

Grease separators



Grease disposal concepts

Grease separators

For full and partial disposal

For free-standing or ground installation

Grease separators from ACO Building Services



Areas of application

- Hotels
- Restaurants
- Food serving areas
- Refectories
- Motorway service stations
- Canteens
- Butchers' shops
- Slaughterhouses (large slaughtering operations)
- Meat and sausage factories
- Animal carcass processors
- Hospital kitchens
- Food preserving factories
- Cooking-oil refineries
- Ready-made meals producers
- Barbecue, frying and grilling kitchens
- Chips and crisp production
- Peanut roasters

Applications

Commercial operations generating wastewater must implement appropriate measures, by using suitable pre-treatment installations, to ensure that solids and liquids which can give off toxic and unpleasant vapours and odours are prevented from damaging construction materials and drainage facilities, harming operations, and are held back so that they do not enter sewage pipes. Operations generating greasy wastewater have a mandatory obligation to install EN 1825 type grease separators to ensure that grease and organic oil is effectively removed from the wastewater. This applies for instance to kitchens and meat-processing operations. It is mandatory for every grease separator installed below the backflow level (usually corresponding to street level) to have a downstream twin lifting plant or complete pumping station. Each industry and commercial operation places individual demands on the capacity of grease separators, lifting plant and complete piping stations. Customisation therefore requires adaptable products in a wide range of sizes and materials. ACO Building Services has many decades of experience in supplying the most diverse range of grease separators, lifting plants and complete pumping stations for ground installation and free-standing installation.

Standards and tests

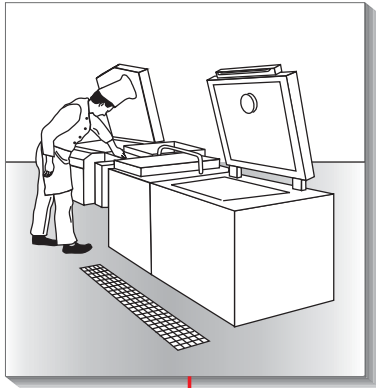
All ACO Building Services grease separators are manufactured in accordance with EN 1825 standard. All of the grease separators in the product line are hydraulically tested and have General Building Supervisory Authority Authorisation and/or the new Application Authorisation from DIBt Berlin. The separators also undergo regular inspection by the Bavarian Factory Inspectorate which inspects the grease separator production to ensure it complies with the latest testing standards.



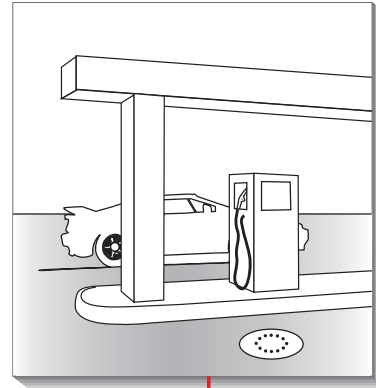
Selecting the correct separator

Wastewater

Animal and vegetable fats/oil



Light-oil separators



Dimensioning

Dimensioning based on:

- Number of meals per day or
- Number and type of food

Influencing factors are:

- Temperature of the wastewater
- Density of the fat
- Use of cleaning products

Dimensioning forms available from:
www.aco-haustechnik.de
 Tel. 036965 819-0

Dimensioning based on:

- Type of workplace (filling station, car wash, workshop etc.)
- Wastewater volume (rain-water or brown water)
- Pieces of cleaning equipment

Influencing factors are:

- Type and density of the medium
- Dirt content (high/low)

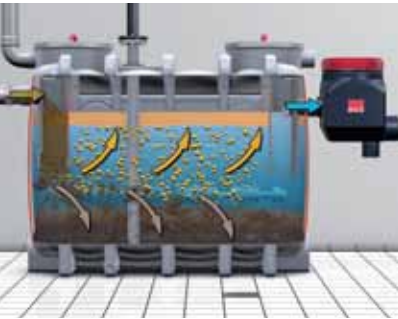
Installation situation

Free-standing	Ground installation	Free-standing	Ground installation
Polyethylene: <ul style="list-style-type: none"> • ECO-MOBIL • ECO-JET • HYDROJET Stainless steel <ul style="list-style-type: none"> • LIPU-MOBIL • LIPUREX • LIPURAT • LIPATOR • LIPATOMAT 	Material polyethylene: <ul style="list-style-type: none"> • ECO-FPI 	Stainless steel: <ul style="list-style-type: none"> • COALISATOR-R, -RD Cast iron: <ul style="list-style-type: none"> • CURATOR-GG • COALISATOR-GG 	Cast iron: <ul style="list-style-type: none"> • CURATOR-GG • COALISATOR-GG



1. If the resting water level lies below the backflow level (generally corresponding to street level), there is a mandatory obligation to install "active backflow safety valves" (Lifting plant or pumping station).
2. **Caution: ground installation:** To avoid additional costs and unnecessary co-ordination work, we recommend which comply with the specified structural load **without additional reinforcing** (e.g. load distribution slabs) – for example OLEOMAX, OLEOPATOR and ECO-FPI.
3. **Caution: free-standing installation of grease separators:** We recommend installing stainless steel separators when the operational temperatures in the separator > 60 °C or when the separator is installed in a fire-risk zone.

Grease separators for full disposal



Grease separators for full disposal

A grease separator for full disposal operates purely physically on the basis of gravity (density differences), i.e. heavy wastewater constituents sink to the floor of the separator, light substances such as animal fats and oils, rise to the top of the grease separator. The treated wastewater is discharged into the sewers via a drainage outlet pipe.



Full disposal

The sludge trap and the separator must be completely emptied and cleaned at least once a month pursuant to DIN 4040-100. Emptying the sludge trap and the separator is carried out by a disposal company and it is recommended that this operation be carried out every two weeks. The separator then has to be refilled with water (e.g. drinking water or process water) in compliance with the local water regulations.

Full disposal concepts

ACO Building Services has two types of grease separator: grease separators for ground installation, and free-standing grease separators.

The grease separators for ground installation (ECO-FPI) are full disposal separators. This means that the whole grease separator has to be completely sucked out and emptied by a disposal vehicle via the suction pipe or the lid at the intervals described above.

The free-standing grease separators (ECO-JET, HYDROJET, LIPUREX, LIPURAT) are also complete disposal grease separators, but are available with different extension stages capable of being retrofitted on site with components that guarantee odour-free and simpler disposal.



ECO-FPI: Grease separator for ground installation outside of buildings. Load class up to 40 tonnes (HGV) available.

Basic version	Extension stage 1	Extension stage 2	Extension stage 3
<p>Disposal via the lid.</p>	<p>– with direct suction extraction</p>	<p>– with high pressure internal cleaning (175 bar) – with manual operation – with direct suction extraction, including disposal pump if required for lifting heights exceeding 6m (Hgeo).</p>	<p>– with high pressure internal cleaning (175 bar) – with automatic programming – with direct suction extraction, including disposal pump if required for lifting heights exceeding 6m (Hgeo).</p>

Extension stage concept for free-standing grease separators.

Grease separators for partial disposal

Grease separators for partial disposal (Fresh grease separators)

Grease separators working on the partial disposal principle also operate purely physically on the basis of gravity (density differences), i.e. heavy wastewater constituents sink to the floor of the separator, whilst light substances such as animal oils and fats rise to the top of the separator. The separated substances (grease and sludge) are collected in separate containers.

The treated wastewater is then discharged into the sewers via the drainage outlet pipe.



Partial disposal (fresh grease disposal)

Draining the separated substances from the grease separator into the collecting drums is done by opening the relevant drainage valve on the separator (specifics depend on the type of operation). This can be undertaken independently of normal operations. For example, it can be done without interrupting the work being carried out in a kitchen.

Because the collecting drums only take up grease and sludge, the grease separator does not have to be filled after disposal with expensive fresh water.



LIPATOR:
Grease separator for partial disposal with manual operation.



LIPATOMAT:
Grease separator for partial disposal with automatic program control.

Partial disposal concept

ACO Building Services provides two types of grease separator for partial disposal: grease separators for manual, or automatic partial disposal. Both of these versions are only available for free-standing installation.

The grease separators for manual partial disposal (LIPATOR) have mechanical drainage valves. These must be opened several times a day as required by the operator (after heating up first). The transparent hoses reveal whether all of the substances collected at any given time have completely drained into the drums.

The grease separators with automatic partial disposal (LIPATOMAT) have electrically actuated ball valves. A programme control automatically activates the pre-heating and opens the valves. An optical and acoustic warning signal is activated when the collecting drums are full. Full drums are simply replaced and collected by a disposal company.

Materials and models



POLYETHYLENE

- **Very durable:**
Polyethylene has excellent corrosion-resistance properties!
- **Recycling**
Polyethylene is environmentally-friendly and reusable!

- **Maintenance**
Cleaning is simple thanks to the smooth wax-like surface.
- **Transport**
Low weight for easy transport and installation!



STAINLESS STEEL

- **Fire protection**
Stainless steel is completely inflammable and therefore presents zero fire-risk. It is also very temperature-resistant.
- **Strength**
Stainless steel has very high levels of mechanical strength and is therefore vandal-proof.

- **Hygiene**
Stainless steel has been used for many decades in all applications specifying strict hygiene regulations (e.g. hospitals).
- **Chemical resistance**
Stainless steel is extremely resistant to organic substances.

