5 Separators

Grease separators

Water is one of our most precious resources and is not available in unlimited quantities. For this reason, contaminated wastewater from kitchens must be pretreated and cleaned with the aid of appropriate separator systems before it is discharged to the public sewer system.

KESSEL offers a wide range of innovative polymer separators for different areas of application and wastewater quantities:

Grease separators

Grease separators for free-standing installation
Grease separators for disposal via a disposal truck (full disposal) are used wherever medium to large quantities of grease occur. The entire tank contents are emptied at regular intervals.

Grease separators for underground installation
If indoor space is limited, the grease separator system must be installed outside the building.

Individual Solutions
Thanks to the knowledge and possibilities in the field of polyethylene technology KESSEL is not only able to manufacture series products, but also special solutions in terms of size, shape and features in accordance with project-specific requirements.

Reasons for installing a grease separation system

Operations from small restaurants to large scale food processing plants disposing fats, oils and grease (FOGs) into public wastewater drainage systems are becoming an increasing concern to industry, government and environmental agencies.
Wastewater travels a long distance from its original source to the wastewater treatment facilities. During this time large amounts of grease and food wastes build up in the drainage pipe systems leading to operational and public effects:

…Operational effects
One of the most severe drainage problems in food processing facilities is the build up of grease layers within the drainage system leading to negative effects, such as increased odour emissions, reduced efficiency of the drainage system, additional maintenance costs, pipe blockage or even potential flooding.

Avoiding a pipe blockage

Prevention of corrosion and odour build-up

…Public effects
FOGs also affect public wastewater streams by causing sewer blockage and reducing the efficiency of public sewage plants. This leads to additional costs for maintenance and repair.

Effects on wastewater treatment facilities

For a clean environment

When to use a grease separator?

Grease separators should be installed in all locations where greases and oils from plant or animal origin are required to be removed from the wastewater stream. This applies to commercial and industrial applications, for example:

- Butchers, meat and sausage factories
- Pre-prepared meal production
- Slaughterhouses and meat preparation facilities
- Soap / stearin production plants
- Restaurants and fast food shops
- Fish production facilities
- Cooking oil refineries, butter / margarine production
- Frying facilities / nut roasting factories
- Cafeterias in commercial buildings, hospitals, universities, military bases and government agencies

Polyethylene grease separators – The long term solution

…Easy transport
Their low weight allows our grease separators to be transported easily by hand on site. A special base design also allows them to be transported by forklift truck.

…Simple and fast installation
With *EasyClean*: The curved shape of the one-piece tank makes it ideal for retrofitting purposes, even where space is tight through narrow staircases and doorways for example.

…Fracture resistance
The polyethylene material ensures a high impact strength. This means that soil movements can easily be compensated for where installation is in the ground.

…Resistant to aggressive grease
The polyethylene material used is 100 % resistant to aggressive grease. This guarantees a long service life since there is no damage to the material due to corrosion.

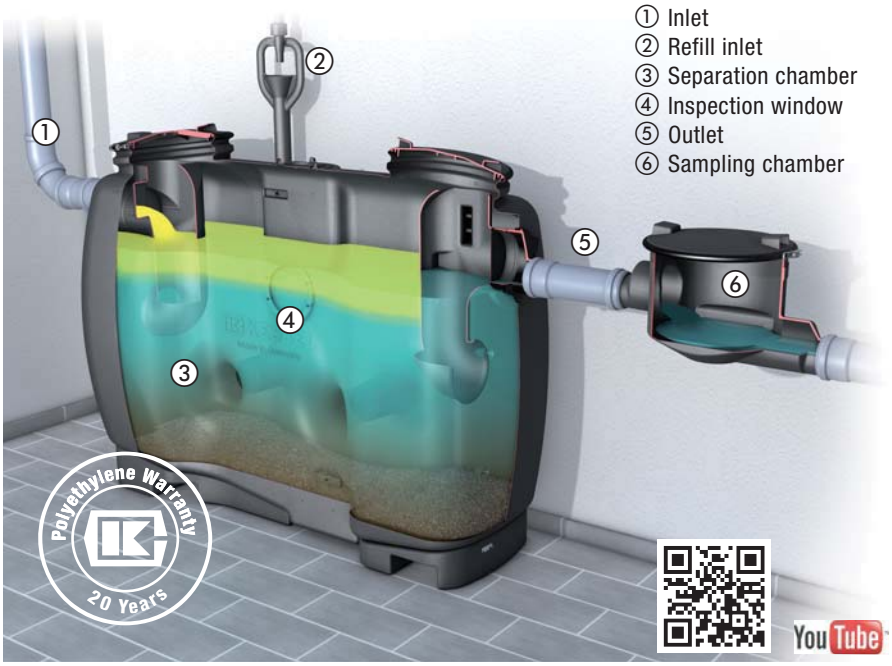
Separator function based on EN 1825

The KESSEL Euro separator based on Euro-Norm EN 1825 (as seen in the illustration below) consists of a grease separation chamber with an integrated sludge trap located at the bottom. Following the separator is a sampling chamber. Wastewater containing fats, oils and grease (FOG) is guided into the separator by a pacifying pipe which allows the wastewater to be slowly and evenly distributed into the separator preventing fast flowing wastewater from disturbing the separation process inside the chamber. The separation of the light material (FOG) and the heavier material (sludge) from the wastewater is all accomplished by the force of gravity. Heavily emulsified greases and oils may not be completely separable with the gravity method.

What can enter the separator?
Only wastewater containing organic FOG, which are required to be separated from the water, should be allowed into the separator. Under no circumstances should sewage, rainwater or wastewater containing mineral oils (hydrocarbon based) be allowed to enter the separator.
Examples of what should be connected to a separator: floor drains with odour traps, drainage channels, sinks, dishwashing machines and cooking vats.

Sludge separation chamber
The sludge separator serves to collect sludge / sediment which sinks to the bottom of the chamber due to its density being greater than that of the density of water.

Grease separation chamber
In the grease separation chamber, organic FOG (being less dense than water) separate from the wastewater and rise to the surface of the chamber. As more wastewater enters the chamber, the layer of separated greases and oils builds from the top down until the grease separation chamber is full and the entire chamber is emptied.



Installation notes

Requirements made on the installation location

Before a free-standing separator system can be installed, it must be checked that the planned set-up location is frost-free, has a horizontal, load-bearing floor, that there is sufficient space for set-up, operation, maintenance and control of the separator system and that the room is well vented and aerated. A water connection must be available for filling and cleaning the separator system as well as the respective electric installations required. When separator systems are to be installed underground it must be checked that there are no supply lines or cables within the area to be dug out. It must be remembered that accessibility for maintenance, inspection and disposal must be guaranteed at all times. Grease separator systems should be installed near where the wastewater is produced, but should not be in unventilated rooms or storage areas. To avoid odour pollution, they should not be located near occupied rooms and particularly near windows or ventilation openings. The systems must be easy for disposal vehicles to reach. Special operating conditions or limitations on site can make it necessary to locate the system further away from the points where the wastewater occurs.

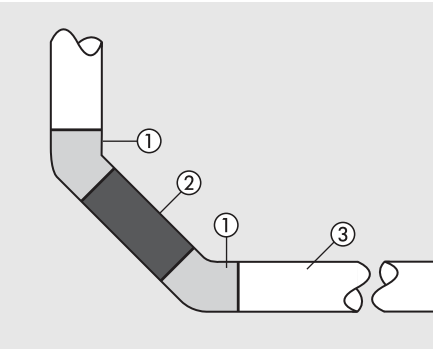
Separator systems should be set up in such a way that frost damage is avoided and all the parts which require regular maintenance are easily accessible at all times. Wherever necessary, separator system covers must be installed in such a way that the extra load on the separator does not exceed its load capacity.

Connection to the drainage system

Unless any official requirements exist, grease separator systems must be connected to the sewer system as follows: the wastewater must be drained to the grease separator system via gravity. Grease separator systems installed below the backwater level (see EN 752-1) must be equipped with a twin pump lifting station. The supply pipes to the separator systems must have a gradient of at least 2 % (1:50) to prevent grease blockage. If this is not possible for constructional or operational reasons, and/or if longer pipes are necessary, suitable measures must be taken to prevent grease blockage and deposits.

Inlet piping

Wastewater entering a grease separator from the kitchen must do so in a calm manner in order to not agitate the sludge and grease layers inside the separator. Down pipes from the kitchen should be connected to the horizontal pipe with two 45 degree fittings ① with at least 250 mm between the two fittings ② (no 90 degree fittings should be used). No downward pipes should be connected to the main separator inlet pipe immediately prior to entering the separator. For a separator with a ∅ 110 mm inlet, no downward connection should be made within 1 meter of the inlet to the grease separator - for a ∅ 160 mm inlet a 1.5 meter distance should be observed ③ - for a ∅ 200 mm inlet a 2.0 meter distance should be observed. In the case that the main inlet pipe is laid through cold rooms or underground, equipping this pipe with insulation or a heating system equipped with a thermostat should be considered.



Clever problem solvers- for smooth disposal

Disposal pipe

The disposal pipe should be laid on a steady upward slope from the grease separator to the transfer point to the disposal vehicle, 90 degree elbows should be avoided. Disposal pipes should be executed as pressure or intake pipes in the necessary pressure level in accordance with the system features. Tight connections must be used for the individual pipes and fittings. Disposal pipes with a constant diameter should be laid to the transfer point. The intake pipe must have a nominal size of at least ∅ 65 mm. Pipe material for the disposal pipe should be selected depending on the contents of the wastewater (extremely high solids share), special operating situation (overpressure/ underpressure) and resistance properties (fatty acids).

Shredder-Mix-System

During the separating process in a grease separator, fats oils and greases (FOG) are separated from the wastewater and form a continually growing layer which is retained between the inlet and outlet of the separator. If this layer solidifies, disposal can become a problem.

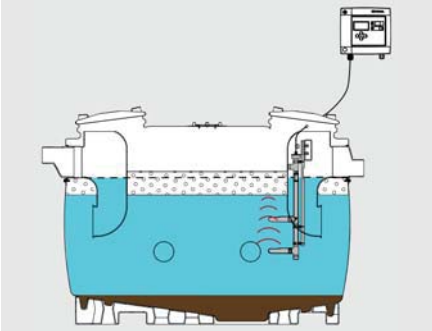
The KESSEL Shredder-Mix system uses its sturdy pump to mix the contents of the grease separator until grease and sludge are pumpable. Any solid materials such as bones, pieces of plastic, cords, peel etc. is chopped up by a macerating system.
During this process, the homogenised tank contents are injected back into the separator chamber with high kinetic energy. This removes deposits and any soiling clinging to the inside tank walls and cleans the grease separator from the inside.

YouTube

SonicControl

SonicControl level sensing system with ultra sonic sensor for the measurement, display and monitoring of the grease layer thickness in a grease separator

- **Disposal costs are saved** by extending the disposal intervals.
- **Environment protection**
  Disposal of not full separators no longer necessary.
- **User-friendly operation** thanks to the interactive control unit with digital display and user friendly interface.



YouTube

The right grease separator is just a few mouse clicks away

In order to simplify the selection process of EN 1825 grease separators, KESSEL now offers the SmartSelect grease separator specification program. This new free of charge on-line program offers the user multiple methods to accurately calculate the size of grease separator required for your specific project. Factors such as type of restaurant, meals served per day and wastewater temperature for example all play an important role when sizing a grease separator and are required when performing the calculation.

SmartSelect is based strictly on EN 1825 regulations and assures the user that the selected grease separator will meet all codes and norms. The resulting calculation sheet can be printed out to be filed with the project documentation or saved on-line in a KESSEL “virtual project library”.

