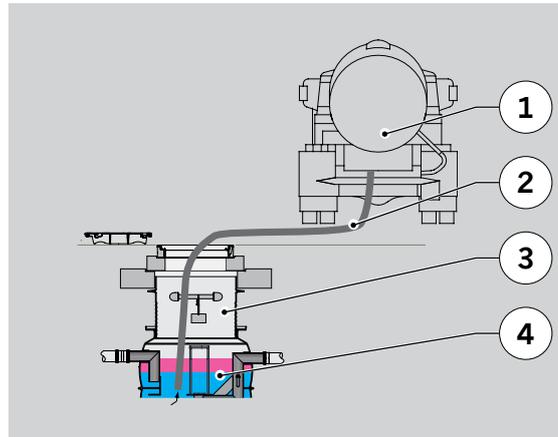


- Put float (2) in a collecting tray (3).
- Spray float (2) with water (1) using either:
 - Hose min. 3/4 inch under mains pressure (min. 4 bar)
 - High-pressure device at max. 60 bar and using cold water or
 - High-pressure device with max. 60 bar and 60°C water with separator-friendly cleaning product

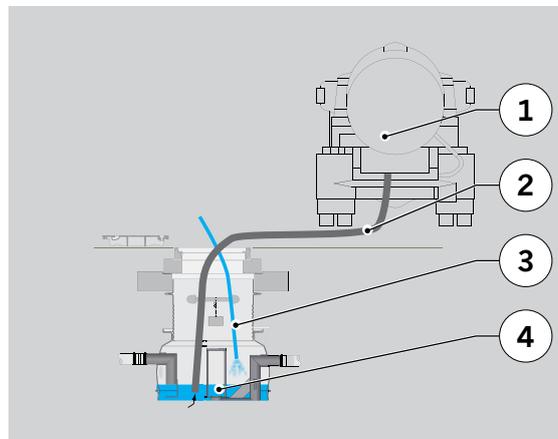


ATTENTION The cleaning water (4+7) in the collecting tray can be disposed of via the intake point on the plant after the plant has been started up again.

- Insert the suction hose (2) from the suction truck (1) through the extension system (3) in the plant and completely transfer the contents into the suction truck.



- Spray the inside of the plant housing and the installed parts with a water hose (3) or a high-pressure hose.
- Suction all cleaning water (4) into the suction truck (1).
- Roll up suction hose (2), emptying by suction truck (1) is complete.



- Refill plant housing, 📖 Chap. 7.2.3
- Install float and coalescence insert, 📖 Chap. 7.2.4

The plant is ready for operation.

8 Maintenance

Regular maintenance is essential for long term safe and fault free operation. The required maintenance work is described in this chapter.

8.1 Maintenance safety

When the plant is being serviced the following risks must be considered:



DANGER

Read the following safety instructions carefully before beginning maintenance. Serious injuries or death could occur as a result of misuse.

Ensure that the personnel are suitably qualified,  Chap. 2.2.

The user should only perform work that is described in these operating instructions. All other work requires extensive training and experience with light liquid separator systems. ACO Service is responsible for this.

Formation of explosive atmosphere in the plant during operation

Explosion hazard

- Wear personal protective equipment,  Chap. 2.3
- Provide adequate gas exchange from above (open manhole cover to ventilate) and check the concentration of gas before working on the system
- If it is necessary to access the plant, it must be completely emptied and thoroughly vented beforehand.



WARNING

Contact with wastewater containing light liquids

Injuries to skin and eyes, risk of infection

- Wear personal protective equipment,  Chap. 2.3
- In the case of skin contact: immediately wash thoroughly with soap and disinfect affected skin
- In the case of contact with eyes: rinse eyes
- Seek medical attention in the case of watering eyes, headache, dizziness, nausea, vision problems



CAUTION

Sharp edges due to chipped material

Injuries due to worn parts

- Be especially careful and pay attention
- Wear personal protective equipment,  Chap. 2.3

8.2 Maintenance work for the user

The following Tab. lists maintenance that the user can perform.