OVAL MODEL

The container dimensions of the oval grease separators made of polyethylene and stainless steel have been optimised to maximise ease of access in awkward situations. This means they can be easily carried into areas via narrow stairs and door openings.
NS 1-4: max. width 800 mm
NS 5.5 -10: max. width 1000 mm



ROUND MODELS

The round grease separator models made of stainless steel or polyethylene can be dismantled into separate components. This design also means that the nominal size can be enlarged on site by simply replacing the middle components (e.g. replacing NS 7 with NS 10).
Number of separate components:
NS 2-4: 2 components; Ø 1000 mm
NS 7-10: 3 components; Ø 1500 mm
NS 15-20: 3 components; Ø 1750 mm



SPLIT DESIGN

This product line is made of polyethylene and is specially designed for remediation projects with very narrow access routes. The separator can be split into three parts. Maximum segment dimensions (LxWxH):
NS2 : 670 x 700 x 1360 mm
NS4 : 1140 x 700 x 1360 mm



Function/application	Product solution	Page
Ground installation, polyethylene, full disposal	ECO-FPI	8
Ground installation, polyethylene, with direct suction extraction, full disposal	ECO-FPI with direct suction extraction	9
Free-standing installation, split design, polyethylene, with or without direct suction extraction, full disposal	ECO-JET-G and -GD	10/11
Free-standing installation, oval, polyethylene, full disposal	ECO-JET-O, basic model ECO-JET-OD, extension stage 1 HYDROJET-OS, extension stage 2 HYDROJET-OSE, extension stage 2 with disposal pump HYDROJET-OA, extension stage 3 HYDROJET-OAE, extension stage 3 with disposal pump	12/13
Free-standing installation, round, polyethylene, full disposal	ECO-JET-R, basic model ECO-JET-RD, extension stage 1 HYDROJET-RS, extension stage 2 HYDROJET-RSE, extension stage 2 with disposal pump HYDROJET-RA, extension stage 3 HYDROJET-RAE, extension stage 3 with disposal pump	14/15
Free-standing installation, oval, stainless steel, full disposal	LIPUREX-O, basic model LIPUREX-OD, extension stage 1 LIPURAT-OS, extension stage 2 LIPURAT-OSE, extension stage 2 with disposal pump LIPURAT-OA, extension stage 3 LIPURAT-OAE, extension stage 3 with disposal pump	16/17
Free-standing installation, round, stainless steel, full disposal	LIPUREX-R, basic model LIPUREX-RD, extension stage 1 LIPURAT-RS, extension stage 2 LIPURAT-RSE, extension stage 2 with disposal pump LIPURAT-RA, extension stage 3 LIPURAT-RAE, extension stage 3 with disposal pump	18/19
Free-standing installation, stainless steel, partial disposal	LIPATOR, manual operation LIPATOMAT, automatic program control	20 21
Accessories	Sampling pipe for ground installation grease separators Sampling pipe for free-standing separators Inspection windows Filling device Remote control Pump stations for ground installation grease separators Lifting plant for free-standing grease separators	22 23 23 23 23 24 25
Special solutions: inlet too low	TECFLOW eccentric spiral pump with buffer tank	26
Special solution: secondary treatment of greasy wastewater	BIOJET wastewater treatment system	27
Pipe systems for grease separators	ACO PIPE	28
Service: Planning and dimensioning of grease separators	Website www.aco-haustechnik.de "Building drainage" Learnbook	29
Installation instructions/Reference projects		30/31

ECO-FPI – Grease separators for ground installation



Areas of application:

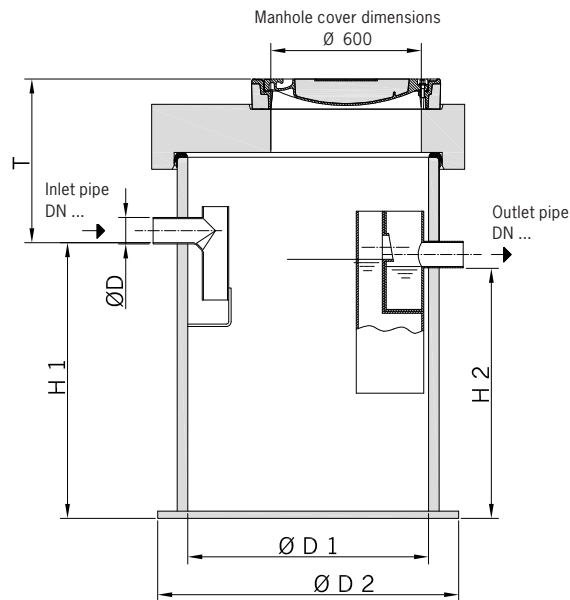
ECO-FPI grease separators are designed for ground installation outside of buildings. Installation recommended in green spaces or access routes, but where possible not directly in areas with vehicular traffic (load class B 125) or traffic lanes (load class D 400). Because disposal al-

ways takes place with an open lid, it is recommended that the ECO-FPI only be installed in positions where no complaints are expected about the odour emissions.

German Building Supervisory Authority Authorisation Z-54 .1-411

Product advantages

- Load class SLW 60 (with D400 manhole cover) with no onsite concrete measures required
- Non-buoyant without any additional measures under conditions with groundwater levels max 1 m above the base plate.
- No heavy-duty crane required for installation
- No filling with water necessary during ground compaction
- Enormous strength thanks to the double-walled PE ground shaft



Container dimensions

NS	Contents in litres			Dimensions in mm							Article number	
	Sludge trap	Grease storage volume	Total	DN	H 1	H 2	D	D 1	D 2	T	Class B 125	Class D 400
1	100	120	615	100	885	785	110	1000	1250	695	3201.55.00	3201.55.01
	200	120	715	100	1010	910	110	1000	1250	570	3201.56.00	3201.56.01
2	200	120	715	100	1010	910	110	1000	1250	570	3202.55.00	3202.55.01
	400	120	915	100	1265	1165	110	1000	1250	560	3202.56.00	3202.56.01
3	300	120	815	100	1140	1040	110	1000	1250	685	3203.55.00	3203.55.01
	600	120	1115	100	1520	1420	110	1000	1250	815	3203.56.00	3203.56.01
4	400	160	915	100	1265	1165	110	1000	1250	560	3204.55.00	3204.55.01
	800	160	1315	100	1775	1675	110	1000	1250	560	3204.56.00	3204.56.01
7	700	400	1950	150	1205	1105	160	1500	1800	650	3207.55.00	3207.55.01
	1400	400	2660	150	1605	1505	160	1500	1800	650	3207.56.00	3207.56.01
10	1000	400	2250	150	1370	1270	160	1500	1800	685	3210.55.00	3210.55.01
	2000	400	3250	150	1940	1940	160	1500	1800	665	3210.56.00	3210.56.01

Accessories:

Sampling shaft for ground installation 22

Pumping station for ground installation 24

ECO-FPI – Grease separators for ground installation with direct suction extraction

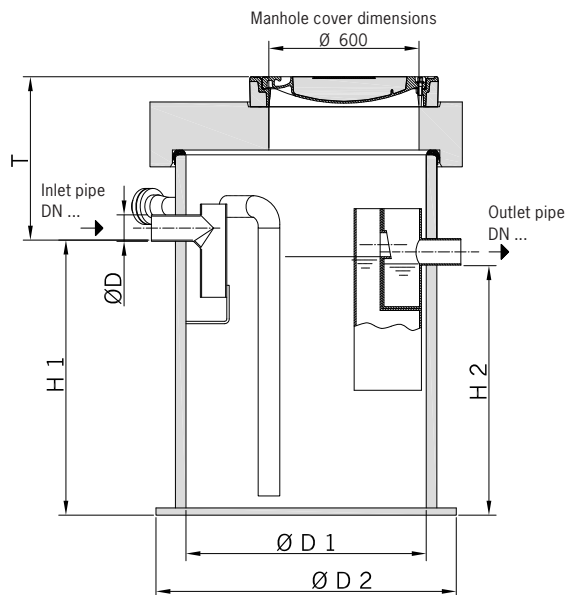
Areas of application

The ECO-FPI grease separators are designed for ground installation outside of buildings. The grease separators are supplied as standard with DN 100 inlet and outlet pipes (nominal sizes 1 – 4) or DN 150 inlet and outlet pipes (nominal sizes 7 – 10). Installation is recommended in green spaces or access routes – where possible in positions not directly located on direct vehicular access zones (load class B 125)

or in vehicle lanes (load class D 400). A DN 80 disposal pipe can be laid on site including the installation of a disposal pipe hose connector.

The ECO-FPI with direct suction extraction is also ideal for installation in areas where disposal via the manhole cover is not possible – in pedestrian zones or outdoor catering areas for instance.

German Building Supervisory Authority Authorisation Z-54 .1-411



Product advantages

- Odour-free disposal via direct suction pipe connection possible*.
- Load class SLW 60 (with D 400 manhole cover) without any onsite concrete measures required.
- Non-buoyant for situations with groundwater levels max 1 m above the base plate without any additional measures.
- Space saving thanks to intelligent design.
- Enormous strength thanks to double-walled PE ground shaft.

Behälterabmessungen

NS	Contents in litres			Dimensions in mm							Article number	
	Sludge trap	Grease storage volume	Total	DN	H 1	H 2	D	D 1	D 2	T	Class B 125	Class D 400
1	100	120	615	100	885	785	110	1000	1250	695	3201.55.10	3201.55.11
	200	120	715	100	1010	910	110	1000	1250	570	3201.56.10	3201.56.11
2	200	120	715	100	1010	910	110	1000	1250	570	3202.55.10	3202.55.11
	400	120	915	100	1265	1165	110	1000	1250	560	3202.56.10	3202.56.11
3	300	120	815	100	1140	1040	110	1000	1250	685	3203.55.10	3203.55.11
	600	120	1115	100	1520	1420	110	1000	1250	815	3203.56.10	3203.56.11
4	400	160	915	100	1265	1165	110	1000	1250	560	3204.55.10	3204.55.11
	800	160	1315	100	1775	1675	110	1000	1250	560	3204.56.10	3204.56.11
7	700	400	1950	150	1205	1105	160	1500	1800	650	3207.55.10	3207.55.11
	1400	400	2660	150	1605	1505	160	1500	1800	650	3207.56.10	3207.56.11
10	1000	400	2250	150	1370	1370	160	1500	1800	685	3210.55.10	3210.55.11
	2000	400	3250	150	1940	1840	160	1500	1800	665	3210.56.10	3210.56.11

Accessories:

Sampling shaft for ground installation 22

Pumping station for ground installation 24

*Assumes regular disposal intervals pursuant to EN 1825

ECO-JET-G – split-design grease separators for free-standing installation



The figure shows nominal size 4 – the sampling pipe must be ordered separately.