Always the right product – wastewater treatment

SELECTION CRITERIA FOR GREASE SEPARATORS

Version		G	D	D+S	D+SP	M+S	PV+S
Odour Reduced Disposal The direct disposal grease separator connection allows the disposal truck to vacuum out the grease separator contents without opening the separator covers.			✓	✓	✓	✓	✓
Odour Free Disposal The integrated Shredder-Mix-System intakes the entire separator contents, shreds it and then uses this homogenized mixture to rinse and clean the interior separator walls.				✓	✓	✓	✓
Control unit The Shredder-Mix-System, designed to homogenize the separator contents, can be started and controlled without needing direct access to the separator.					✓	✓	✓
Disposal Pump In the case that the disposal truck is too high and/or too far from the grease separator to allow disposal via the truck's vacuum system, the separator can be equipped its own disposal pump system.						✓	✓
Fully Automated Operation All of the pre-programmed disposal steps of the separator's contents function fully automatically.							✓
EasyClean NS 2-10	see page	274	272	270	268	266	264
Euro NS 15-30	see page	281	280	279	278	277	276
Euro for underground installation	see page	289	-	-	-	-	288

Which standards must be taken into account?

EN 1825-1

Separator systems for greases
Basic construction, function and testing principles, marking and quality monitoring

EN 124

Drains
Load classes for upper sections and covers for traffic areas

DIN 4040

Separator systems for greases
Requirements on the use of separator systems in accordance with EN 1825

INFORMATION

Do you require more detailed information? Our Service Centre will be happy to help.

You can find your personal KESSEL contact on page 5 of this catalog!

Complete System Solution
In addition to individual grease- and oil separators, KESSEL also offers complete separator packages consisting of separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.

- Lifting and pumping stations for free standing and underground installation see chapter 3 “lifting stations”.
- Stainless steel drains and channels for kitchens and food processing plants see chapter 4 “drains and channels made of stainless steel”.

Individual Solutions
Thanks to the knowledge and possibilities in the field of polyethylene technology KESSEL is not only able to manufacture series products, but also special solutions in accordance with project-specific requirements.

References
Over the past decades, KESSEL products have proven themselves countless times in destinations all over the world. Scan the following QR code to directly view our list of references.

www.kessel.com/references

SmartSelect simply makes planning easier - calculation tool for separators at **smartselect.kessel.com**

Grease separators made of polyethylene

The new KESSEL grease separators ***EasyClean*** bring ease of installation, cleaning performance and energy efficiency up to a new level.

EasyClean separators can be retrofitted up to the completely automatic system even while installed, and can thus be adapted to changing requirements.

New: Grease separators for free-standing installation in the nominal sizes NS 15, 20, 25, 30 (from page 276).

NS 2 - NS 10

Grease separator ***EasyClean***
for free-standing set-up inside buildings

COMPLETE SYSTEM SOLUTION

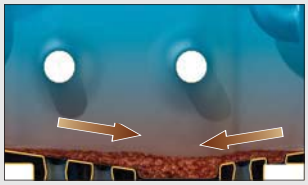
In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories.

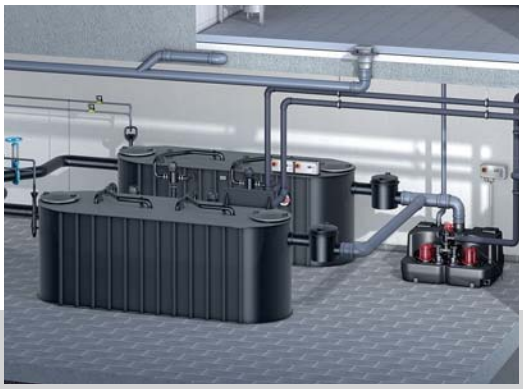
DRINKING WATER RINSING

In order to avoid the formation of legionella, standard for Auto Mix & Pump version (PVS).

IMPROVED CLEANING RESULTS

Wedge-shaped bottom for extraction at the lowest point (only 3 litres residual sludge volume).
For nominal sizes NS 2 - NS 10.





NS 15 - NS 30

Grease separator ***Euro*** NEW

for free-standing set-up inside buildings

NS 1 - NS 35

Grease separator ***Euro***

for underground installation

SONIC CONTROL

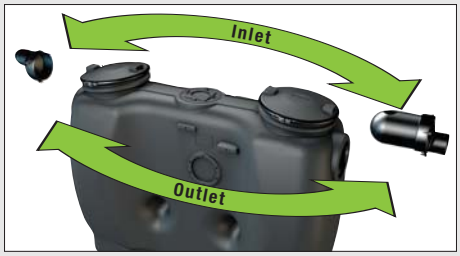
for the measurement, display and control of the grease layer thickness in a grease separator.

STRAIGHTFORWARD MAINTENANCE AND INSPECTION

Sloped arrangement of the tank openings permits better access.

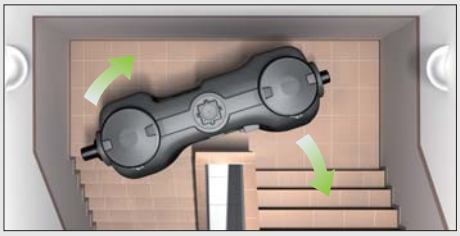
PLANNING MADE EASY!

Distinction between versions „in direction of flow right or left“ is no longer necessary. Direction of flow can be changed on site by changing inlet and outlet.



IMPROVED PLACEMENT THANKS TO THE CURVED SHAPE

Also ideal for retrofitting and renovation work in rooms with very narrow access.



SHREDDER-MIX-SYSTEM

serves to comminute, mix and clean the tank content without odor emission during disposal.

WARRANTY

KESSEL offers a factory extended warranty of 20 years on the polyethylene grease separator tanks.

EasyClean Auto Mix & Pump (*PV+S*) — NS 2 - 10

Certification: Z-54.1-474

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting stations, remote control, *TeleControl*

Grease separator *EasyClean* Auto Mix & Pump (*PV+S*) NS ...

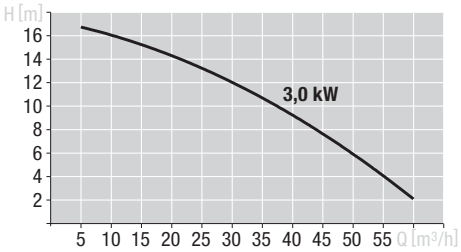
☐ according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW

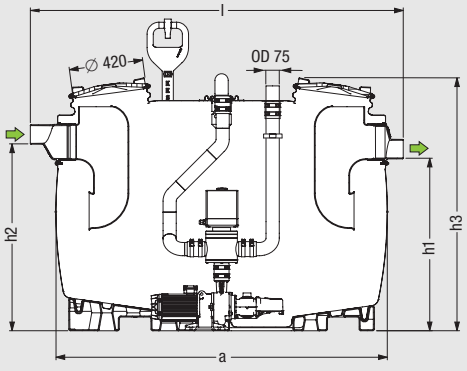
5 m cable length

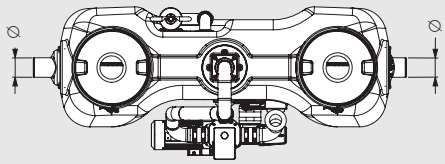
For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, inspection window with interior cleaning arm, *PV+S* version fully automated odour free disposal, cleaning and refilling system at touch of button, maintenance free macerating motor (stainless steel blades) for separator cleaning and disposal, includes closure valve for easy motor removal, motor floor mount included with installation hardware and anti-vibration matt, actuator valve for automated transfer from cleaning to disposal mode, top mounted water jet(s) for grease layer breakup and water spray nozzles for interior wall cleaning during disposal, with LCD display control unit settable in English, German, French, Italian, Dutch or Polish language and mains power safety on/off switch, with BMS connections, twin 1 inch solenoid valves for connection of cold and hot water pipes to separator, 1 inch interior threaded refill inlet with air gap, 75 mm OD PN 10 pressure disposal pipe, with integrated fork lift grips at base of separator, low weight - compact design, 100 % corrosion free polyethylene body construction (20 year warranty).

NS	Weight	Article #
		without *SonicControl*
NS 2	160 kg	**93 002.01/PVS**
NS 3	165 kg	**93 003.01/PVS**
NS 4	178 kg	**93 004.01/PVS**
NS 7	226 kg	**93 007.01/PVS**
NS 10	272 kg	**93 010.01/PVS**
		with *SonicControl*
NS 2	160 kg	**93 002.02/PVS**
NS 3	165 kg	**93 003.02/PVS**
NS 4	178 kg	**93 004.02/PVS**
NS 7	226 kg	**93 007.02/PVS**
NS 10	272 kg	**93 010.02/PVS**

Disposal pump performance curve





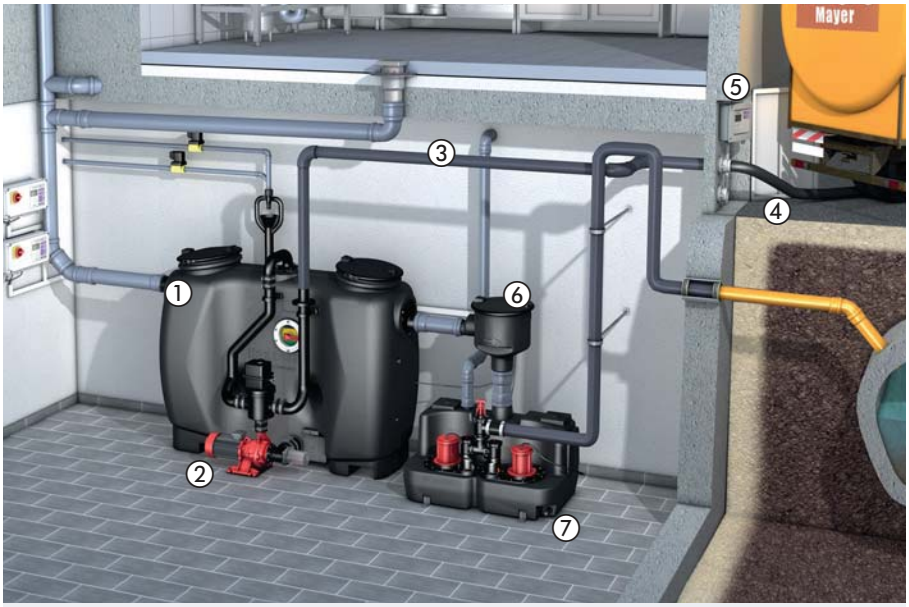


∅ = Outer diameter
b1 = Set-up dimensions

Technical note see page 283

Nominal size	∅	a	Installation dimensions l x b	b1	h1	h2	h3	Sludge	Grease	Total (including water)
NS 2	110	1500	1735 x 680	860	985	1055	1435	200 l	100 l	600 l
NS 3	110	1500	1735 x 680	860	985	1055	1435	300 l	120 l	600 l
NS 4	110	1880	2115 x 680	860	985	1055	1435	400 l	160 l	800 l
NS 7	160	1910	2145 x 940	1130	1185	1255	1655	700 l	280 l	1350 l
NS 10	160	2590	2820 x 940	1130	1185	1255	1655	1000 l	400 l	1900 l

Installation example *EasyClean* Auto Mix & Pump *(PV+S)*



① Grease separator
② Shredder-Mix-System
③ Disposal line
④ Connection for disposal truck
⑤ Remote control system (optional)
⑥ Sampling chamber
⑦ Lifting station

EasyClean Auto Mix & Pump (*PV+S*) grease separators are designed according to EN 1825-1 and are equipped with a fully automated disposal, self cleaning and refill system. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.
The advantage of the *EasyClean* Auto Mix & Pump (*PV+S*) separators is that a complete disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck can hook up to a connection on an exterior wall of the building so that the pump of the separator can pump the separator contents into the waiting disposal truck without any unpleasant odours escaping. After the contents of the separator have been pumped out, the interior of the separator is automatically rinsed and cleaned with warm water in a multi-step automated process. The complete procedure occurs with the press of a button and is also available with a remote control system so that the driver of the disposal vehicle can handle the entire procedure without the necessity of any building personnel being present. According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.