Tab. 17: Maintenance as needed

Work	Description	
Clean coalescence insert	Remove, clean and replace coalescence insert	7.2.4 7.4
Clean float	Remove, clean and replace float	7.2.4 7.4
Inspections	Carry out inspections (except for general inspection)	7.2.5

8.3 Maintenance work for trained professionals

ATTENTION The plant must be serviced annually while empty and clean according to the manufacturer's guidelines.



Make maintenance contract with ACO,  Chap. 7.2.7.

Maintenance plans upon request, ACO Service  Chap. 1.1.

If the maintenance reveals any defects, they must be corrected without delay. The maintenance carried out and any corrective work are to be entered in the operating logbook.

8.4 Official inspection

ATTENTION The plant must be inspected every 5 years at the latest (general inspection) while empty and clean.

This inspection covers the following points:

- Is the plant measured properly?
- What is the condition of the plant (housing, installed parts, extension system, etc.)?
- Are the connecting pipes in acceptable condition?
- Is the plant watertight (📖 DIN 1999-100 test)?
- Is the automatic closure device (float) in acceptable condition?
- Is the operating logbook being kept and are all entries complete?
- Is there a record of proper disposal of contents removed from the plant?
- Are all required documents (permit, discharge plans, operating instructions, etc.) present and complete?



If the inspection reveals any defects, they must be corrected without delay.
The inspections and any corrective work are to be entered in the operating logbook.
The maintenance carried out and any corrective work are to be entered in the operating logbook.

8.5 Operating logbook

ATTENTION An operating logbook must be kept.

The following dates and information are to be entered:

- Dates of regular inspections and maintenance
- Faults, causes of faults, measures taken
- Dates of completed repairs/maintenance
- Dates of completed tests

Keeping an operating logbook offers many advantages, e.g. traceable work and strategic troubleshooting.



Operating logbooks can be obtained from ACO,
📖 ACO Service Chap. 1.1.

9 Fault rectification/repair

This Chap. provides information on fault rectification and repairs to the plant.

9.1 Safety in fault rectification and repair

The following risks must be considered when rectifying faults and performing repairs:



DANGER

Read the following safety instructions carefully before rectifying faults and performing repairs. Serious injuries or death could occur if these are ignored.

Ensure that the personnel are suitably qualified,  Chap. 2.2.

The user should only perform work that is described in these operating instructions. All other work requires extensive training and experience with light liquid separator systems. ACO Service is responsible for this.

Formation of explosive atmosphere in the plant during operation

Explosion hazard

- Wear personal protective equipment,  Chap. 2.3
- Provide adequate gas exchange from above (open manhole cover to ventilate) and check the concentration of gas before working on the system
- If it is necessary to access the plant, it must be completely emptied and thoroughly vented beforehand.



WARNING

Contact with wastewater containing light liquids

Injuries to skin and eyes, risk of infection

- Wear personal protective equipment,  Chap. 2.3
- In the case of skin contact: immediately wash thoroughly with soap and disinfect affected skin
- In the case of contact with eyes: rinse eyes
- Seek medical attention in the case of watering eyes, headache, dizziness, nausea, vision problems



CAUTION

Sharp edges due to chipped material

Injuries due to worn parts

- Be especially careful and pay attention

9.2 Troubleshooting

The table below helps you recognize what caused faults and take the necessary measures.

Tab. 18: Troubleshooting

Fault	Cause(s)	Measure(s)	Trained personnel Required	
Faults in plant or components				
Improper blockage	Float closure with max. light liquid storage capacity	Arrange drainage	-	7.3.2 7.4
	Float defective	Check float and exchange if necessary	-	7.3.2
	Coalescence insert soiled	Check porousness and clean if necessary	-	7.3.2 7.4
	Malfunction	Check function	x	9.3

9.3 Repair, fault rectification and spare parts

For repairs and replacement parts please refer to ACO Service and provide the information on the type plate, Chap. 1.1.