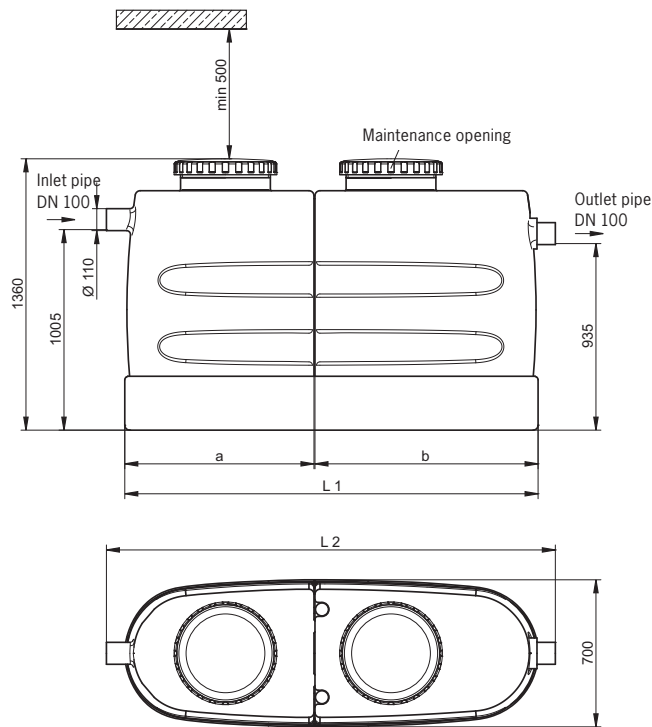
Areas of application

The ECO-JET-G grease separators made of polyethylene are installed inside buildings in rooms protected from frost. The split-design is especially practical for remediation projects with narrow access routes. The grease separators in the ECO-JET-G product line can also be equipped with a filling unit.

Product advantages

- Very useful in applications with narrow access routes because can be split into three parts.
- Easy to transport and assemble.

German Building Supervisory Authority Authorisation
Z-54.6-363



Behälterabmessungen

NS	Contents			Dimensions in mm				Weight		Article number
	Sludge trap	Grease storage volume	Total	L1	L2	a	b	empty	full	
2	210	80	480	1200	1350	480	670	75	555	3802.00.00
4	420	161	880	2000	2160	850	1140	115	995	3804.00.00

Accessories:

- Filling unit Article No. 0153.06.76
- Sampling pipe Page 23
- Lifting plant Page 25

ECO-JET-GD – split-design grease separators for free-standing installation with direct suction extraction

Areas of application

The ECO-JET-GD grease separators made of polyethylene are installed inside buildings in rooms protected from frost. The grease separator can be emptied with the DN 50 direct suction pipe.

The split-design is especially practical for remediation projects with narrow access routes.

The grease separators in the ECO-JET-GD product line can also be equipped with a filling unit.

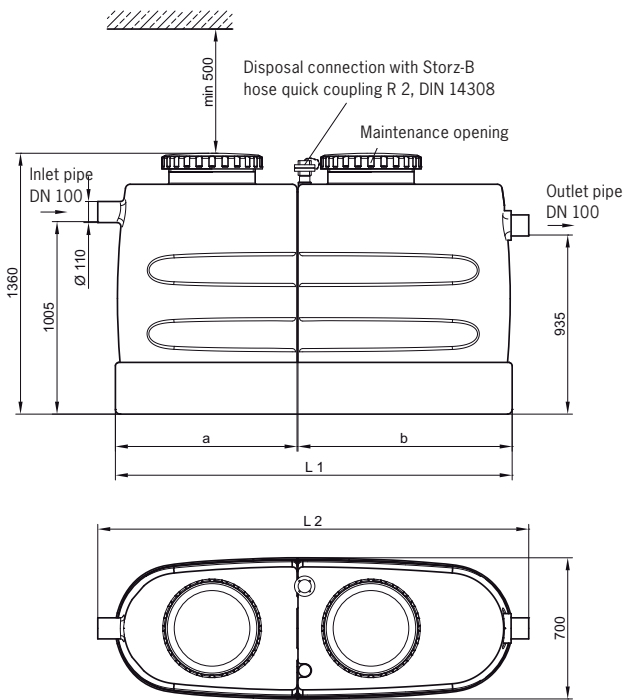
Product advantages

- Very useful in applications with narrow access routes because can be split into three parts.
- Easy to transport and assemble.
- Integrated suction extraction pipe to reduce odour-emissions during disposal.

German Building Supervisory Authority Authorisation
Z-54.6-363



The figure shows nominal size 4 – the sampling pipe and the lifting plant must be ordered separately.



Behälterabmessungen

NS	Contents			Dimensions in mm				Weight		Article number
	Sludge trap	Grease storage volume	Total	L1	L2	a	b	empty	full	
2	210	80	480	1200	1350	480	670	75	555	3802.50.00
4	420	161	880	2000	2160	850	1140	115	995	3804.50.00

Accessories:

Filling unit Article No. 0153.06.76

Sampling pipe Page 23

Lifting plant Page 25

Oval grease separators made of polyethylene for free-standing installation

ECO-JET-O.. and HYDROJET-O..



Areas of application

The ECO-JET-O/HYDROJET-O grease separators made of polyethylene are installed inside buildings in rooms protected from frost. The grease separators are available in various extension stages. The higher extension stages make it easier to clean the tank and dispose of the contents, and reduce the related odour emissions. Retrofitting on site with different extension stages is quick and easy.

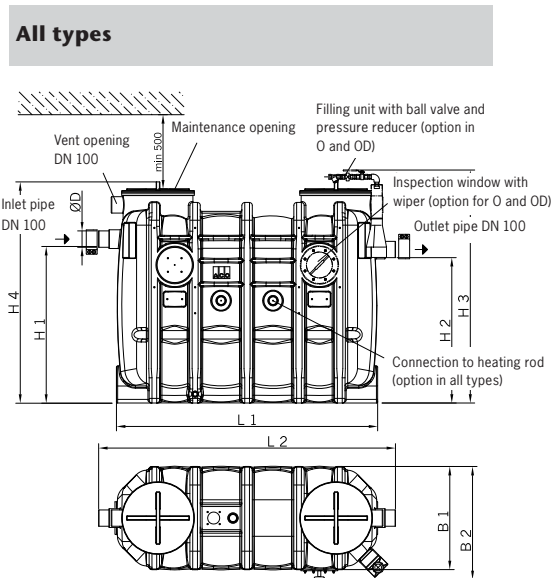
Product advantages

- Rugged construction with 25-year stability verification.
- Disposal and maintenance cost minimisation thanks to staggered nominal sizes (e.g. NS 5.5 and 8.5).
- Easy retrofitting to convert simple separator models into models boasting easier operation and disposal.
- Extension stages 2 and 3 with multifunctional filling unit for high pressure internal cleaning and container filling.

German Building Supervisory Authority Authorisation
Z-54.1-414

The figure shows the HYDROJET-OAE NS4 – sampling pipe and lifting plant must be ordered separately.

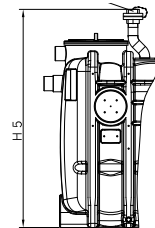
Dimensions



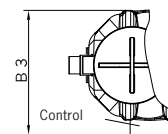
Extension dimensions

All types except O

Disposal connection with Storz-B hose quick coupling R 2 1/2, DIN 14308

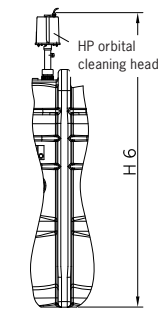
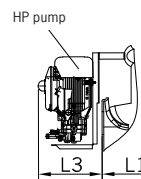


OA



OS, OA, OSE, OAE

OS and OA



OSE and OAE

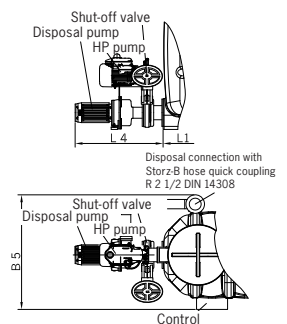


Diagram shows: Type O

NS	DN	Contents in litres			Dimensions in mm									Extension dimensions in mm					
					All types									All except O	OS OA	OA	OSE OAE		OS/OA OSE OAE
		Sludge-trap	Grease storage volume	Total	H 1	H 2	H 3	H 4	L 1	L 2	B 1	B 2	D				H 5	L 3	
1	100	106	100	320	830	760	1480	1300	1100	1300	700	770	110	1500	300	800	700	930	1500
2	100	210	100	440	1055	985	1680	1500	1100	1300	700	770	110	1700	300	800	700	930	1700
3	100	300	150	630	1055	985	1680	1500	1450	1650	700	770	110	1700	300	800	700	930	1700
4	100	400	200	830	1055	985	1680	1500	1760	2000	700	770	110	1700	300	800	700	930	1700
5,5	150	725	360	1430	1250	1180	1880	1700	1760	2000	950	1020	160	1900	300	1050	700	1180	1900
7	150	800	400	1600	1250	1180	1880	1700	1960	2200	950	1020	160	1900	300	1050	700	1180	1900
8,5	150	940	475	1900	1250	1180	1880	1700	2250	2485	950	1020	160	1900	300	1050	700	1180	1900
10	150	1000	520	2000	1250	1180	1880	1700	2450	2690	950	1020	160	1900	300	1050	700	1180	1900

Product description

ECO-JET-O (Basic model):

- Disposal and cleaning via open lid (associated with odour emissions)
- Upgrading possible to extension stages 1 to 3

ECO-JET-OD (extension stage 1):

- Odour-free disposal via connection to direct suction pipe*
- Subsequent cleaning via open lid! (associated with minor odour emissions)
- Upgrading possible to extension stages 2 and 3

Accessories:

Sampling pipe, inspection window and filling unit Page 23
 Lifting plant for free-standing installation Page 25

		
	ECO-JET-O basic model	ECO-JET-OD extension stage 1
NS		
1	3551.34.00	3551.64.00
2	3552.34.00	3552.64.00
3	3553.34.00	3553.64.00
4	3554.34.00	3554.64.00
5,5	3555.34.00	3555.64.00
7	3557.34.00	3557.64.00
8,5	3558.34.00	3558.64.00
10	3560.34.00	3560.64.00

HYDROJET-OS (extension stage 2):



- Manual odour-free disposal/cleaning via direct suction extraction and hydromechanical internal high pressure cleaning system (175 bar)
- Only cold water supply required
- With inspection window and filling unit (manual operation via ball valve)
- Upgradable with disposal pump, and to extension stage 3

HYDROJET-OSE (extension stage 2):

- As above but with additional manually actuated disposal pump (necessary when the total lifting height exceeds 6 m)
- Upgrading possible to extension stage 3

Accessories:

Sampling pipe Page 23
 Lifting plant for free-standing installation Page 25

				
	HYDROJET-OS extension stage 2	HYDROJET-OSE extension stage 2 with disposal pump		
NS	Operational side right	Operational side left	Operational side right	Operational side left
1	3571.74.41	3571.74.31	3571.84.41	3571.84.31
2	3572.74.41	3572.74.31	3572.84.41	3572.84.31
3	3573.74.41	3573.74.31	3573.84.41	3573.84.31
4	3574.74.41	3574.74.31	3574.84.41	3574.84.31
5,5	3575.74.41	3575.74.31	3575.84.41	3575.84.31
7	3577.74.41	3577.74.31	3577.84.41	3577.84.31
8,5	3578.74.41	3578.74.31	3578.84.41	3578.84.31
10	3580.74.41	3580.74.31	3580.84.41	3580.84.31