Professional advantages

- **Program-controlled disposal and rinsing device**
- **Shredder-Mix-System for homogenisation of the tank contents**
- **3.0 kW pump**
- **Clean and odour-free disposal and cleaning**
- **Optional remote control**
- **Complete System Solution**
  In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**
  KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 5.
- **Grease separator calculation**

SmartSelect simply makes planning easier – calculation tool for separators at **smartselect.kessel.com**

Scan this QR code to directly view the corresponding product video.
YouTube

Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids.
In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

Notice

EasyClean Auto Mix & Pump (*PV+S*) separators should be installed in all areas where nuisance odour problems are either undesired or not allowed. The systems allow the user to customize settings to improve disposal performance and also allow the disposal vehicle driver to handle the complete disposal procedure which can also be conducted during off hours.

EasyClean Mix & Pump (*M+S*) — NS 2 - 10

Certification: Z-54.1-474

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting stations, *TeleControl*

Grease separator *EasyClean* Mix & Pump (*M+S*) NS ...

☐ according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW

5 m cable length

For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, inspection window with interior cleaning arm, *M+S* version manually controlled odour free disposal, cleaning and refilling system at touch of button, maintenance free macerating motor (stainless steel blades) for separator cleaning and disposal, includes closure valve for easy motor removal, motor floor mount included with installation hardware and anti-vibration matt, manual hand valve for transfer from cleaning to disposal mode, top mounted water jet(s) for grease layer breakup and water spray nozzles for interior wall cleaning during disposal, with control unit and mains power safety on/off switch, with BMS connections, 1 inch manual hand valve for water refill, 1 inch interior threaded refill inlet with air gap, 75 mm OD PN 10 pressure disposal pipe, with integrated fork lift grips at base of separator, low weight - compact design, 100 % corrosion free polyethylene body construction (20 year warranty).

NS	Weight	Article #
		without *SonicControl*
NS 2	155 kg	**93 002.01/MS**
NS 3	160 kg	**93 003.01/MS**
NS 4	173 kg	**93 004.01/MS**
NS 7	221 kg	**93 007.01/MS**
NS 10	267 kg	**93 010.01/MS**
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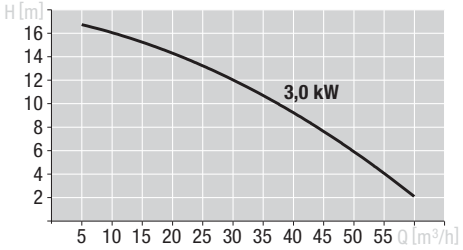
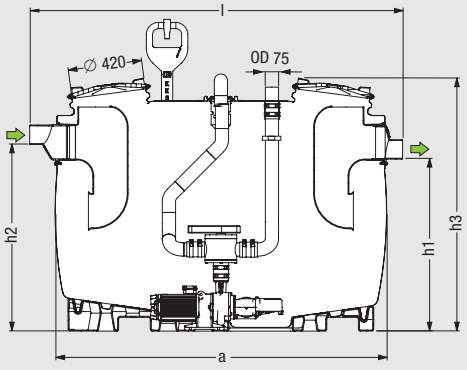
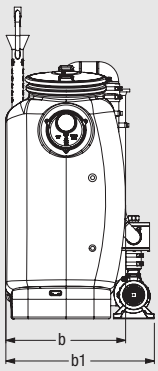
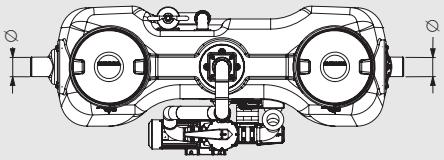
NS 10	267 kg	**93 010.02/MS**

Disposal pump performance curve









∅ = Outer diameter
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Technical note see page 283

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NS 4	110	1880	2115 x 680	860	985	1055	1435	400 l	160 l	800 l
NS 7	160	1910	2145 x 940	1130	1185	1255	1655	700 l	280 l	1350 l
NS 10	160	2590	2820 x 940	1130	1185	1255	1655	1000 l	400 l	1900 l

Installation example *EasyClean* Mix & Pump (*M+S*)

① Grease separator
② Shredder-Mix-System
③ Disposal line
④ Connection for disposal truck
⑤ Control unit
⑥ Sampling chamber
⑦ Lifting station

EasyClean Mix & Pump (*M+S*) grease separators are designed according to EN 1825-1 and are equipped with an automated self-cleaning system as well as a pumping disposal system. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.
The advantage of the *EasyClean* Mix & Pump (*M+S*) separators is that disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck can hook up to a connection on an exterior wall of the building so that the pump of the separator can pump the separator contents into the waiting disposal truck without any unpleasant odours escaping. After the contents of the separator have been pumped out, the interior of the separator is automatically rinsed and cleaned with warm water in a multi-step process which is manually controlled from the control unit. According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.

Professional advantages

- **Manual disposal and rinsing device**
- **Shredder-Mix-System for homogenisation of the tank contents**
- **3.0 kW pump**
- **Clean and odour-free disposal and cleaning**
- **Simple control**
- **Complete System Solution**
  In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**
  KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 5.
- **Grease separator calculation**

SmartSelect simply makes planning easier – calculation tool for separators at **smartselect.kessel.com**

Scan this QR code to directly view the corresponding product video.
YouTube

Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids.
In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

Notice

EasyClean Mix & Pump (*M+S*) separators should be installed in all areas where nuisance odour problems are either undesired or not allowed.

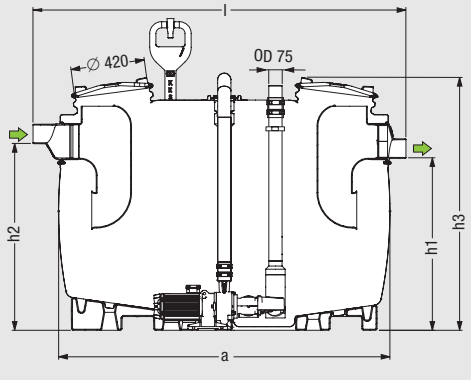
EasyClean Auto Mix (*D+SP*) — NS 2 - 10

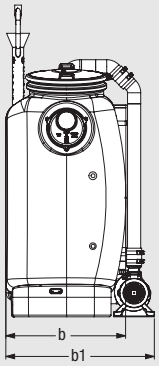
Illustration	Article description	NS	Weight	Article #
	**Grease separator *EasyClean* Auto Mix (*D+SP*) NS ...** ☐ according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW 5 m cable length For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, inspection window with interior cleaning arm, *D+SP* version with simultaneous mixing and cleaning of separator interior - requires disposal truck with vacuum system for separator disposal, disposal is completely odour free, maintenance free macerating motor (stainless steel blades) includes closure valve for easy motor removal, motor floor mount included with installation hardware and anti-vibration matt, top mounted water jet(s) for grease layer breakup and water spray nozzles for interior wall cleaning during disposal, 1 inch interior thread refill inlet with air gap, with LCD display control unit settable in English, German or French language and mains power safety on/off switch, with BMS connections, twin 1 inch solenoid valves for connection of cold and hot water pipes to separator, with remote control offering full separator disposal control from remote location (from disposal truck location), 75 mm OD PN 10 pressure disposal pipe, with integrated fork lift grips at base of separator, low weight - compact design, 100 % corrosion free polyethylene body construction (20 year warranty).			**without *SonicControl***
		NS 2	150 kg	**93 002.01/DSP**
		NS 3	155 kg	**93 003.01/DSP**
		NS 4	168 kg	**93 004.01/DSP**
		NS 7	216 kg	**93 007.01/DSP**
		NS 10	262 kg	**93 010.01/DSP**
				with *SonicControl*
		NS 2	150 kg	**93 002.02/DSP**
		NS 3	155 kg	**93 003.02/DSP**
		NS 4	168 kg	**93 004.02/DSP**
		NS 7	216 kg	**93 007.02/DSP**
		NS 10	262 kg	**93 010.02/DSP**

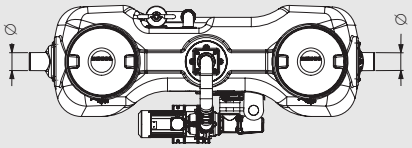
Certification: Z-54.1-474

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting stations, remote control, *TeleControl*







∅ = Outer diameter
b1 = Set-up dimensions

Technical note see page 283

Nominal size	∅	a	Installation dimensions l x b	b1	h1	h2	h3	Sludge	Grease	Total (including water)
NS 2	110	1500	1735 x 680	860	985	1055	1435	200 l	100 l	600 l
NS 3	110	1500	1735 x 680	860	985	1055	1435	300 l	120 l	600 l
NS 4	110	1880	2115 x 680	860	985	1055	1435	400 l	160 l	800 l
NS 7	160	1910	2145 x 940	1130	1185	1255	1655	700 l	280 l	1350 l
NS 10	160	2590	2820 x 940	1130	1185	1255	1655	1000 l	400 l	1900 l

Installation example *EasyClean* Auto Mix (*D+SP*)

① Grease separator
② Shredder-Mix-System
③ Control unit
④ Disposal line
⑤ Connection for disposal truck
⑥ Remote control system (optional)
⑦ Sampling chamber
⑧ Lifting station

EasyClean Auto Mix (*D+SP*) grease separators are designed according to EN 1825-1 and are equipped with an automatically controlled pump for mixing and cleaning of the separators contents and inner walls. These separators are offered with a modern control unit with digital display. It is possible to automate specific steps of the grease separator disposal process. The *EasyClean* Auto Mix (*D+SP*) separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.
The advantage of the *EasyClean* Auto Mix (*D+SP*) separators is that disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck hooks up to a connection on an exterior wall of the building and, using its own pump, suctions out the entire contents of the separator without any unpleasant odours escaping.
The Shredder-Mix-System macerates and liquifies its contents and also cleans its interiror walls all simultaneously. This prepared wastewater is then suctioned into the waiting disposal vehicle. According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.

Professional advantages

- **Fully automatic direct disposal with program-controlled Shredder-Mix-System for homogenisation of the tank contents**
- **Clean and odour-free disposal and cleaning**
- **Simple control**
- **Low-maintenance operation**
- **Complete System Solution**
  In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**
  KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 5.
- **Grease separator calculation**

SmartSelect simply makes planning easier – calculation tool for separators at **smartselect.kessel.com**

Scan this QR code to directly view the corresponding product video.
YouTube

Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids.
In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

Notice

EasyClean Auto Mix (*D+SP*) grease separator is ideal for installations where the presence of strong odours during disposal of the separators contents can not be permitted. The “Shredder-Mix-System” liquifies, macerates and cleans the separators contents all in one step.

EasyClean Mix (*D+S*) — NS 2 - 10

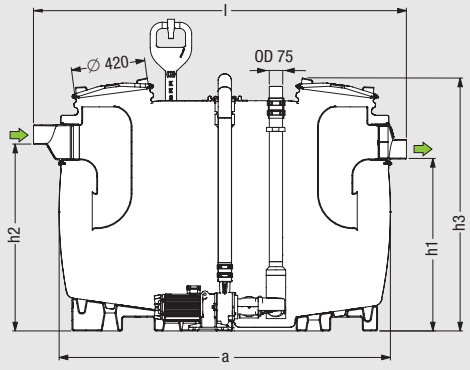
Illustration	Article description	NS	Weight	Article #	
				without *SonicControl*	
				without inspection window	with inspection window
	**Grease separator *EasyClean* Mix (*D+S*) NS ...** ☐ according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW 5 m cable length For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, inspection window with interior cleaning arm, *D+S* version with simultaneous mixing and cleaning of separator interior - requires disposal truck with vacuum system for separator disposal, disposal is completely odour free, maintenance free macerating motor (stainless steel blades) includes closure valve for easy motor removal, motor floor mount included with installation hardware and anti-vibration matt, top mounted water jet(s) for grease layer breakup and water spray nozzles for interior wall cleaning during disposal, 1 inch interior thread refill inlet with air gap, 1 inch manual hand valve for water refill, with hand held operation controller, 75 mm OD PN 10 pressure disposal pipe, with integrated fork lift grips at base of separator, low weight - compact design, 100 % corrosion free polyethylene body construction (20 year warranty).	NS 2	145 kg	**93 002.01/DS**	**93 002.31/DS**
		NS 3	150 kg	**93 003.01/DS**	**93 003.31/DS**
		NS 4	163 kg	**93 004.01/DS**	**93 004.31/DS**
		NS 7	211 kg	**93 007.01/DS**	**93 007.31/DS**
		NS 10	257 kg	**93 010.01/DS**	**93 010.31/DS**
				with *SonicControl*	
				without inspection window	with inspection window
		NS 2	145 kg	**93 002.02/DS**	**93 002.32/DS**
		NS 3	150 kg	**93 003.02/DS**	**93 003.32/DS**
		NS 4	163 kg	**93 004.02/DS**	**93 004.32/DS**
		NS 7	211 kg	**93 007.02/DS**	**93 007.32/DS**
		NS 10	257 kg	**93 010.02/DS**	**93 010.32/DS**