10 Decommissioning, disposal

This Chap. provides information on professionally decommissioning and disposing of the plant.

10.1 Safety during decommissioning and disposal

When the plant is being decommissioned and disposed of, the following risks must be considered:



DANGER

Read the following safety instructions carefully before decommissioning and disposing of plant. Serious injuries or death could occur if these are ignored.

Ensure that the personnel are suitably qualified,  Chap. 2.2.

Pay attention to additional safety information on "Transport and Storage",  Chap. 3.1.

Explosion hazard

- Wear personal protective equipment,  Chap. 2.3
- Provide adequate gas exchange from above (open manhole cover to ventilate) and check the concentration of gas before working on the system
- If it is necessary to access the plant, it must be completely emptied and thoroughly vented beforehand.



WARNING

Contact with wastewater containing light liquids

Injuries to skin and eyes, risk of infection

- Wear personal protective equipment,  Chap. 2.3
- In the case of skin contact: immediately wash thoroughly with soap and disinfect affected skin
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- Seek medical attention in the case of watering eyes, headache, dizziness, nausea, vision problems



CAUTION

Sharp edges due to chipped material

Injuries due to worn parts

- Be especially careful and pay attention

10.2 Decommissioning plant

Decommissioning procedure:

1. Remove, clean and store coalescence insert and float separately
2. Empty and clean housing
3. Rinse connected pipes and dispose of wastewater
4. Close extension system with cover



Restart plant according to instructions for first commissioning,  Chap. 7.2.

10.3 Shutting down the plant

Shutdown procedure:

1. Remove, clean and de-install coalescence insert
2. Remove, clean and de-install float
3. Empty and clean housing
4. Rinse connected pipes and dispose of wastewater

5. Backfill extension system and housing
or
5. Uncover housing and extension system

6. De-install connecting pipes
7. De-install extension system
8. Remove housing
9. Backfilling the pit

10.4 Disposal

All of the plant materials are recyclable.

ATTENTION Improper recycling unnecessarily endangers the environment. Regional disposal regulations are to be followed.

- Separate and recycle all steel and cast components
- Separate and recycle all rubber parts
- Separate and recycle all plastic parts

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Oleopass P Declaration of Conformity

Oleopass P
Light liquid separator - complete disposal / compact construction - Polyethylene (PE-HD)/ subsurface installation

The manufacturer:

■ **ACO Passavant GmbH**
 Ulsterstraße 3
 36269 Philippsthal

declares that the machinery:

■ **Oleopass P**

is in accordance with the regulation:

■ **2006/42/EC** **Machine Directive**

The system's machinery is in accordance with further directives:

■ **98/336/EEC** **EMC Directive**

■ **92/31/EEC** **EMC Directive**

The following harmonised standards were applied:

■ **EN 858** **2005/-02 edition**

■ **DIN 1999-100** **2003/-10 edition**

■ **EN ISO 12100-1** **2009/-10 edition**

■ **EN ISO 12100-2** **2009/-10 edition**

■ **DIN EN 60335** **2008/-01 edition**

The following notified bodies were engaged:

■ - -

Addendum:

■ -

Note:

■ **The plants separate light liquids (oils and gas) of mineral origin from wastewater through gravity in order to protect drainage systems.**

Responsible for documents:

■ **Mr. Alexander Brinkhoff** **ACO Passavant GmbH**
 Im Gewerbepark 11c
 36457 Stadtlengsfeld, Germany

Philippsthal, 15.07.2011

■ **Mr. Ralf Sand**  **Management**
ACO Passavant GmbH

Oleopator P Declaration of Conformity

Oleopator P

Light liquid separator - complete disposal / compact construction - Polyethylene (PE-HD)/ subsurface installation

The manufacturer:

- ACO Passavant GmbH
Ulsterstraße 3
36269 Philippsthal

declares that the machinery:

- Oleopator P

is in accordance with the regulation:

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The system's machinery is in accordance with further directives:

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Note:

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