HYDROJET-OA (extension stage 3):



- Program-controlled odour-free disposal/cleaning via direct suction extraction and hydromechanical internal high pressure cleaning system (175 bar)
- Only cold water supply required
- With inspection window and filling unit (automatic operation via solenoid valve)
- Upgradable with disposal pump

HYDROJET-OAE (extension stage 3):

- As above but with additional automatically actuated disposal pump (necessary when the total lifting height exceeds 6 m)

Accessories:

Sampling pipe Page 23
 Remote control Page 23
 Lifting plant for free-standing installation..... Page 25

				
	HYDROJET-OA extension stage 3	HYDROJET-OAE extension stage 3 with disposal pump		
NS	Operational side right	Operational side left	Operational side right	Operational side left
1	3551.74.42	3551.74.32	3551.84.42	3551.84.32
2	3552.74.42	3552.74.32	3552.84.42	3552.84.32
3	3553.74.42	3553.74.32	3553.84.42	3553.84.32
4	3554.74.42	3554.74.32	3554.84.42	3554.84.32
5,5	3555.74.42	3555.74.32	3555.84.42	3555.84.32
7	3557.74.42	3557.74.32	3557.84.42	3557.84.32
8,5	3558.74.42	3558.74.32	3558.84.42	3558.84.32
10	3560.74.42	3560.74.32	3560.84.42	3560.84.32

*Assumes regular disposal intervals pursuant to EN 1825

Round grease separators made of polyethylene for free-standing installation

ECO-JET-R... and HYDROJET-R...



Areas of application:

The ECO-JET-R/HYDROJET-R polyethylene grease separators are installed inside buildings in rooms protected from frost.

The grease separators are available in various extension stages. The higher extension stages make it easier to clean the tank and dispose of the contents, and reduce the related odour emissions. Retrofitting on site with different extension stages is quick and easy.

German Building Supervisory Authority Authorisation: Z-54.6-320

Product advantages

- NS 2 – 20 transport-friendly and easy installation because can be dismantled into separate components
- Optimal and easy cleaning thanks to round shape
- Easy retrofitting to convert simple separator models into models boasting easier operation and disposal.
- Project-specific special solutions realisable with parallel modular extensions

The figure shows the HYDROJET-RA NS 4 – sampling pipe and lifting plant must be ordered separately.

Dimensions

All types

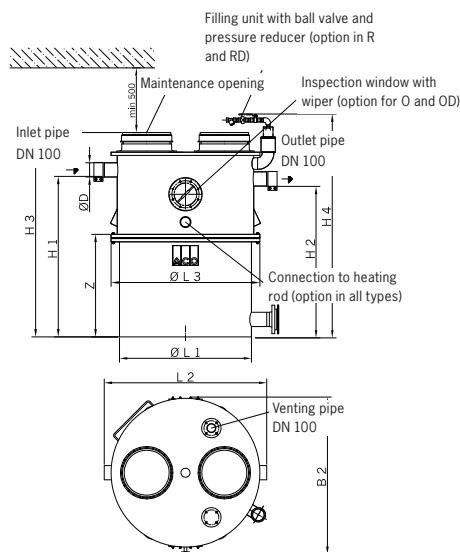
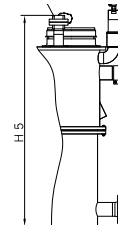


Diagram shows: Type R

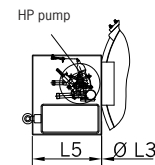
Extension dimensions

All types except R

Disposal connection with Storz-B hose quick coupling R 2 1/2, DIN 14308

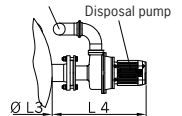


RS, RA, RSE, RAE

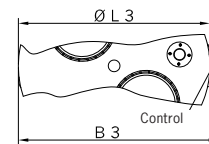


RSE and RAE

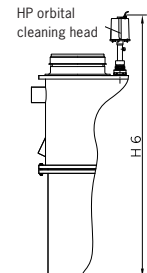
Disposal connection with Storz-B hose quick coupling R 2 1/2 DIN 14308



RA, RSE, RAE



RS, RA, RSE, RAE



* Segments max Z/pieces

NS	DN	Contents in litres			Dimensions in mm										Extension dimensions in mm				
					All types										All except R	RS/RA RSE RAE	RA RSE RAE	RS/RA RSE RAE	
		Sludge trap	Grease storage volume	Total	H 1	H 2	H 3	H 4	L 1	L 2	L 3	B 2	Z/n*	D	H 5	L 5	B 3	L 4	H 6
2	100	290	120	680	975	905	1320	1620	1020	1255	1150	1220	795/2	110	1420	350	1200	600	1600
4	100	500	160	890	1240	1170	1580	1880	1020	1255	1150	1220	820/2	110	1680	350	1200	600	1860
7	150	830	400	2120	1430	1330	1880	2180	1560	1820	1660	1760	785/3	160	1980	350	1710	600	2160
10	150	1150	400	2450	1600	1500	2050	2350	1560	1820	1660	1760	785/3	160	2150	350	1710	600	2330
15	200	1950	800	3610	1765	1665	2200	2500	1815	2130	1915	2015	880/3	210	2200	350	1970	600	2480
20	200	2440	800	4070	1955	1855	2400	2700	1815	2130	1915	2015	880/3	210	2400	350	1970	600	2680

Product description

ECO-JET-R (Basic model):



- Disposal and cleaning via open lid (associated with odour emissions)
- Upgrading possible to extension stages 1 to 3

ECO-JET-RD (extension stage 1):

- Odour-free disposal via connection to direct suction pipe*
- Subsequent cleaning via open lid! (associated with minor odour emissions)
- Upgrading possible to extension stages 2 and 3

Accessories:

Sampling pipe, inspection window and filling unit Page 23
 Lifting plant for free-standing installation Page 25

	
ECO-JET-R basic model	ECO-JET-RD extension stage 1
NS	
2	3502.32.30
4	3504.32.30
7	3507.32.30
10	3510.32.30
15	3515.32.30
20	3520.32.30

HYDROJET-RS (extension stage 2):



- Manual odour-free disposal/cleaning via direct suction extraction and hydromechanical internal high pressure cleaning system (175 bar)
- Only cold water supply required
- With inspection window and filling unit (manual operation via ball valve)
- Upgradable with disposal pump, and to extension stage 3

HYDROJET-RSE (extension stage 2):

- As above but with additional manually actuated disposal pump (necessary when the total lifting height exceeds 6 m)
- Upgrading possible to extension stage 3

Accessories:

Sampling pipe Page 23
 Lifting plant for free-standing installation Page 25

				
HYDROJET-RS extension stage 2	HYDROJET-RSE extension stage 2 with disposal pump			
NS	Operational side right	Operational side left	Operational side right	Operational side left
2	3502.73.41	3502.73.31	3502.73.81	3502.73.71
4	3504.73.41	3504.73.31	3504.73.81	3504.73.71
7	3507.73.41	3507.73.31	3507.73.81	3507.73.71
10	3510.73.41	3510.73.31	3510.73.81	3510.73.71
15	3515.73.41	3515.73.31	3515.73.81	3515.73.71
20	3520.73.41	3520.73.31	3520.73.81	3520.73.71

HYDROJET-RA (extension stage 3):


- Program-controlled odour-free disposal/cleaning via direct suction extraction and hydromechanical internal high pressure cleaning system (175 bar)
- Only cold water supply required
- With inspection window and filling unit (automatic operation via solenoid valve)
- Upgradable with disposal pump

HYDROJET-RAE (extension stage 3):

- As above but with additional automatically actuated disposal pump (necessary when the total lifting height exceeds 6 m)

Accessories:

Sampling pipe Page 23
 Remote control Page 23
 Lifting plant for free-standing installation Page 25

				
HYDROJET-RA extension stage 3	HYDROJET-RAE extension stage 3 with disposal pump			
NS	Operational side right	Operational side left	Operational side right	Operational side left
2	3502.73.42	3502.73.32	3502.73.82	3502.73.72
4	3504.73.42	3504.73.32	3504.73.82	3504.73.72
7	3507.73.42	3507.73.32	3507.73.82	3507.73.72
10	3510.73.42	3510.73.32	3510.73.82	3510.73.72
15	3515.73.42	3515.73.32	3515.73.82	3515.73.72
20	3520.73.42	3520.73.32	3520.73.82	3520.73.72

*Assumes regular disposal intervals pursuant to EN 1825

Oval grease separators made of stainless steel for free-standing installation

LIPUREX-O... and LIPURAT-O...



The figure shows the LIPURAT-OA NS 4 – sampling pipe must be ordered separately.

Areas of application

The LIPUREX-O/LIPURAT-O grease separators made of stainless steel (material grade 316) are installed inside buildings in rooms protected from frost.

The grease separators are available in various extension stages. The higher extension stages make it easier to clean the tank and dispose of the contents, and reduce the related odour emissions. Retrofitting on site with different extension stages is quick and easy.

German Building Supervisory Authority Authorisation Z-54.1-413

Product advantages

- Rugged construction with 25-year stability verification.
- Disposal and maintenance cost minimisation thanks to staggered nominal sizes (e.g. NS 5.5 and 8.5).
- Easy retrofitting to convert simple separator models into models boasting easier operation and disposal.
- Extension stages 2 and 3 with multifunctional filling unit for high pressure internal cleaning and container filling.