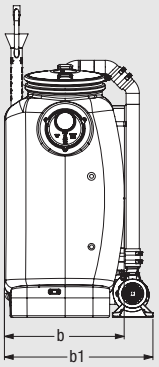
Illustration shows Art. # 93 004.31/DS

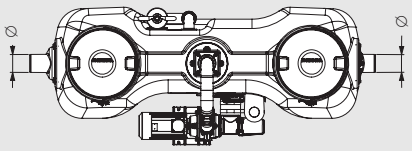
Certification: Z-54.1-474

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting stations







∅ = Outer diameter
b1 = Set-up dimensions

Technical note see page 283

Nominal size	∅	a	Installation dimensions l x b	b1	h1	h2	h3	Sludge	Grease	Total (including water)
NS 2	110	1500	1735 x 680	860	985	1055	1435	200 l	100 l	600 l
NS 3	110	1500	1735 x 680	860	985	1055	1435	300 l	120 l	600 l
NS 4	110	1880	2115 x 680	860	985	1055	1435	400 l	160 l	800 l
NS 7	160	1910	2145 x 940	1130	1185	1255	1655	700 l	280 l	1350 l
NS 10	160	2590	2820 x 940	1130	1185	1255	1655	1000 l	400 l	1900 l

Installation example *EasyClean* Mix (*D+S*)

① Grease separator
② Shredder-Mix-System
③ Disposal line
④ Connection for disposal truck
⑤ Sampling chamber
⑥ Lifting station

EasyClean Mix (*D+S*) grease separators are designed according to EN 1825-1 and are equipped with a manually controlled pump for mixing and cleaning of the separator s contents and inner walls. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.
The advantage of the *EasyClean* Mix (*D+S*) separators is that disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck hooks up to a connection on an exterior wall of the building and, using its own pump, suctions out the entire contents of the separator without any unpleasant odours escaping.
The Shredder-Mix-System macerates and liquifies its contents and also cleans its interiror walls all simultaneously. This prepared wastewater is then suctioned into the waiting disposal vehicle. According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.

Professional advantages

- **Direct disposal with Shredder-Mix-System for homogenisation of the tank contents**
- **Clean and odour-free disposal and cleaning**
- **Simple control**
- **Low-maintenance operation**
- **Complete System Solution**
  In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**
  KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 5.
- **Grease separator calculation**

SmartSelect simply makes planning easier – calculation tool for separators at **smartselect.kessel.com**

Scan this QR code to directly view the corresponding product video.
YouTube

Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids.
In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

Notice

EasyClean Mix (*D+S*) grease separator is ideal for installations where the presence of strong odours during disposal of the separators contents can not be permitted. The “Shredder-Mix-System” liquifies, macerates and cleans the separators contents all in one step.

EasyClean Standard (*D*) — NS 2 - 10

Illustration shows Art. # 93 004.31/D

Certification: Z-54.1-474

Delivery:
System completely assembled.

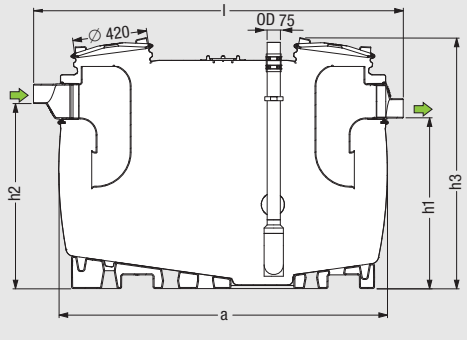
Accessories:
Sampling chamber, lifting stations

Grease separator *EasyClean* Standard (*D*) NS ...

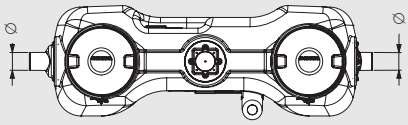
☐ according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene.

For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, *D* version with factory installed pressure pipe suction outlet - requires disposal truck with vacuum system for separator disposal, disposal is completely odour free, 75 mm OD PN 10 pressure disposal pipe, with integrated fork lift grips at base of separator, low weight - compact design, 100 % corrosion free polyethylene body construction (20 year warranty).

NS	Weight	Article #	
		without *SonicControl*	
		without accessories	with inspection window
NS 2	69 kg	**93 002.01/D**	**93 002.21/D**
NS 3	74 kg	**93 003.01/D**	**93 003.21/D**
NS 4	87 kg	**93 004.01/D**	**93 004.21/D**
NS 7	135 kg	**93 007.01/D**	**93 007.21/D**
NS 10	181 kg	**93 010.01/D**	**93 010.21/D**
		with refill inlet	with inspection window and refill inlet
NS 2	69 kg	**93 002.11/D**	**93 002.31/D**
NS 3	74 kg	**93 003.11/D**	**93 003.31/D**
NS 4	87 kg	**93 004.11/D**	**93 004.31/D**
NS 7	135 kg	**93 007.11/D**	**93 007.31/D**
NS 10	181 kg	**93 010.11/D**	**93 010.31/D**
		with *SonicControl*	
		without accessories	with inspection window
NS 2	69 kg	**93 002.02/D**	**93 002.22/D**
NS 3	74 kg	**93 003.02/D**	**93 003.22/D**
NS 4	87 kg	**93 004.02/D**	**93 004.22/D**
NS 7	135 kg	**93 007.02/D**	**93 007.22/D**
NS 10	181 kg	**93 010.02/D**	**93 010.22/D**
		with refill inlet	with inspection window and refill inlet
NS 2	69 kg	**93 002.12/D**	**93 002.32/D**
NS 3	74 kg	**93 003.12/D**	**93 003.32/D**
NS 4	87 kg	**93 004.12/D**	**93 004.32/D**
NS 7	135 kg	**93 007.12/D**	**93 007.32/D**
NS 10	181 kg	**93 010.12/D**	**93 010.32/D**



Ø = Outer diameter



Technical note see page 283

Nominal size	Ø	a	Installation dimensions l x b	h1	h2	h3	Sludge	Grease	Total (including water)
NS 2	110	1500	1735 x 680	985	1055	1435	200 l	100 l	600 l
NS 3	110	1500	1735 x 680	985	1055	1435	300 l	120 l	600 l
NS 4	110	1880	2115 x 680	985	1055	1435	400 l	160 l	800 l
NS 7	160	1910	2145 x 940	1185	1255	1655	700 l	280 l	1350 l
NS 10	160	2590	2820 x 940	1185	1255	1655	1000 l	400 l	1900 l

Installation example *EasyClean* Standard (*D*)

① Grease separator
② Disposal line
③ Connection for disposal truck
④ Sampling chamber
⑤ Lifting station

EasyClean Standard (*D*) grease separators are designed according to EN 1825-1. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.
The advantage of the *EasyClean* Standard (*D*) separators is that disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck hooks up to a connection on an exterior wall of the building and, using its own pump, suctions out the entire contents of the separator without any unpleasant odours escaping.
According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.

Professional advantages

- **With direct disposal connection**
- **Disposal with the tank closed**
- **Low-maintenance operation**
- **Complete System Solution**
  In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**
  KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 5.
- **Grease separator calculation**

SmartSelect simply makes planning easier – calculation tool for separators at **smartselect.kessel.com**

Scan this QR code to directly view the corresponding product video.
YouTube

Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids.
In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

Notice

The *EasyClean* Standard (*D*) separator should be inspected and fully cleaned during every third disposal. In all circumstances where the accessibility of the disposal truck's suction hose to the separator is highly limited or impossible, KESSEL recommends the installation of a *EasyClean* Standard (*D*) unit. With the installation of the refill equipment, the separator can be refilled after disposal without the need of opening any of the covers and releasing strong and aggressive odours.

EasyClean Basic (*G*) — NS 2 - 10

Illustration shows Art. # 93 004.31

Certification: Z-54.1-474

Delivery:
System completely assembled.

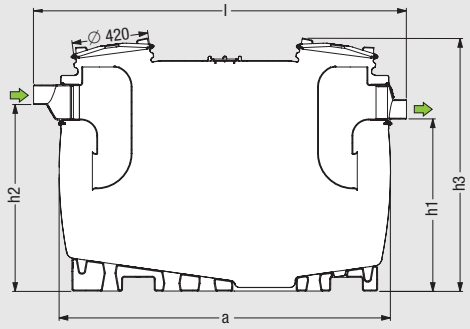
Accessories:
Sampling chamber, lifting stations.
Retrofitting up to Auto Mix & Pump *(PV+S)* possible.

Grease separator *EasyClean* Basic (*G*) NS ...

☐ according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene.

For free standing installation in frost protected areas, with integrated sludge trap, sloped interior base improves cleaning and reduces disposal time, inlet flow calming system and outlet flow regulation device, inlet and outlet interchangeable, slanted twin access covers with quick release odour tight snap closures, *G* version requires disposal truck with vacuum system for separator disposal, integrated fork lift grips at base of separator, 100% corrosion free polyethylene body construction (20 year warranty).

NS	Weight	without accessories	with inspection window
		without *SonicControl*	
NS 2	69 kg	**93 002.01**	**93 002.21**
NS 3	74 kg	**93 003.01**	**93 003.21**
NS 4	87 kg	**93 004.01**	**93 004.21**
NS 7	135 kg	**93 007.01**	**93 007.21**
NS 10	181 kg	**93 010.01**	**93 010.21**
		with refill inlet	with inspection window and refill inlet
NS 2	69 kg	**93 002.11**	**93 002.31**
NS 3	74 kg	**93 003.11**	**93 003.31**
NS 4	87 kg	**93 004.11**	**93 004.31**
NS 7	135 kg	**93 007.11**	**93 007.31**
NS 10	181 kg	**93 010.11**	**93 010.31**
		with *SonicControl*	
		without accessories	with inspection window
NS 2	69 kg	**93 002.02**	**93 002.22**
NS 3	74 kg	**93 003.02**	**93 003.22**
NS 4	87 kg	**93 004.02**	**93 004.22**
NS 7	135 kg	**93 007.02**	**93 007.22**
NS 10	181 kg	**93 010.02**	**93 010.22**
		with refill inlet	with inspection window and refill inlet
NS 2	69 kg	**93 002.12**	**93 002.32**
NS 3	74 kg	**93 003.12**	**93 003.32**
NS 4	87 kg	**93 004.12**	**93 004.32**
NS 7	135 kg	**93 007.12**	**93 007.32**
NS 10	181 kg	**93 010.12**	**93 010.32**



∅ = Outer diameter

Technical note see page 283

Nominal size	∅	a	Installation dimensions l x b	h1	h2	h3	Sludge	Grease	Total (including water)
NS 2	110	1500	1735 x 680	985	1055	1435	200 l	100 l	600 l
NS 3	110	1500	1735 x 680	985	1055	1435	300 l	120 l	600 l
NS 4	110	1880	2115 x 680	985	1055	1435	400 l	160 l	800 l
NS 7	160	1910	2145 x 940	1185	1255	1655	700 l	280 l	1350 l
NS 10	160	2590	2820 x 940	1185	1255	1655	1000 l	400 l	1900 l

Installation example *EasyClean* Basic (*G*)

① Grease separator
② Suction hose
③ Sampling chamber
④ Lifting station

EasyClean Basic (*G*) grease separators are designed according to EN 1825-1. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.
According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of every month. To empty the contents of the separator the odour tight covers need to be removed. The suction hose of the disposal truck is then used to empty and rinse the inside of the separator.