Dimensions

All types

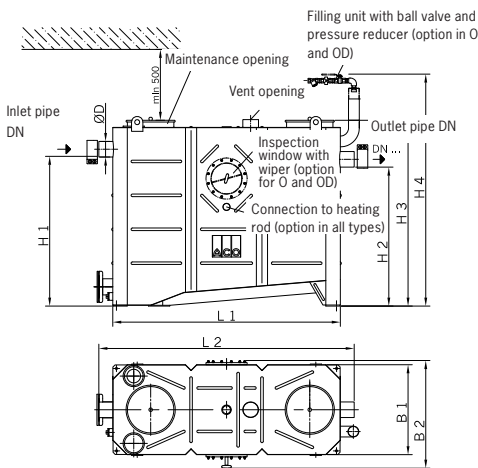
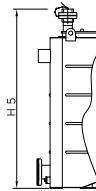


Diagram shows: Type 0

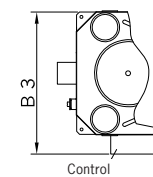
Extension dimensions

All types except 0

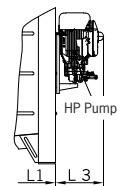
Disposal connection with Storz-B hose quick coupling R 2 1/2, DIN 14308



OA

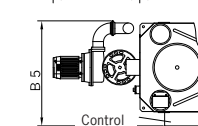
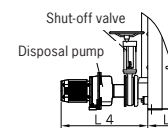
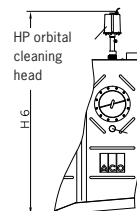


OS and OA



OSE and OAE

OS, OA, OSE, OAE



NS	DN	Contents in litres			Dimensions in mm									Extension dimensions in mm					
					All types									All except 0	OS OA	OA	OSE OAE		OS/OA OSE OAE
		Sludge trap	Grease storage volume	Total	H 1	H 2	H 3	H 4	L 1	L 2	B 1	B 2	D	H 5	L 3	B 3	L 4	B 5	H 6
1	100	100	100	320	830	760	1200	1550	905	1100	635	760	110	1380	300	800	650	800	1550
2	100	200	100	440	1055	985	1320	1700	905	1100	635	760	110	1500	300	800	650	800	1700
3	100	300	150	630	1055	985	1320	1700	1255	1450	635	760	110	1500	300	800	650	800	1700
4	100	400	200	830	1055	985	1320	1700	1605	1800	635	760	110	1500	300	800	650	800	1700
5,5	150	550	360	1430	1255	1185	1570	1950	1655	1920	885	1010	160	1750	300	1000	650	1000	1950
7	150	700	400	1600	1255	1185	1570	1950	1855	2120	885	1010	160	1750	300	1000	650	1000	1950
8,5	150	850	475	1900	1255	1185	1570	1950	2155	2420	885	1010	160	1750	300	1000	650	1000	1950
10	150	1000	520	2000	1255	1185	1570	1950	2345	2610	885	1010	160	1750	300	1000	650	1000	1950

Product descriptions

LIPUREX -O (Basic model):



- Disposal and cleaning via open lid (associated with odour emissions)
- Upgrading possible to extension stages 1 to 3

LIPUREX -OD (extension stage 1):

- Odour-free disposal via connection to direct suction pipe*
- Subsequent cleaning via open lid! (associated with minor odour emissions)
- Upgrading possible to extension stages 2 and 3

Accessories:

Sampling pipe, inspection window and filling unit Page 23
 Lifting plant for free-standing installation Page 25

		
	LIPUREX-O basic model	LIPUREX-OD extension stage 1
NS		
1	7551.34.00	7551.64.00
2	7552.34.00	7552.64.00
3	7553.34.00	7553.64.00
4	7554.34.00	7554.64.00
5,5	7555.34.00	7555.64.00
7	7557.34.00	7557.64.00
8,5	7558.34.00	7558.64.00
10	7560.34.00	7560.64.00

LIPURAT -OS (extension stage 2):



- Manual odour-free disposal/cleaning via direct suction extraction and hydromechanical internal high pressure cleaning system (175 bar)
- Only cold water supply required
- With inspection window and filling unit (manual operation via ball valve)
- Upgradable with disposal pump, and to extension stage 3

LIPURAT -OSE (extension stage 2):

- As above but with additional manually actuated disposal pump (necessary when the total lifting height exceeds 6 m)
- Upgrading possible to extension stage 3

Accessories:

Sampling pipe Page 23
 Lifting plant for free-standing installation Page 25

				
	LIPURAT-OS extension stage 2	LIPURAT-OSE extension stage 2 with disposal pump		
NS	Operational side right	Operational side left	Operational side right	Operational side left
1	7571.74.41	7571.74.31	7571.84.41	7571.84.31
2	7572.74.41	7572.74.31	7572.84.41	7572.84.31
3	7573.74.41	7573.74.31	7573.84.41	7573.84.31
4	7574.74.41	7574.74.31	7574.84.41	7574.84.31
5,5	7575.74.41	7575.74.31	7575.84.41	7575.84.31
7	7577.74.41	7577.74.31	7577.84.41	7577.84.31
8,5	7578.74.41	7578.74.31	7578.84.41	7578.84.31
10	7580.74.41	7580.74.31	7580.84.41	7580.84.31

LIPURAT -OA (extension stage 3):



- Program-controlled odour-free disposal/cleaning via direct suction extraction and hydromechanical internal high pressure cleaning system (175 bar)
- Only cold water supply required
- With inspection window and filling unit (automatic operation via solenoid valve)
- Upgradable with disposal pump

LIPURAT -OAE (extension stage 3):

- As above but with additional automatically actuated disposal pump (necessary when the total lifting height exceeds 6 m)

Accessories:

Sampling pipe Page 23
 Remote control Page 23
 Lifting plant for free-standing installation Page 25

				
	LIPURAT-OA extension stage 2	LIPURAT-OAE extension stage 3 with disposal pump		
NS	Operational side right	Operational side left	Operational side right	Operational side left
1	7571.74.42	7571.74.32	7571.84.42	7571.84.32
2	7572.74.42	7572.74.32	7572.84.42	7572.84.32
3	7573.74.42	7573.74.32	7573.84.42	7573.84.32
4	7574.74.42	7574.74.32	7574.84.42	7574.84.32
5,5	7575.74.42	7575.74.32	7575.84.42	7575.84.32
7	7577.74.42	7577.74.32	7577.84.42	7577.84.32
8,5	7578.74.42	7578.74.32	7578.84.42	7578.84.32
10	7580.74.42	7580.74.32	7580.84.42	7580.84.32

*Assumes regular disposal intervals pursuant to EN 1825

Round grease separators made of stainless steel for free-standing installation

LIPUREX-R... and LIPURAT-R...



The figure shows the LIPUREX-R NS 4 – sampling pipe and inspection window must be ordered separately.

Areas of application

The LIPUREX-R/LIPURAT-R stainless steel (material grade 316) grease separators are installed inside buildings in rooms protected from frost.

The grease separators are available in various extension stages. The higher extension stages make it easier to clean the tank and dispose of the contents, and reduce the related odour emissions. Retrofitting on site with different extension stages is quick and easy.

German Building Supervisory Authority Authorisation: Z-54.6-320

Product advantages

- NS 2 – 20 transport-friendly and easy installation because can be dismantled into separate components
- Optimal and easy cleaning thanks to round shape
- Easy retrofitting to convert simple separator models into models boasting easier operation and disposal.
- Project-specific special solutions realisable with parallel modular extensions

Dimensions

All types

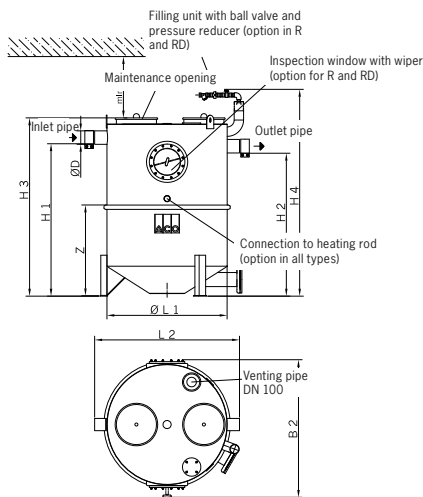
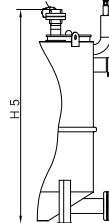


Diagram shows: Type R

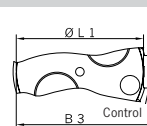
Extension dimensions

All types except R

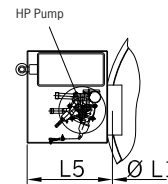
Disposal connection with Storz-B hose quick coupling R 2 1/2, DIN 14308



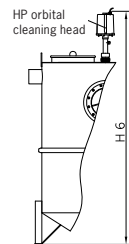
RA, RSE, RAE



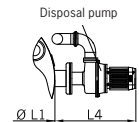
RS, RA, RSE RAE



RS/RA, RSE, RAE



RSE and RAE



* Segments max Z/pieces

NS	DN	Contents in litres			Dimensions in mm									Extension dimensions in mm				
					All types									All except R	RS/RA RSE RAE	RA RSE RAE	RSE RAE	RS/RA RSE RAE
		Sludge trap	Grease storage volume	Total	H 1	H 2	H 3	H 4	L 1	L 2	B 2	Z/n*	D	H 5	L 5	B 3	L 4	H 6
2	100	210	120	715	975	905	1205	1580	1000	1180	1120	783/2	110	1400	370	1100	630	1550
4	100	420	165	915	1240	1170	1475	1850	1000	1180	1120	783/2	110	1650	370	1100	630	1830
7	150	705	400	1950	1430	1330	1790	2170	1500	1800	1650	787/3	160	1930	370	1600	630	2140
10	150	1000	400	2250	1600	1500	1960	2340	1500	1800	1650	787/3	160	2100	370	1600	630	2310
15	200	1630	800	3350	1755	1685	2180	2520	1750	2050	1920	820/3	210	2260	370	1850	630	2530
20	200	2110	800	3820	1935	1885	2380	2720	1750	2050	1920	820/3	210	2460	370	1850	630	2730

Product descriptions

LIPUREX -R (Basic model):



- Disposal and cleaning via open lid (associated with odour emissions)
- Upgrading possible to extension stages 1 to 3

LIPUREX -RD (extension stage 1):

- Odour-free disposal via connection to direct suction pipe*
- Subsequent cleaning via open lid! (associated with minor odour emissions)
- Upgrading possible to extension stages 2 and 3

Accessories:

Sampling pipe, inspection window and filling unit Page 23
 Lifting plant for free-standing installation Page 25

		
	LIPUREX-R basic model	LIPUREX-RD extension stage 1
NS		
2	7502.32.00	7502.62.00
4	7504.32.00	7504.62.00
7	7507.32.00	7507.62.00
10	7510.32.00	7510.62.00
15	7515.32.00	7515.62.00
20	7520.32.00	7520.62.00

LIPURAT -RS (extension stage 2):

- Manual odour-free disposal/cleaning via direct suction extraction and hydromechanical internal high pressure cleaning system (175 bar)
- Only cold water supply required
- With inspection window and filling unit (manual operation via ball valve)
- Upgradable with disposal pump, and to extension stage 3

LIPURAT -RSE (extension stage 2):

- As above but with additional manually actuated disposal pump (necessary when the total lifting height exceeds 6 m)
- Upgrading possible to extension stage 3