Professional advantages

- **With direct disposal connection**
- **Low-maintenance operation**
- **Complete System Solution**
  In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**
  Contact us directly to discuss your requirement.
- **Grease separator calculation**

SmartSelect simply makes planning easier – calculation tool for separators at **smartselect.kessel.com**

Scan this QR code to directly view the corresponding product video.
YouTube

Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids.
In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

Notice

The *EasyClean* Basic (*G*) separator can be upgraded to a any other version (with permanently installed disposal lines) at any time. It should only be installed in areas where:
- the release of strong and aggressive odours will not pose a problem
- accessing the separator with the disposal hose of the disposal truck will not cause problems or inconveniences.

Retrofit Sets

☐ **Standard (*D*)** With direct disposal connection		**913 101/D**
☐ **Mix (*D+S*)** 1 NS 2-7 2 NS 10 Pump, refill inlet, 1 manual hand valve and direct disposal connection	1 2	**913 101/DS** **913 101/DS10**
☐ **Auto Mix (*D+SP*)** 1 NS 2-7 2 NS 10 Pump, refill inlet, inspection window, 2 solenoid valves, direct disposal connection and control unit	1 2	**913 101/DSP** **913 101/DSP10**
☐ **Mix&Pump (*M+S*)** 1 NS 2-7 2 NS 10 Pump, refill inlet, inspection window, 1 manual hand valve, direct disposal connection and control unit	1 2	**913 101/MS** **913 101/MS10**
☐ **Auto Mix&Pump (*PV+S*)** 1 NS 2-7 2 NS 10 Pump, refill inlet, inspection window, 2 solenoid valves, direct disposal connection and control unit	1 2	**913 101/PVS** **913 101/PVS10**

Euro Auto Mix & Pump (*PV+S*) — NS 15 - 30

Illustration	Article description	NS	Article #

Illustration shows nominal sizes
NS 20 - 30 (NS 15 with single pump)

Certification: Z-54.1-473

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting station, Remote control system, *TeleControl*, *SonicControl* level sensing system

Grease separator
***Euro* Auto Mix & Pump (*PV+S*) NS ...**

☐ **with program-controlled disposal and rinsing device and Shredder-Mix-System,**
according to Euro Norm EN 1825 and DIN 4040, non-recycled polyethylene,
pumping capacity 3.0 kW.

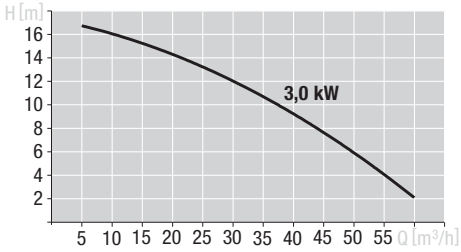
5 m cable length

For free-standing installation in frost-protected areas, with integrated sludge trap and sloped surfaces for fast and clean disposal, with two domed covers made of polymer, with quick-release closures, sealed odour-tight, with suction device installed for the joint disposal of contents of sludge trap and grease separator chamber, intake pipe 75 mm OD PN 10 in accordance with DIN 2501, Storz-B coupling R 2 1/2 for connection to the disposal vehicle.

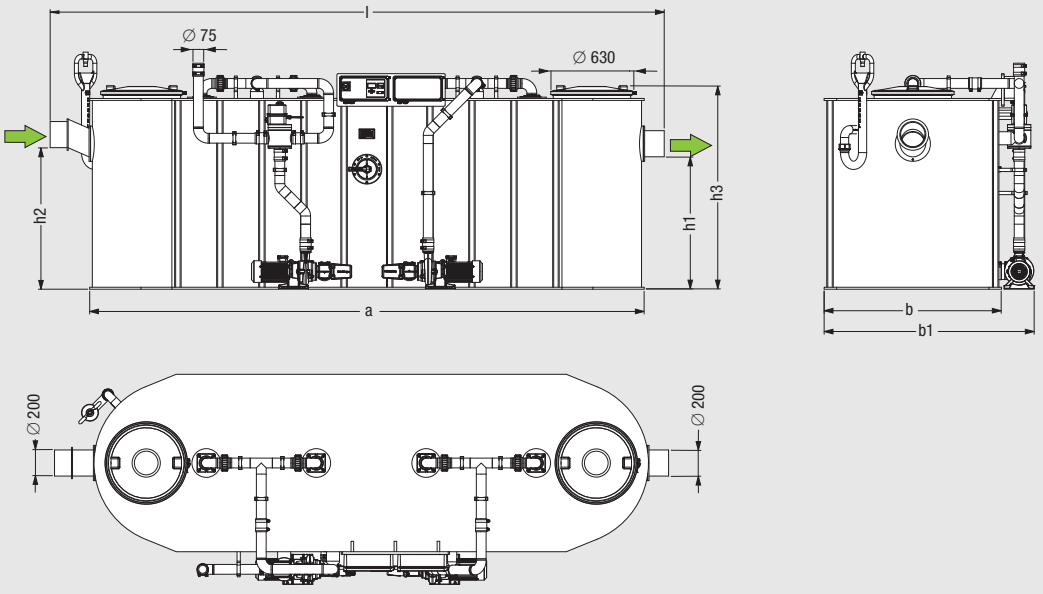
KESSEL disposal system *PV+S* (program-controlled, fully automated) with switching distribution and actuator valve, mixing and rinsing device via jet and conic nozzles, external pump(s) 3.0 kW (IP55, 400 V, 50 Hz) with integrated chopping mechanism and closure valve, cable length 5m, control unit for actuating the pump(s) with potential-free contact, 2 solenoid valves 1“, with refill inlet in accordance with DIN 1988, viewing window with wiper. Inlet and outlet ∅ 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Model type: Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.

NS	**without *SonicControl***
NS 15	**93 015.01/PVS**
NS 20	**93 020.01/PVS**
NS 25	**93 025.01/PVS**
NS 30	**93 030.01/PVS**



∅ = Outer diameter
b1 = Set-up dimensions



Technical note see page 283

Nominal size	∅	a	Installation dimensions l x b	b1	h1	h2	h3	Sludge	Grease	Total (including water)
NS 15	200	3300	3560 x 1350	1620	1130	1200	1625	1500 l	600 l	2600 l
NS 20	200	4250	4510 x 1350	1620	1030	1100	1525	2000 l	800 l	3370 l
NS 25	200	4500	4760 x 1350	1620	1030	1100	1525	2500 l	1000 l	3700 l
NS 30	250	4600	4860 x 1350	1620	1170	1240	1625	3000 l	1200 l	4370 l

Euro Mix & Pump (*M+S*) — NS 15 - 30

Illustration	Article description	NS	Article #

Illustration shows nominal sizes
NS 20 - 30 (NS 15 with single pump)

Certification: Z-54.1-473

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting station, *SonicControl* level sensing system

Grease separator
***Euro* Mix & Pump (*M+S*) NS ...**

☐ **with manual disposal and rinsing device and Shredder-Mix-System,**
according to Euro Norm EN 1825 and DIN 4040, non-recycled polyethylene,
pumping capacity 3.0 kW.

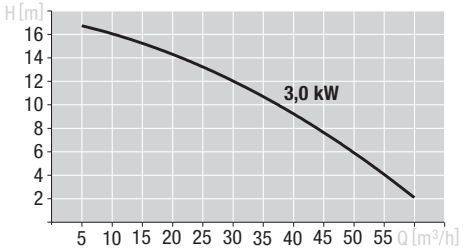
5 m cable length

For free-standing installation in frost-protected areas, with integrated sludge trap and sloped surfaces for fast and clean disposal, with two domed covers made of polymer, with quick-release closures, sealed odour-tight, with suction device installed for the joint disposal of contents of sludge trap and grease separator chamber, intake pipe 75 mm OD PN 10 in accordance with DIN 2501, Storz-B coupling R 2 1/2 for connection to the disposal vehicle.

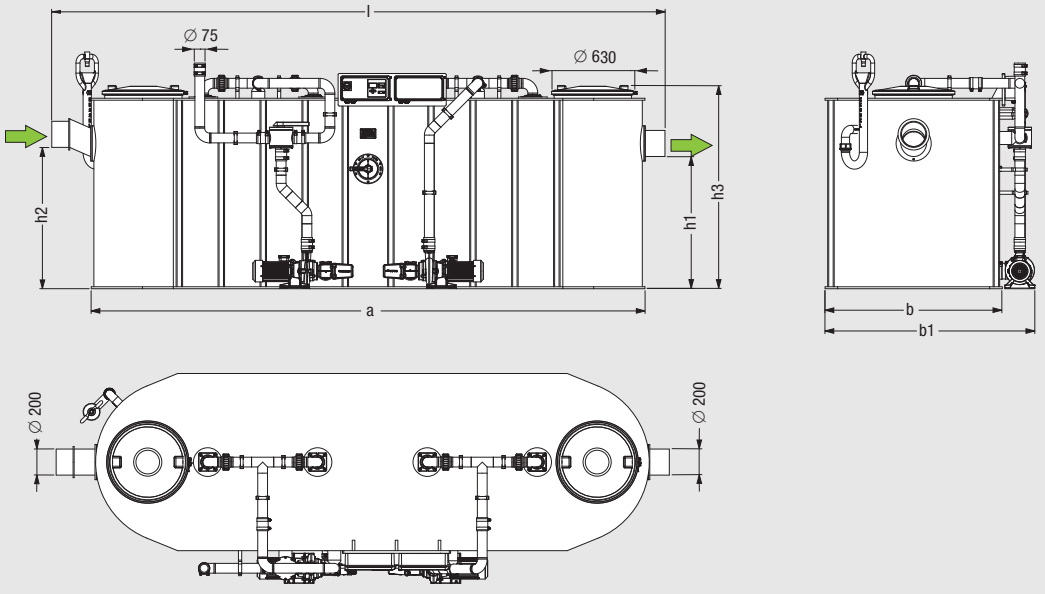
KESSEL disposal system *M+S* (manual operation) with switching distribution, mixing and rinsing device via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, cable length 5m, control unit for actuating the pump(s), refill inlet in accordance with DIN 1988, viewing window with wiper. Inlet and outlet ∅ 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Model type: Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.

NS	**without *SonicControl***
NS 15	**93 015.01/MS**
NS 20	**93 020.01/MS**
NS 25	**93 025.01/MS**
NS 30	**93 030.01/MS**



∅ = Outer diameter
b1 = Set-up dimensions



Technical note see page 283

Nominal size	∅	a	Installation dimensions l x b	b1	h1	h2	h3	Sludge	Grease	Total (including water)
NS 15	200	3300	3560 x 1350	1620	1130	1200	1625	1500 l	600 l	2600 l
NS 20	200	4250	4510 x 1350	1620	1030	1100	1525	2000 l	800 l	3370 l
NS 25	200	4500	4760 x 1350	1620	1030	1100	1525	2500 l	1000 l	3700 l
NS 30	250	4600	4860 x 1350	1620	1170	1240	1625	3000 l	1200 l	4370 l

Euro Auto Mix (*D+SP*) — NS 15 - 30

Illustration	Article description	NS	Article #

Illustration shows nominal sizes
NS 20 - 30 (NS 15 with single pump)

Certification: Z-54.1-473

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting station, Remote control system, *TeleControl*

Grease separator
***Euro* Auto Mix (*D+SP*) NS ...**

☐ **with direct disposal and Shredder-Mix-System,**
according to Euro Norm EN 1825 and DIN 4040, non-recycled polyethylene, pumping capacity 3.0 kW.

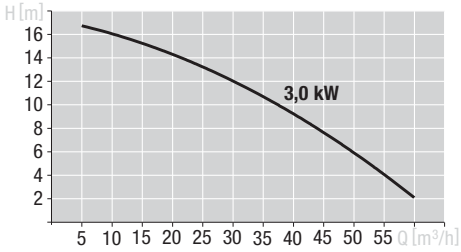
5 m cable length

For free-standing installation in frost-protected areas, with integrated sludge trap and sloped surfaces for fast and clean disposal, with two domed covers made of polymer, with quick-release closures, sealed odour-tight, with suction device installed for the joint disposal of contents of sludge trap and grease separator chamber, intake pipe 75 mm OD PN 10 in accordance with DIN 2501, Storz-B coupling R 2 1/2 for connection to the disposal vehicle.

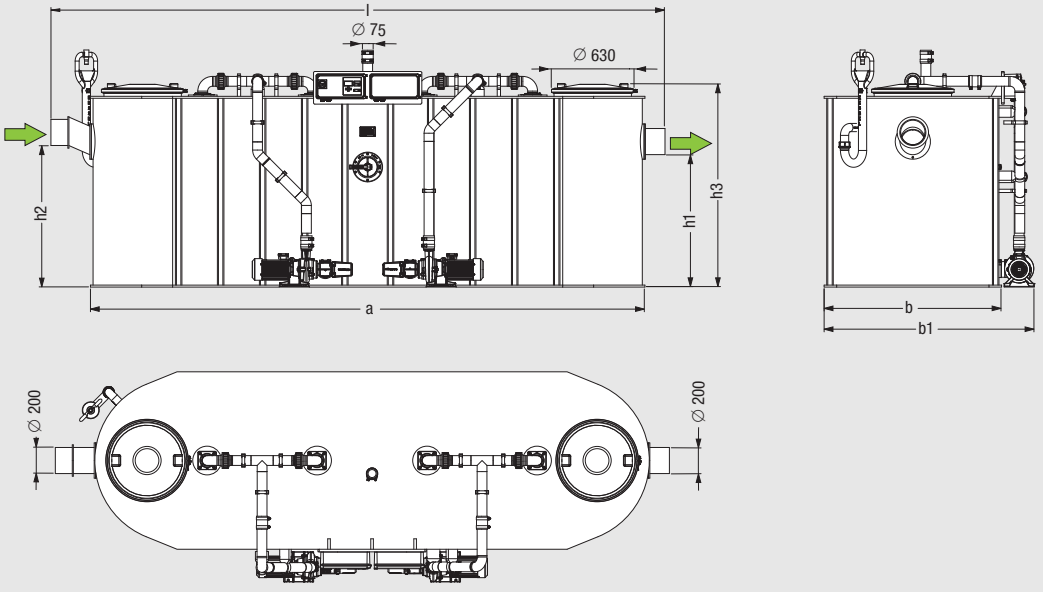
KESSEL Shredder-Mix-System with mixing and rinsing via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, cable length 5m, control unit for actuating the pump(s) and the solenoid valves, refill inlet in accordance with DIN 1988, R 1 connection. 2 solenoid valves 1“, viewing window with wiper, viewing window with wiper. Inlet and outlet ∅ 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Model type: Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.

	without *SonicControl*
NS 15	**93 015.01/DSP**
NS 20	**93 020.01/DSP**
NS 25	**93 025.01/DSP**
NS 30	**93 030.01/DSP**



∅ = Outer diameter
b1 = Set-up dimensions



Technical note see page 283

Nominal size	∅	a	Installation dimensions l x b	b1	h1	h2	h3	Sludge	Grease	Total (including water)
NS 15	200	3300	3560 x 1350	1620	1130	1200	1625	1500 l	600 l	2600 l
NS 20	200	4250	4510 x 1350	1620	1030	1100	1525	2000 l	800 l	3370 l
NS 25	200	4500	4760 x 1350	1620	1030	1100	1525	2500 l	1000 l	3700 l
NS 30	250	4600	4860 x 1350	1620	1170	1240	1625	3000 l	1200 l	4370 l

Euro Mix (*D+S*) — NS 15 - 30

Illustration	Article description	NS	Article #

Illustration shows nominal sizes
NS 20 - 30 (NS 15 with single pump)

Certification: Z-54.1-473

Delivery:
System completely assembled.

Accessories:
Sampling chamber, lifting station

Grease separator
***Euro* Mix (*D+S*) NG ...**

☐ **with direct disposal and Shredder-Mix-System,**
according to Euro Norm EN 1825 and DIN 4040, non-recycled polyethylene, pumping capacity 3.0 kW.

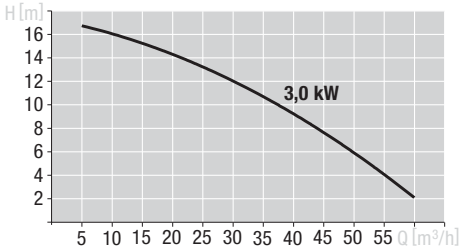
5 m cable length

For free-standing installation in frost-protected areas, with integrated sludge trap and sloped surfaces for fast and clean disposal, with two domed covers made of polymer, with quick-release closures, sealed odour-tight, with suction device installed for the joint disposal of contents of sludge trap and grease separator chamber, intake pipe 75 mm OD PN 10 in accordance with DIN 2501, Storz-B coupling R 2 1/2 for connection to the disposal vehicle.

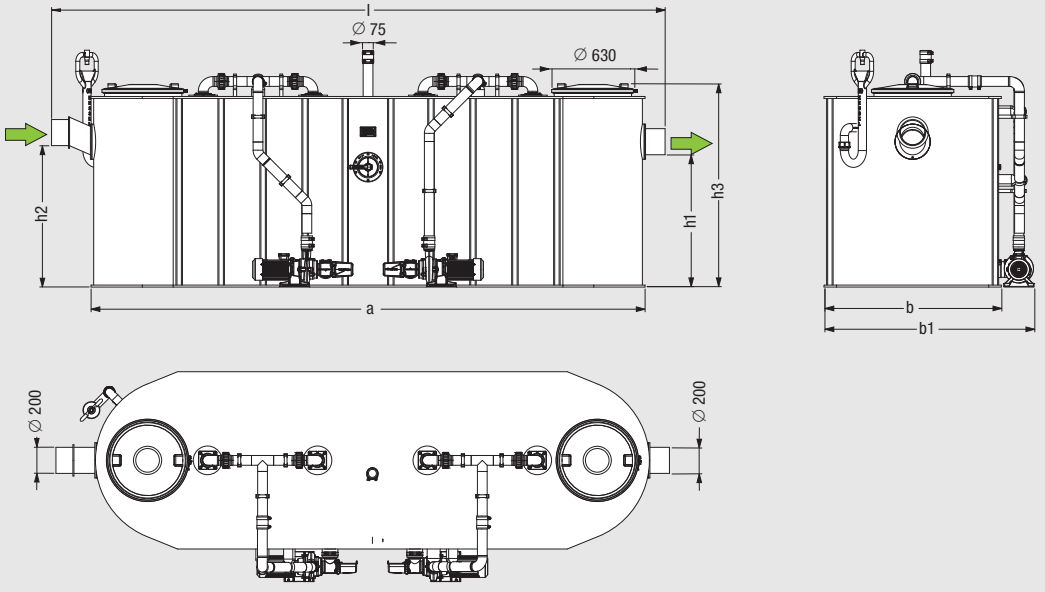
KESSEL Shredder-Mix-System with mixing and rinsing via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, cable length 5m, switch unit for actuating the pump, refill inlet in accordance with DIN 1988, R 1 connection. Inlet and outlet ∅ 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Model type: Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.

	without *SonicControl*
	without inspection window
NS 15	**93 015.01/DS**
NS 20	**93 020.01/DS**
NS 25	**93 025.01/DS**
NS 30	**93 030.01/DS**



∅ = Outer diameter
b1 = Set-up dimensions



Technical note see page 283

Nominal size	∅	a	Installation dimensions l x b	b1	h1	h2	h3	Sludge	Grease	Total (including water)
NS 15	200	3300	3560 x 1350	1620	1130	1200	1625	1500 l	600 l	2600 l
NS 20	200	4250	4510 x 1350	1620	1030	1100	1525	2000 l	800 l	3370 l
NS 25	200	4500	4760 x 1350	1620	1030	1100	1525	2500 l	1000 l	3700 l
NS 30	250	4600	4860 x 1350	1620	1170	1240	1625	3000 l	1200 l	4370 l

Euro Standard (*D*) — NS 15 - 30

Illustration	Article description	NS	Article #
			without *SonicControl*
			without accessories
	**Grease separator *Euro* Standard (*D*) NS ...** ☐ **with direct disposal** according to Euro Norm EN 1825 and DIN 4040, non-recycled polyethylene For free-standing installation in frost-protected areas, with integrated sludge trap and sloped surfaces for fast and clean disposal, with two domed covers made of polymer, with quick-release closures, sealed odour-tight, with suction device installed for the joint disposal of contents of sludge trap and grease separator chamber, intake pipe 75 mm OD PN 10 in accordance with DIN 2501, Storz-B coupling R 2 1/2 for connection to the disposal vehicle. Inlet and outlet ∅ 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS. **Model type:** Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.	NS 15 NS 20 NS 25 NS 30	**93 015.01/D** **93 020.01/D** **93 025.01/D** **93 030.01/D**

NEW

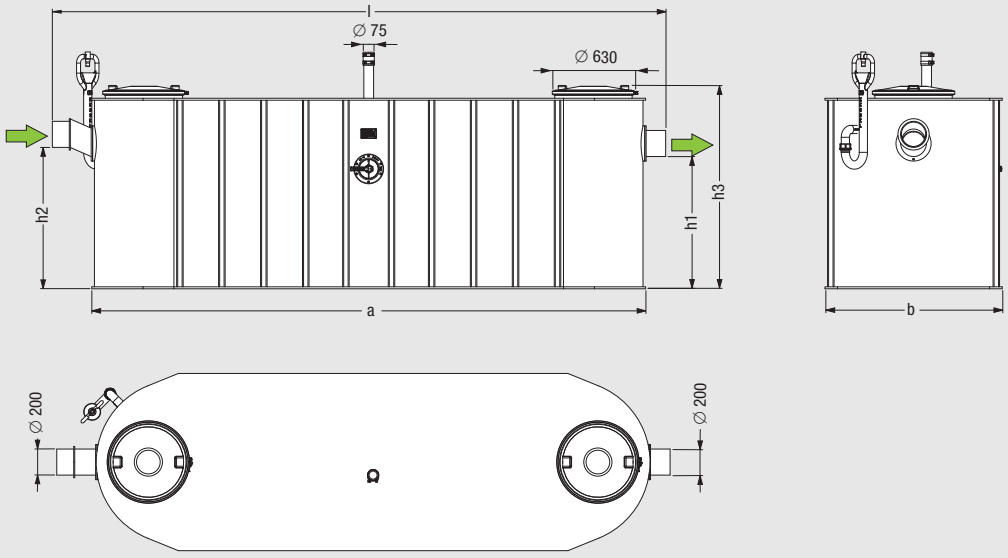
Certification: Z-54.1-473

Delivery:
System completely assembled.

Accessories:
Inspection window and refill inlet, Sampling chamber, lifting station.