Accessories:

Sampling pipe Page 23
 Lifting plant for free-standing installation Page 25

				
	LIPURAT-RS extension stage 2	LIPURAT-RSE extension stage 2 with disposal pump		
NS	Operational side right	Operational side left	Operational side right	Operational side left
2	7502.73.41	7502.73.31	7502.73.61	7502.73.51
4	7504.73.41	7504.73.31	7504.73.61	7504.73.51
7	7507.73.41	7507.73.31	7507.73.61	7507.73.51
10	7510.73.41	7510.73.31	7510.73.61	7510.73.51
15	7515.73.41	7515.73.31	7515.73.61	7515.73.51
20	7520.73.41	7520.73.31	7520.73.61	7520.73.51

LIPURAT -RA (extension stage 3):

- Program-controlled odour-free disposal/cleaning via direct suction extraction and hydromechanical internal high pressure cleaning system (175 bar)
- Only cold water supply required
- With inspection window and filling unit (automatic operation via solenoid valve)
- Upgradable with disposal pump

LIPURAT -RAE (extension stage 3):

- As above but with additional automatically actuated disposal pump (necessary when the total lifting height exceeds 6 m)

Accessories:

Sampling pipe Page 23
 Remote control Page 23
 Lifting plant for free-standing installation Page 25

				
	LIPURAT-RA extension stage 3	LIPURAT-RAE extension stage 3 with disposal pump		
NS	Operational side right	Operational side left	Operational side right	Operational side left
2	7502.73.42	7502.73.32	7502.73.62	7502.73.52
4	7504.73.42	7504.73.32	7504.73.62	7504.73.52
7	7507.73.42	7507.73.32	7507.73.62	7507.73.52
10	7510.73.42	7510.73.32	7510.73.62	7510.73.52
15	7515.73.42	7515.73.32	7515.73.62	7515.73.52
20	7520.73.42	7520.73.32	7520.73.62	7520.73.52

*Assumes regular disposal intervals pursuant to EN 1825

LIPATOR – Fresh grease separator for free-standing installation – with manual disposal system



Areas of application

The LIPATOR fresh grease separator made of stainless steel (material grade 304) is installed inside buildings in rooms protected from frost.

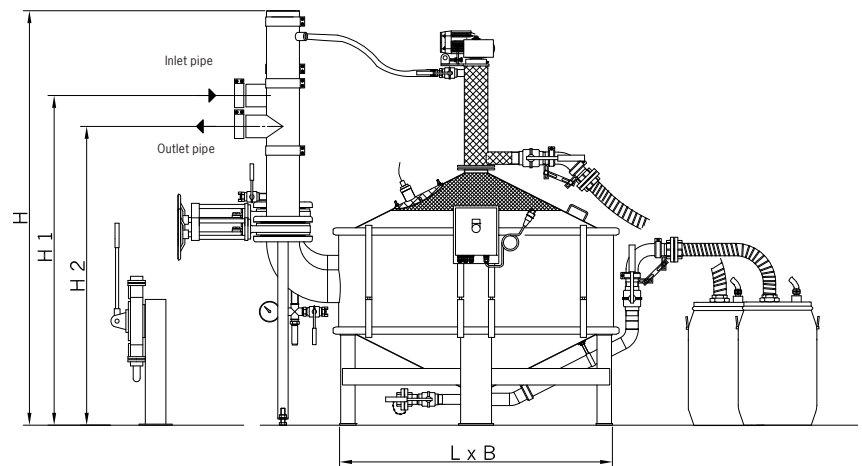
The fresh grease separator has two disposal drums (or collecting containers) for grease and sludge. The separated materials are transferred from the separator into the drums by manually opening the drainage valves. When the drums are full, they are simply replaced by empty drums.

The installation of a fresh grease separator (separator with partial disposal) is recommended whenever it is difficult to empty a grease separator directly when using a disposal vehicle, or in situations where it is not possible to interrupt normal business operations.

German Building Supervisory Authority Authorisation Z-54 .6-163

Product advantages

- 90% of the total volume remains in place, which considerably reduces disposal costs and fresh water consumption.
- No accumulation of grease deposits because the separated substances only remain in the separator for a short time.
- Disposal possible without interrupting normal operations: e.g. work in kitchens can go on unhindered during disposal.
- No disposal vehicle required – grease and sludge collected in replaceable drums.



Container dimensions

NS	DN	Dimensions in mm							Article number
		H	H 1	H 2	L	B	Largest single component		
							Diameter	height	
2	100	1800	1305	1235	1050	680	680	1050	7672.30.00
4	100	2050	1600	1450	2150	1380	1380	800	7674.30.00
7	150	2050	1600	1530	2150	1380	1380	800	7677.30.00
10	150	2350	1900	1750	2800	1830	1830	600	7680.30.00
15	200	2350	1900	1830	2800	1830	1830	600	7685.30.00

LIPATOMAT – Fresh grease separator for free-standing installation with automatic disposal system

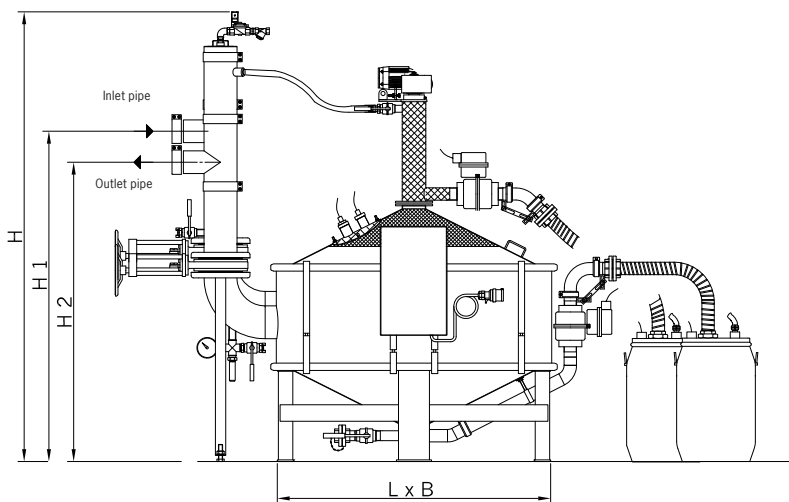
Areas of application:

The LIPATOMAT fresh grease separator made of stainless steel (material grade 304) is installed inside buildings in rooms protected from frost.

The fresh grease separator has two disposal drums (or collecting containers) for grease and sludge. The separated materials are transferred from the separator into the drums automatically. When the drums are full, they are simply replaced by empty drums.

The installation of a fresh grease separator (separator with partial disposal) is recommended whenever it is difficult to empty a grease separator directly when using a disposal vehicle, or in situations where it is not possible to interrupt normal business operations.

**German Building Supervisory
Authority Authorisation
Z-54 .6-163**







Product advantages

- Daily automatic disposal process
- 90% of the total volume remains in place which considerably reduces disposal costs and fresh water consumption.
- No accumulation of grease deposits because the separated substances only remain in the separator for a short time.
- Disposal possible without interrupting normal operations: e.g. work in kitchens can go on unhindered during disposal.
- No disposal vehicle required – grease and sludge collected in replaceable drums.








Container dimensions

NS	DN	Dimensions in mm							Article number
		H	H 1	H 2	L	B	Largest single component		
							Diameter	height	
2	100	1950	1305	1235	1050	680	680	1050	7672.60.00
4	100	2200	1600	1450	2150	1380	1380	800	7674.60.00
7	150	2200	1600	1530	2150	1380	1380	800	7677.60.00
10	150	2500	1900	1750	2800	1830	1830	600	7680.60.00
15	200	2500	1900	1830	2800	1830	1830	600	7685.60.00


Accessories/extension components for ECO-FPI grease separators for ground installation

Product description	Model	Article number	
<p>Sampling shaft, polyethylene (diameter = 450 mm) for ground installation downstream of a grease separator. With BEGU lid (LW 450) Cl. D 400 odour-tight</p>	<p>DN 100, with 160 mm gradient DN 100, with 30 mm gradient DN 150, with 160 mm gradient DN 150, with 75 mm gradient</p>	<p>3300.13.10 3300.13.11 3300.13.20 3300.13.21</p>	
<p>Polyethylene extension piece to install aforementioned sampling shaft at a deeper position. Extension height 100 to 650 mm. Can be shortened at 45 mm intervals by cutting at the cutting marks.</p>		<p>3300.13.00</p>	
<p>Concrete supporting ring Pursuant to DIN 4034, Part 1 to increase the installation depth between the manhole cover and the supporting slab in ECO-FPI grease separators.</p> <p>Caution! Only extensions with a maximum height of 200 mm are permitted above supporting rings in accordance with DIN regulations. Shaft rings have to be used for greater depths of burial (see next section).</p> <p>Height 60 mm Height 80 mm Height 100 mm</p>	<p>ARV 625 x 60 ARV 625 x 80 ARV 625 x 100</p>	<p>8700.20.00 8700.20.10 8700.20.20</p>	
<p>Shaft ring, concrete with seal pursuant to DIN 4034, Part 1 (without climbing rungs) to increase the installation depth between the manhole cover and the supporting slab in ECO-FPI grease separators.</p> <p>For ECO-FPI NS1 to 4, height 250 mm For ECO-FPI NS1 to 4, height 500 mm For ECO-FPI NS1 to 4, height 1000 mm</p> <p>For ECO-FPI NS 7 and 10, height 250 mm For ECO-FPI NS7 and 10, height 500 mm</p>	<p>SR-M 1000 x 250 SR-M 1000 x 500 SR-M 1000 x 1000</p> <p>SR-M 1500 x 250 SR-M 1500 x 500</p>	<p>8700.42.21 8700.42.31 8700.42.61</p> <p>8700.42.23 8700.42.33</p>	