Upgradable to *PV+S* Auto Mix & Pump, see page 275

∅ = Outer diameter
b1 = Set-up dimensions



Technical note see page 283

Nominal size	∅	a	Installation dimensions l x b	h1	h2	h3	Sludge	Grease	Total (including water)
NS 15	200	3300	3560 x 1350	1130	1200	1625	1500 l	600 l	2600 l
NS 20	200	4250	4510 x 1350	1030	1100	1525	2000 l	800 l	3370 l
NS 25	200	4500	4760 x 1350	1030	1100	1525	2500 l	1000 l	3700 l
NS 30	250	4600	4860 x 1350	1170	1240	1625	3000 l	1200 l	4370 l

Euro Basic (*G*) — NS 15 - 30

Illustration	Article description	NS	Article #
NEW 	**Grease separator Basic (*G*) NS ...** ☐ **basic version,** according to Euro Norm EN 1825 and DIN 4040, non-recycled polyethylene For free-standing installation in frost-protected areas, with integrated sludge trap, two domed covers made of polymer, with quick-release closure, sealed odour-tight. Inlet and outlet ∅ 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS. **Model type:** Right, can be changed to the left-hand model type by replacing the inlet and outlet connecting pipes.		**without *SonicControl*** without accessories
		NS 15	**93 015.01**
		NS 20	**93 020.01**
		NS 25	**93 025.01**
		NS 30	**93 030.01**

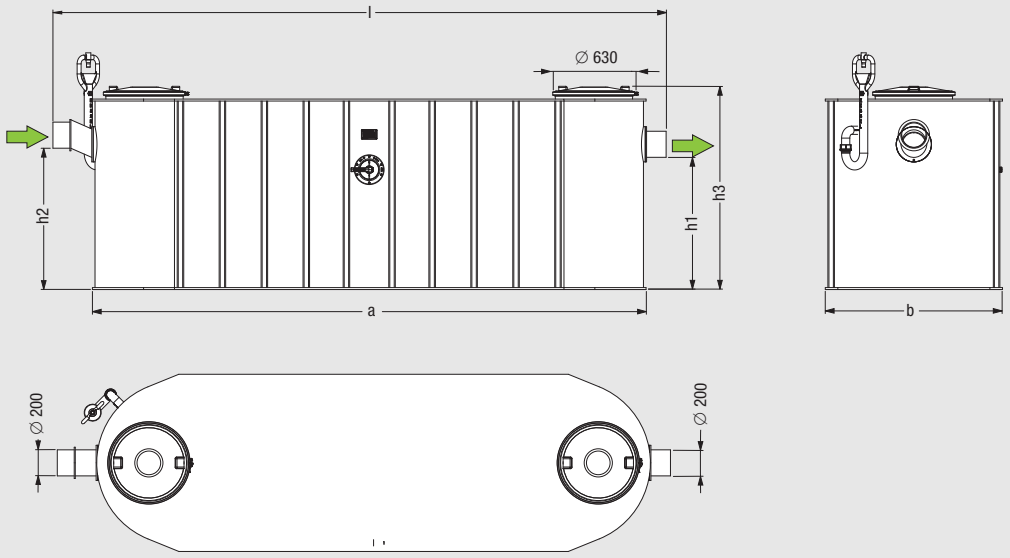
Certification: Z-54.1-473

Delivery:
System completely assembled.

Accessories:
Inspection window and refill inlet, Sampling chamber, lifting station.

Upgradable to *PV+S* Auto Mix & Pump, see page 275

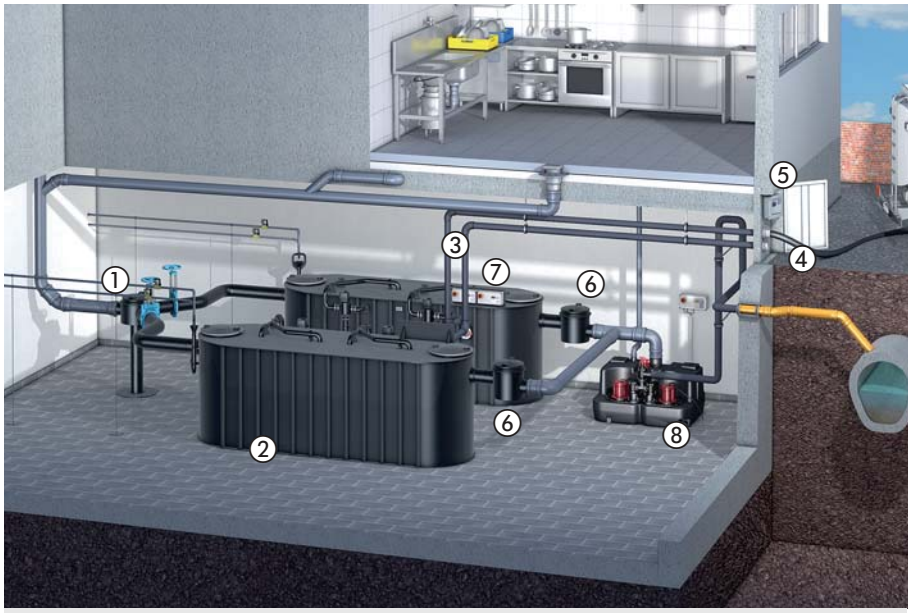
∅ = Outer diameter
b1 = Set-up dimensions



Technical note see page 283

Nominal size	∅	a	Installation dimensions l x b	h1	h2	h3	Sludge	Grease	Total (including water)
NS 15	200	3300	3560 x 1350	1130	1200	1625	1500 l	600 l	2600 l
NS 20	200	4250	4510 x 1350	1030	1100	1525	2000 l	800 l	3370 l
NS 25	200	4500	4760 x 1350	1030	1100	1525	2500 l	1000 l	3700 l
NS 30	250	4600	4860 x 1350	1170	1240	1625	3000 l	1200 l	4370 l

Installation example *Euro* Auto Mix & Pump *(PV+S)*



① Distribution box
② Grease separator
③ Disposal line
④ Connection for disposal truck
⑤ Remote control system (optional)
⑥ Sampling chamber
⑦ Control unit
⑧ Lifting station

Separator systems for grease are classified in nominal sizes. The nominal size (NS) defines the maximum permissible flow in litres per second. For most guest house or hotel applications, nominal sizes between NS 2 and NS 10 are sufficient. Where more wastewater occurs, larger sized grease separators are required. Our Euro series for free-standing installation has been designed for just this field of application and is available in the nominal sizes NS 15 - NS 30.
The function of the different grease separator is distinguished primarily on account of the type of disposal. There is a whole range available for you, from the Basic version with manual disposal right through to the Auto Mix & Pump version with automatic disposal and rinsing device!

Installation hints

Important is that a sampling chamber is installed after the outlet of the separator. The separator is installed completely level on a flat firm surface in a frost free area. The height of the room in which the separator is installed should allow easy removal and access of the two lids. In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed.

Professional advantages

- **Suitable for large quantities of wastewater NS 15 - NS 30.**
- **Contains numerous variants from the basic version right through to fully automated, program-controlled emptying.**
- **On-site grease separator assembly**
  With a team of KESSEL specialists, the grease separators can also be custom assembled on location. This allows larger grease separator to be used in existing buildings with limited access to the room in which the grease separator will be installed.

- **Complete System Solution**
  In addition to individual grease separators, KESSEL also offers complete separator packages consisting of grease separator, properly matched lifting station and advantageous accessories. All from one source - KESSEL.
- **Individual Solutions**
  KESSEL offers a fully staffed Individual Solutions Department with experience in designing and manufacturing drainage products exactly meeting your specifications. For additional information please contact us directly to discuss your requirement. Contact information is found on page 5.
- **Grease separator calculation**

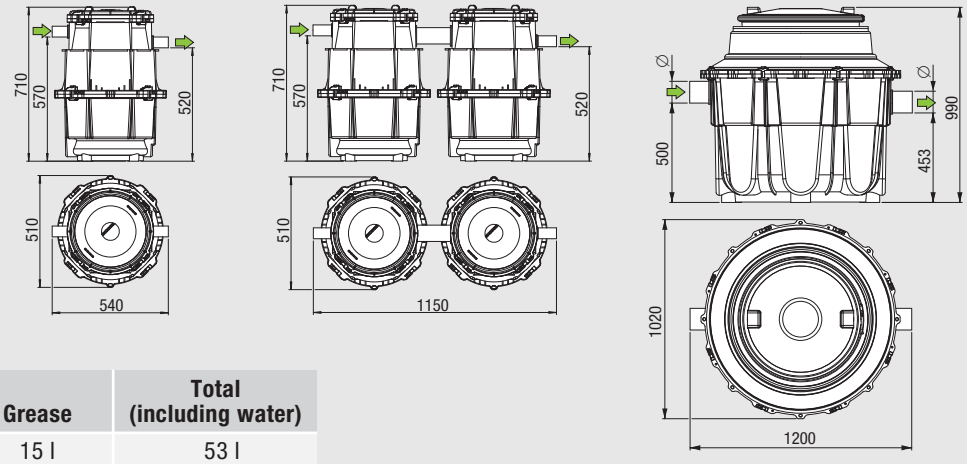
SmartSelect simply makes planning easier – calculation tool for separators at **smartselect.kessel.com**

Euro "G" can be split — NS 0,25 - 1

Illustration	Article description	NS	Weight	Article #
 Art. # 93 001	**Grease separator *Euro "G"* NS ...** ☐ in accordance with KESSEL standard, made of polyethylene **For free-standing installation in frost-protected rooms** **Note for the operating company:** The separated **grease must be skimmed off daily in the case of weekly emptying and cleaning.**	NS 0.25 NS 0.5 NS 1	20 kg 45 kg 65 kg	**93 025** **93 050** **93 001**
 Art. # 93 050				
 Art. # 93 025				

Delivery:
System completely assembled.

∅ = Outer diameter



Nominal size	∅	Sludge	Grease	Total (including water)
NS 0.25	50	25 l	15 l	53 l
NS 0.5	50	50 l	30 l	92 l
NS 1	110	100 l	60 l	175 l

Further nominal sizes on request

Technical note:
Production and weather related influences can lead to deviations from our specifications in the case of free-standing separators. For this reason, please check the height specifications in particular for their actual size before installation. Please adapt the pipework to the actual inlet and outlet dimensions before installing the grease separator. Thermal and mechanical influences must be taken into consideration.

Euro *G* and Euro *D* divisible — NS 1 - 4

Illustration	Article description		NS	Weight	Article #
	**Grease separator *Euro G* and *Euro D* divisible NS ...** ☐ according to EN 1825, made of polyethylene **For free-standing installation in frost-protected rooms** 1 Version *G* 2 Version *D* with direct disposal With integrated sludge trap, polyethylene quick release odour tight covers. **Accessories see page 286-287:** Sampling chamber, inspection window, *SonicControl*	1	NS 1	80 kg	**93 001-R2** *
			NS 2	80 kg	**93 002-R2** *
			NS 3	130 kg	**93 003-R2** *
			NS 4	130 kg	**93 004-R2** *
		2	NS 1	80 kg	**93 001.00/D1-R2** *
			NS 2	80 kg	**93 002.00/D1-R2** *
			NS 3	130 kg	**93 003.00/D1-R2** *
			NS 4	130 kg	**93 004.00/D1-R2** *

Further nominal sizes, variants with disposal device and on-site welding on request
info@kessel.com

Following approval no. Z-54.1-473

Delivery:
System completely assembled.
Screw connection can be undone to minimum installation dimensions

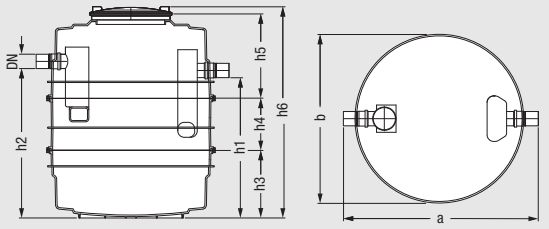


Illustration shows version *G*

Nominal size	∅	a	b	h1	h2	h3	h4	h5	h6	Sludge	Grease	Total (including water)
NS 1	110	1120	1020	780	850	485	200	445	1236	100 l	80 l	330 l
NS 2	110	1120	1020	1020	1090	485	300	545	1386	200 l	100 l	470 l
NS 3	110	1120	1020	1020	1090	485	300	545	1476	300 l	120 l	600 l
NS 4	110	1500	1300	1080	1150	520	400	650	1628	400 l	160 l	960 l

Ideal where access is extremely narrow
Separator can be split into 3 parts
for installation opening of max. 66 cm

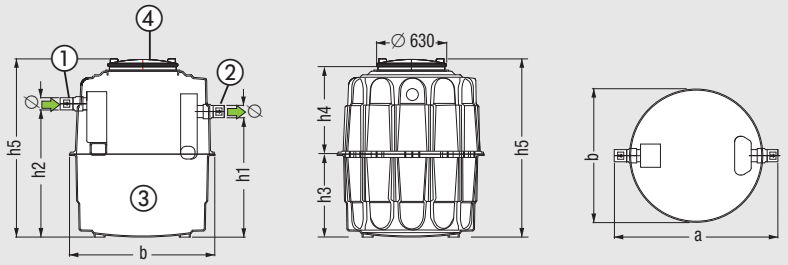
Euro G divisible — NS 2 - 4

Illustration	Article description	NS	Weight	Article #
	**Grease separator *Euro G*** **NS 2 - 4 divisible** ☐ according to EN 1825, made of polymer **For free-standing installation in frost-protected rooms** With polyethylene quick release odour tight covers. Inlet and outlet ∅ 110 for synthetic material pipes in: PE-HD (according to DIN 19537); PP, AS or HT according to DIN 19560.	NS 2 NS 3 NS 4	60 kg 60 kg 110 kg	**93 002-R** **93 003-R** **93 004-R**

Delivery:
Container screwed (screw connection can be undone to minimum installation dimensions ▷b x h4, heaviest single component 25 or 45 kg).