Accessories/extension components for free-standing grease separators

Product description	Model	Article number	
<p>Sampling pipe for installation in horizontal piping, polyethylene, connections pursuant to DIN 19560</p>	<p>DN 100 (for grease separators NS 1 to 4) DN 150 (for grease separators NS 5.5 to 10) DN 200 (for grease separators NS 15 and 20)</p>	<p>3300.09.11 3300.09.21 3300.09.31</p>	
<p>Sampling pipe for installation in horizontal piping, polyethylene, connections pursuant to DIN 19560</p>	<p>DN 100 (for grease separators NS 1 to 4) DN 150 (for grease separators NS 5.5 to 10) DN 200 (for grease separators NS 15 and 20)</p>	<p>3300.10.11 3300.10.21 3300.10.31</p>	
<p>Sampling pipe for installation in horizontal piping, stainless steel material 1.4571, with CE connectors and quick fasteners, connections pursuant to DIN 19522 – SML piping</p>	<p>DN 100 (for grease separators NS 1 to 4) DN 150 (for grease separators NS 5.5 to 10) DN 200 (für Fettabscheider NS 15 und 20)</p>	<p>7300.09.10 7300.09.20 7300.09.30</p>	
<p>Sampling pipe for installation in vertical piping, stainless steel material 1.4571, with CE connectors and quick fasteners, connections pursuant to DIN 19522 – SML piping</p>	<p>DN 100 (for grease separators NS 1 to 4) DN 150 (for grease separators NS 5.5 to 10) DN 200 (für Fettabscheider NS 15 und 20)</p>	<p>7300.10.20 7300.15.20 7300.16.20</p>	
<p>Inspection window DN 200 With window wiper, for checking the thickness of the grease layer</p>	<p>For polyethylene separators For stainless steel separators</p>	<p>3300.11.10 7602.00.26</p>	
<p>Filling unit With open outlet pursuant to DIN 1988, Part 4, for connection to the drinking water pipes, with ball valve connection G 3/4"</p>	<p>For polyethylene separators For stainless steel separators</p>	<p>3300.11.22 7602.00.25</p>	 <p>Diagram shows filling unit for stainless steel separators</p>
<p>Remote control for indoor assembly Control cable (Supplied by customer) 7 x 10 mm² Protection type IP 54</p>	<p>Grease separator type OA/RA Grease separator type OAE/RAE</p>	<p>0150.02.86 0150.03.40</p>	

Pumping stations for ground installation downstream of grease separators

Product description	Model	Article number	
<p>MULI-MAX-F duo for wastewater free of faeces Pumping station for installation downstream of buried grease separators, made of PE-HD with shaft diameter 1043 mm for maximum installation depth of 3 metres.</p> <p>Non-buoyant: cannot be pushed upwards by ground-water even if the water table rises to ground level, with structural homologation for up to 3 m total installation depth.</p> <p>Pressure pipe connection DN 50 or R 2" made of stainless steel or pressure pipe outlet with DA = 63 mm (bolt clamps supplied). Inlet pipe DN 150, vent pipe DN 100, blank cable duct DN 100.</p> <p>With open impoundment pressure bell, control, and 10 m pneumatic control pipe. Pump protection type IP 68, 400 V, 50 Hz. With stainless steel pipe and guide element for above-water coupling with stainless steel chain, with 10 m cable.</p> <p>Shaft with manhole cover: Manhole cover class B 125, screw-on, odour-tight Manhole cover class D400, screw-on, odour-tight</p> <p>Pump types: SAT – V 75/2/50/D SAT – V 150/2/50/D</p> <p>Control box: With operations display and readout</p> <p>Accessories: Top section short* (total height 1905 – 2350 mm) Guide belt for top section* Top section long* (total height 1905 – 3000 mm) Guide belt for top section*</p> <p>Flusher connection</p> <p>Vacuum release (only possible when combined with flusher connection)</p> <p>Emergency power battery for control box</p> <p>Air bubbler to increase operating reliability</p>	<p>Free flow impeller Wastewater free of faeces</p> <p>Free flow impeller Wastewater free of faeces</p>	<p>0178.09.06 0178.09.07</p> <p>2x 0178.08.54</p> <p>2x 0178.08.55</p> <p>0178.06.55</p> <p>0178.08.35</p> <p>2 x 0178.08.79</p> <p>0178.08.36</p> <p>2 x 0178.08.80</p> <p>0178.05.22</p> <p>0178.09.31</p> <p>0178.09.53</p> <p>0178.06.27</p>	

*Only applicable to pumping stations for manhole cover class B 125. The article numbers with manhole cover class D 400 include as standard the top section for total installation depth 1905 – 3000 mm and guide belt.
 Other models and pump types, also for wastewater containing faeces, available upon request.

Lifting plant* for installation downstream of free-standing grease separators

Product description	Model	Article number	
<p>MULI-MINI duo with air bubbler (to increase operating reliability) Lifting pump for installation downstream of free-standing grease separators.</p> <p>Polyethylene collecting tank, approx. 75 litres working volume. Two wastewater submersible pumps IP 68, operating voltage 400 volt. Pneumatic water level switch including air bubbler for more reliable operation. Pressure connection for pressure pipe Ø 57 – 61 mm. Inlet sockets DN 100 and venting socket DN 70 for connection to plastic pipe.</p> <p>Container diameter: 640 mm Container height: 695 mm Empty weight: approx. 70 kg</p>	<p>V 75 - duo</p> <p>V 150 - duo</p>	<p>0175.07.72</p> <p>0175.08.33</p>	
<p>MULI-PE duo with air bubbler (to increase operating reliability) Lifting pump for installation downstream of free-standing grease separators.</p> <p>Polyethylene collecting tank, approx. 80 litres working volume. Two wastewater submersible pumps IP 68, operating voltage 400 volt. Pneumatic water level switch including air bubbler for more reliable operation. Pressure connection for pressure pipe Ø 90 mm. Inlet sockets DN 100/150 and venting socket DN 100 for connection to plastic pipe.</p> <p>Container dimensions (LxWxH): 1005 mm x 750 mm x 950 mm Empty weight: approx. 180 kg</p>	<p>– PE duo</p> <p>– PE/1 duo</p> <p>– PE/2 duo</p>	<p>0159.04.18</p> <p>0159.04.20</p> <p>0159.04.22</p>	
<p>MULI-PRO PE K duo with air bubbler (to increase operating reliability) Lifting pump for installation downstream of free-standing grease separators.</p> <p>Polyethylene collecting tank, approx. 300 litres working volume. Two wastewater submersible pumps IP 68, operating voltage 400 volt. Pneumatic water level switch including air bubbler for more reliable operation. Pressure connection for pressure pipe Ø 108 mm. Five inlet sockets DN 150 and venting socket DN 100 for connection to plastic pipe. Inspection opening Ø 320 mm with odour-tight seal.</p> <p>Container dimensions (LxWxH): 1500 mm x 780 mm x 1035 mm Empty weight: approx. 400 kg</p>	<p>– K-15</p> <p>– K-22</p> <p>– K-30</p> <p>– K-55</p> <p>– K-75</p>	<p>0175.13.17</p> <p>0175.13.18</p> <p>0175.13.19</p> <p>0175.13.20</p> <p>0175.13.21</p>	

* Other models and accessories available upon request

Scale drawings of our lifting plants can be downloaded in DXF format from our website www.aco-haustechnik.de. Use the selection assistant for this purpose by simply entering the relevant article number of the desired product in the search mask.

Special solutions: upstream tank system with eccentric spiral pumps



Application example: when inlet pipe connections to grease separator systems are positioned too low

Low inlet pipe heights always cause problems when there is no gradient between the inlet piping and the grease separator. If it is not possible to undertake construction measures to lower the height of the grease separator, the only alternative is to pump the wastewater up to the grease separator.

This is not possible using conventional lifting plant because of the grease in the wastewater. Normal lifting plant would also cause turbulence in the grease separator and disrupt the separation process. The solution is to install a displacement pump (e.g. eccentric spiral pump).

The ACO eccentric spiral pumps are connected to an upstream tank (made either of polyethylene or stainless steel, or a concrete shaft built on site). The inflowing wastewater collects in this tank. If the inlet pipe lies in the concrete floor slab (as in the diagram above), a shaft has to be built on site to house the tank.

A pneumatic pressure switch installed in the buffer tank is activated when the wastewater reaches a pre-set level and switches on the eccentric spiral pump. Spiral pumps cannot become blocked up with grease. The wastewater is then pushed into the grease separator without turbulence.

All eccentric spiral pump installations are customised for each project. Please contact our sales consultants in our office or our field sales staff.

Special solutions: secondary treatment of greasy wastewater



Application example: optimising the efficiency of grease separators

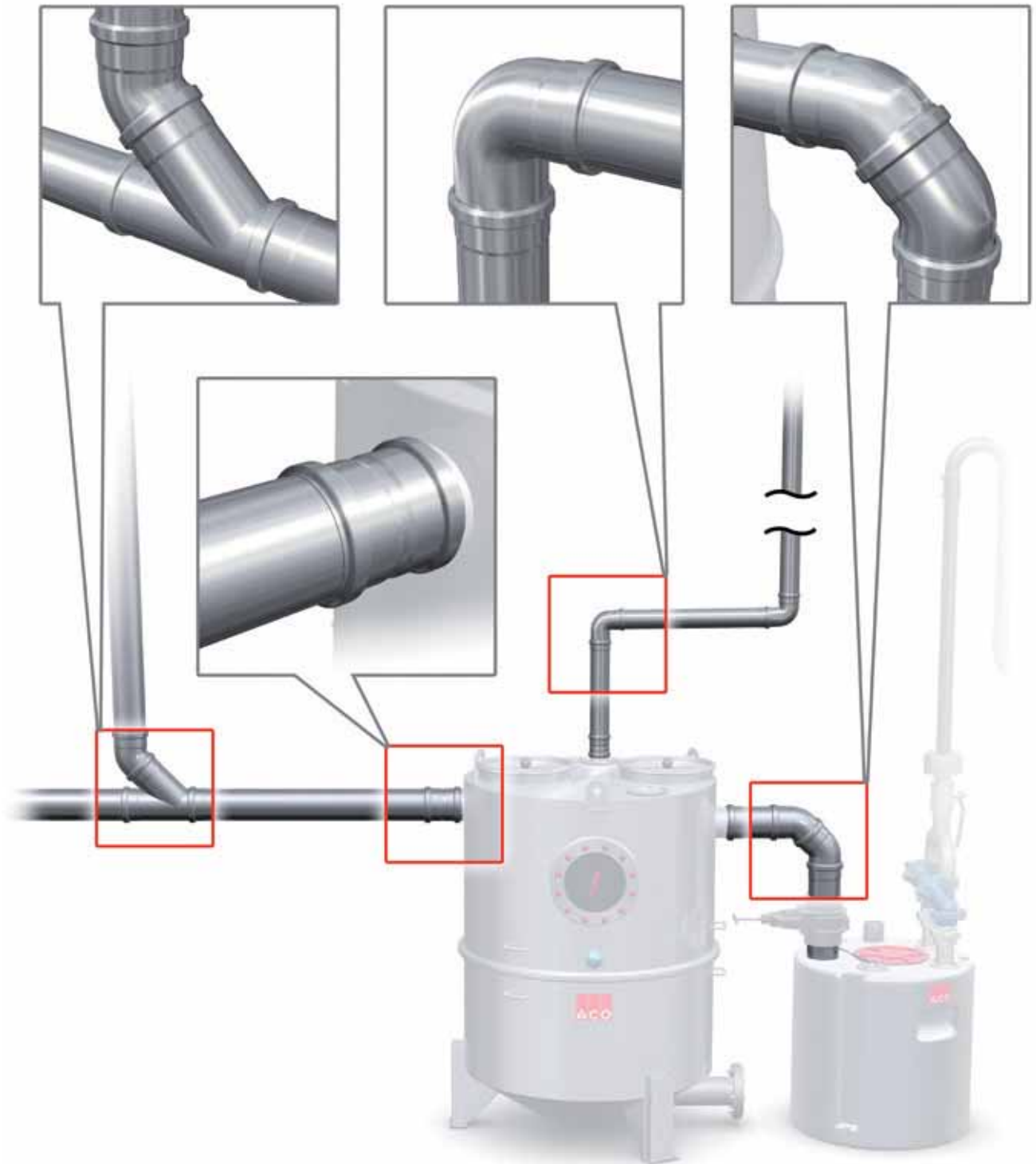
Grease separators usually only separate out freely separable oils/grease and solids. Emulsified and dissolved constituents in the wastewater largely pass right through the separator.

This almost automatically means exceeding the limits when stringent regulations are laid down for lipophilic substances. Because many local authorities are taking an increasingly strict view of lipophilic substances, it is often necessary to install additional treatment steps downstream of grease separators.

The ideal solution is the ACO BIOJET biological wastewater treatment system. This is a particularly environmentally-friendly solution specially designed by ACO Building Services for this purpose. This proven technology permanently and reliably keeps levels of low volatile lipophilic substances below statutory limits. It also effectively reduces COD and BOD5 levels, pH, and the volumes of settling solids.

Our “ACO BIOJET” brochure explains and describes in detail the functions, areas of application and product solutions for this technology. Please contact our technical experts, either in our office or our field sales staff, if you have any questions.

Pipe systems for ACO Building Services technology



ACO PIPE stainless steel pipe systems

ACO Building Services supplies ACO PIPE, a superb piping system ideal for connecting up grease separator systems. The range includes a large number of pipes, bends, branches and reducers for professional assembly

in all manner of applications. The complete ACO PIPE range is described in our main catalogue. Please contact our consultants, either in our office or our field sales staff, if you have any questions.

Planning and dimensioning grease separators – profit from ACO Building Services expertise!

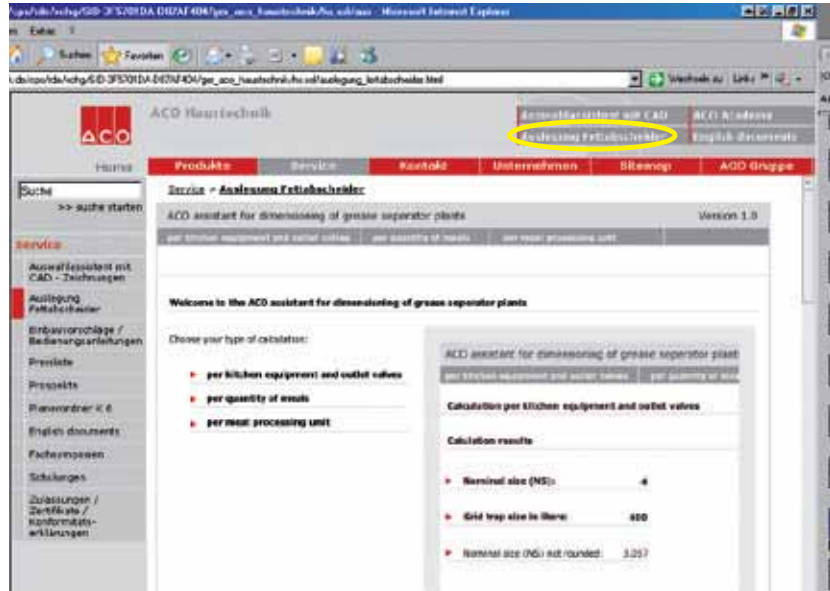
Dimensioning grease separators via the internet

Our website www.aco-haustechnik.de now has a section making it possible for you to calculate online the nominal sizes of the grease separators you require for your application.

Dimensioning is carried out pursuant to DIN EN 1825-2 regulations. Three variants are possible:

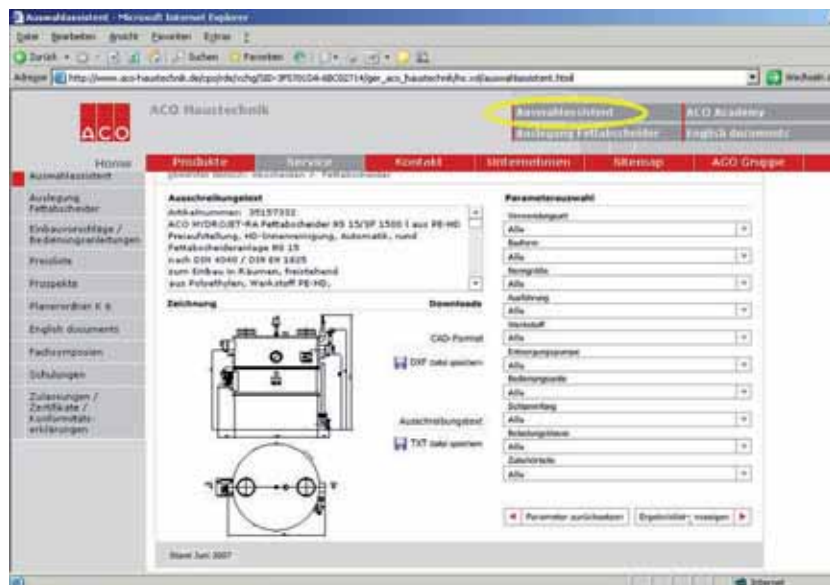
- Dimensioning according to kitchen appliances
- Dimensioning according to food portions
- Dimensioning according to slaughter units

After selecting the calculation method, input the requested data into the masks for further processing in compliance with the latest DIN EN 1825 regulations. The calculation sheet can then be printed out and filled in with project data, or there is a direct link to the selection assistant for product selection.



Simple download of scale drawings and specifications

The selection assistant on our website www.aco-haustechnik.de can also be used for easy product selection by simply inputting the selection criteria. Specifications and scale drawings can then be downloaded from the database. This can also be done very simply by inputting the selected article numbers.



Planning and execution of grease separator systems in the "Building Drainage" Manual

The ACO Building Services "Building Drainage" Manual deals in detail with various topics including the treatment of greasy wastewater. The manual contains 55 pages detailing the principles, function, planning, assembly and maintenance of grease separators in compliance with all of the latest standards and regulations.

The technical details are supplemented by product descriptions incorporating application recommendations, installation situations, and installation instructions – it is therefore a perfect reference book for professionals working in this field.

The Building Drainage Manual can be ordered for Euro 29.80 direct from ACO Building Services or from bookshops (ISBN 3000218211).



Installation instructions

<p>Venting</p>		<ul style="list-style-type: none"> ■ The inlet and outlet pipes must be properly ventilated! ■ Vent stack should lead up through the roof. Connecting pipes with lengths exceeding 5 m require dedicated vent stacks. ■ Inlet pipes longer than 10 m without vented connecting pipes must have a venting connection positioned directly in front of the grease separator system!
<p>Preventing the accumulation of grease deposits</p>		<ul style="list-style-type: none"> ■ Inlet lines running through unheated cellar rooms must be insulated. ■ Install auxiliary heating on inlet lines in parts of buildings at risk of freezing, e.g. underground car parks. ■ A thermostat should be installed to regulate the temperature of the auxiliary heating. ■ No additional measures required in heated rooms or where pipes run in frost-free rooms.
<p>Inlet stabilisation</p>		<ul style="list-style-type: none"> ■ Transition to horizontal piping with two 45° bends. The intermediate pipe must be at least 250 mm long. The piping then continues with a stabilisation section which must be at least 10 times as long as the nominal width of the inlet pipe (e.g. DN 100 pipe: 100 x 10 = 1000 mm stabilisation section). ■ Inlet lines must have a minimum gradient of 2 % (1:50).
<p>Backflow loop</p>		<ul style="list-style-type: none"> ■ The pipe bottom of the backflow loop must lie higher than the backflow level.

Reference projects around the world

ACO Building Services grease separators have been used in a large number of major construction projects, and are installed in a very wide range of situations. The systems used include complete disposal grease separators, partial disposal grease separators, special solutions with customised lifting plant, and

separator systems for special applications. In all cases, our drainage concepts, tailored to solve each particular problem, ensure full client satisfaction wherever they are used around the world. The following lists just some of our long list of reference projects:



South Railway Station Shanghai



Frankfurt Airport
(Photo source: Fraport AG)



AIDA Diva cruise liner



Hofbräuhaus Munich

Building	Location	Type of ACO Building Services grease separator installed
Hofbräuhaus	Munich	Hydrojet NS 40 (Twin unit, 2 x NS 20)
Technical University Refectory	Dresden	Lipurat NS 30 (2 x NS 15), VA-Tecflow twin lifting plant 30 l/s
Space Park	Bremen	2 x NS 20, 2 x NS 15, 3 x NS 10, 2 x NS 4, 4 x NS 2 (Hydrojet OA and RA)
St. Bernhard Hospital	Hildesheim	2 x Lipator NS 10 and VA-Tecflow twin lifting plant 15 l/s
Airport	Frankfurt	1 x Hydrojet OAE NS 7 with downstream water treatment and lifting plant
Main Railway Station	Leipzig	6 x Lipurat NS 7 with matching lifting plant
BMW World	Munich	2 x Lipurat NS 10, 1 x Lipurat NS 15
Hotel Le Meridien Royal 5* plus	Hamburg	2 x Hydrojet OAE NS 7
Airport	Geneva	2 x Lipurat NS 25
Dubai Mall	Dubai	10 x Lipatomat NS 10
South Railway Station	Shanghai	7 x Lipator NS 10
Neumayer III Research Station	Antarctic	Lipator NS 2, VA-Flowtec twin lifting plant
AIDA Diva	Cruise liner	Lipatomat NS 15