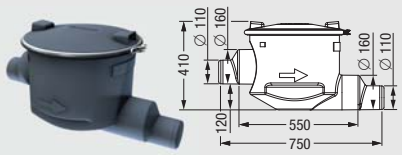
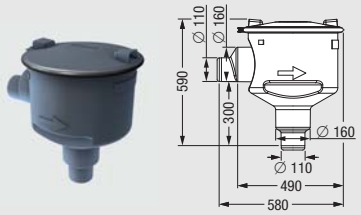
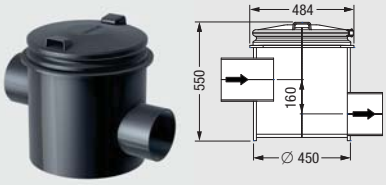
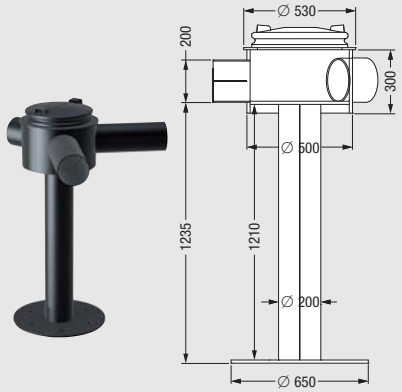
∅ = Outer diameter

① Inlet
② Outlet
③ Grease separator
④ Cover with quick release

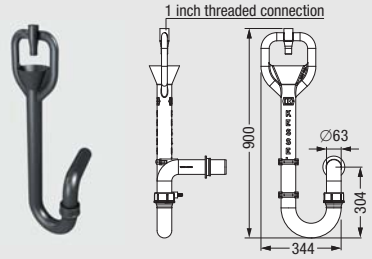


Nominal size	∅	a	b	h1	h2	h3	h4	h5	Sludge	Grease	Total (including water)
NS 1	110	1100	1020	1020	1090	650	690	1395	200 l	100 l	600 l
NS 2	110	1100	1020	1020	1090	650	690	1395	300 l	120 l	600 l
NS 4	110	1400	1300	1090	1160	765	790	1620	400 l	160 l	960 l

Sampling chamber / Polymer distribution box — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Sampling chamber ∅ 400** made of polymer **for separation systems** For connection to outlet pipe of separator. Inlet and outlet ∅ ... available options for synthetic material pipes in: PE-HD (according to EN 1519-1); PVC-HT, PP or AS, drop height 120 mm. Cover sealed odour-tight with snap closure. ☐ **Outlet lateral** ☐ **Outlet vertical**	∅ 110/160 ∅ 110/160	**915 871** **915 870**
			
	**Sampling chamber ∅ 450** For connection to outlet pipe of separator. Inlet and outlet ∅ 200 mm available options for synthetic material pipes in: PE-HD (according to EN 1519-1); PVC-HT, PP or AS, drop height 160 mm. Cover sealed odour-tight with snap closure. ☐ **Outlet lateral**	∅ 200	**915 863-IS**
	**Polymer distribution box for twin (parallel) separator systems** With inlet and outlet connection for polymer pipes made of: PE-HD (according to DIN 19537); PVC-HT, PP or AS.	∅ 110 ∅ 160 ∅ 200	**915 700-100** **915 700-150** **915 700-200**

Inspection window / Refill inlet — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	**Inspection window** for separation systems *EasyClean* For visual inspection of the thickness of the grease layer, with cleaning device, high-gloss polished inspection glass with centimetre scale.	-	**913 109**
	**Refill inlet** made of polymer **for separation systems** according to DIN 1988, for connection to filling and rinsing connection couplings of the separation systems, with two pipe clamps and attachment element together with pipe sealing gasket ∅ 63. ☐ **The version is to be monted on the left and right**	- -	**915 800**

SonicControl / *TeleControl* / RemoteControl — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	***SonicControl* level sensing system with ultra sonic sensor for grease separator** Accurate monitoring and data transfer of grease levels. 230 V - 50 Hz power connection. With battery back up, connection for remote speaker. Installation set with easy assembly and maintenance. For use on above ground or below ground separators. For retrofit use on existing separators. Control unit with optical and audible alarm with potential free contact. Electronic log book with 12 month capacity. Data transfer by telemetry. Voltage: 230 V ~ 50 Hz Protection: IP 54 Plug: Schuko 1.5 m Cable length: 10 m (extendable on-site to 60 meters)	-	**917 821**
	***TeleControl* telemetric system** for connection to KESSEL Comfort control units 230 Volt and 400 Volt. Relaying of full text messages to up to three mobile phones. Without SIM card.	-	**28 792**
	***TeleControl* antenna booster** for *TeleControl* telemetric system incl. 2.5 m cable to improve reception. With magnetic base.	-	**28 793**
	Antenna booster extension cable cable length 2.5 m	-	**28 794**
	**Remote control** Fits KESSEL Separation systems for free standing installation, for connection to an isolated ground socket Variant *PV+S* and *D+SP* in accordance with DIN 4040 and EN 1825. Cable length 15 m.	-	**916 601**

Euro PV+S NS 1 - 10

	NS	Weight	Installation depth D in mm	Cover class A/B Article #	Cover class D Article #
1	NS 1	270 kg	550 to 950	**93 001/80B-K-P1**	**93 001/80D-K-P1**
	NS 2	300 kg	550 to 950	**93 002/80B-K-P1**	**93 002/80D-K-P1**
	NS 4	325 kg	550 to 950	**93 004/80B-K-P1**	**93 004/80D-K-P1**
2	NS 1	270 kg	800 to 1200	**93 001/120B-K-P1**	**93 001/120D-K-P1**
	NS 2	300 kg	800 to 1200	**93 002/120B-K-P1**	**93 002/120D-K-P1**
	NS 4	325 kg	800 to 1200	**93 004/120B-K-P1**	**93 004/120D-K-P1**
	NS 7	525 kg	715 to 1165	**93 007/120B-K-P1**	**93 007/120D-K-P1**
	NS 10	550 kg	715 to 1165	**93 010/120B-K-P1**	**93 010/120D-K-P1**

Certification: Z-54.1-440 (NS 7 / 10)

Grease separator
***Euro PV+S* NS ...**

with program-controlled disposal system and Shredder-Mix system

☐ according to EN 1825 and DIN 4040-100, made of polyethylene material, pumping capacity 2.6 kW, incl. control unit and remote control

For underground installation
Upper section made of polymer material, continuous height and level compensation, with cover, class A/B, D according to EN 124 made of cast iron (can be driven over by cars and trucks), sealed odour-tight, incl. removal mechanism.

1 for underground installation frost-free depth 800 mm

2 for underground installation frost-free depth 1200 mm

Resistant when installed in the groundwater up to the lower edge of the drain outlet.

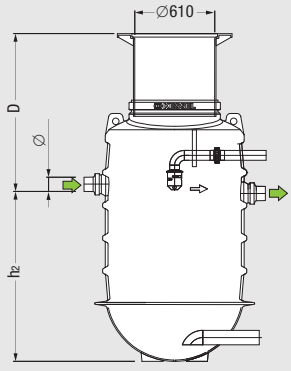
A load distribution plate must be planned for class D.

Delivery:
System completely assembled.
Further nominal sizes on request.
On-site connection pipes
(see connection accessories)

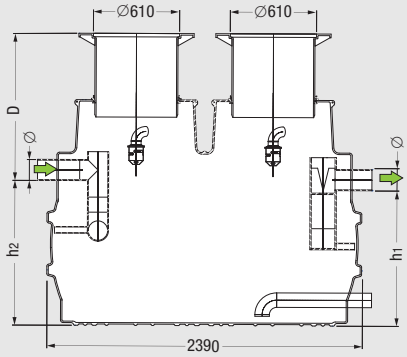
Accessories see page 291-293:
Jointing / connection set, disposal chamber ∅ 400 sampling chamber, intermediate section, *SonicControl*.
Pumping stations see chapter 3 “lifting stations”.

Nominal size	∅	a	b	h	h1	h2	Sludge	Grease	Total (including water)
NS 1	110	1380	1220	1500	690	795	140 l	70 l	370 l
NS 2	110	1380	1220	1750	940	1045	200 l	120 l	570 l
NS 4	110	1380	1220	2000	1210	1295	400 l	160 l	770 l
NS 7	160	2539	1200	1715	1030	1100	700 l	280 l	1800 l
NS 10	160	3062	1200	1715	1030	1100	1000 l	400 l	2600 l

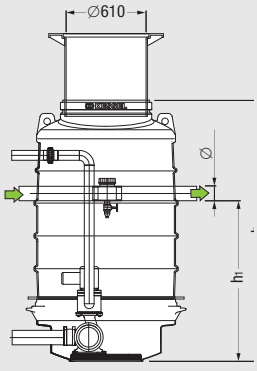
D = Installation depth
∅ = Outer diameter



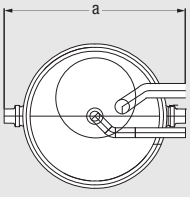
Grease separator NS 1-4

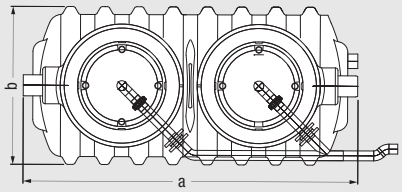


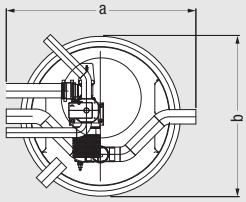
Grease separator NS 7-10



Engineering systems chamber







Euro G NS 1 - 4

Illustration		NS	Weight	Installation depth D in mm	Cover class A/B Article #	Cover class D Article #
	1	NS 1	111 kg	550 to 950	**93 001/80 B**	**93 001/80 D**
		NS 2	120 kg	550 to 950	**93 002/80 B**	**93 002/80 D**
		NS 4	130 kg	550 to 950	**93 004/80 B**	**93 004/80 D**
	2	NS 1	111 kg	800 to 1200	**93 001/120 B**	**93 001/120 D**
		NS 2	120 kg	800 to 1200	**93 002/120 B**	**93 002/120 D**
		NS 4	130 kg	800 to 1200	**93 004/120 B**	**93 004/120 D**

Delivery:
System completely assembled.

Accessories see page 291-293:
Sampling chamber, extension section, direct disposal, *SonicControl* (NS 2 and NS 4).
Pumping stations see chapter 3 “lifting stations”.

Certification: Z-54.1-440
Change pending

Grease separator *Euro G* NS 1/2/4

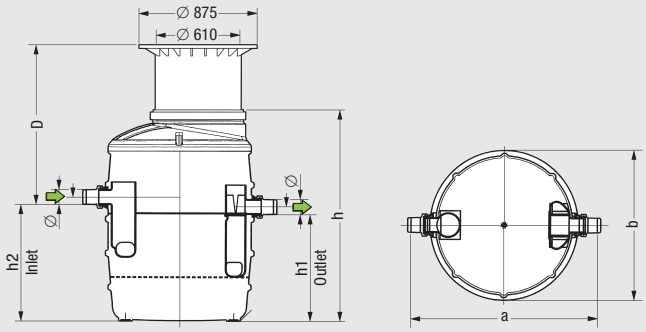
☐ in accordance with EN 1825 and DIN 4040-100, made of polyethylene

For underground installation
Upper section made of polymer, infinite height and level adjustment, with cover class A/B, D in accordance with EN 124 made of cast iron, sealed odour-tight, incl. lift-out key.

1 for ground installation frost-free depth 800 mm

2 for ground installation frost-free depth 1200 mm

D = Installation depth
∅ = Outer diameter



Resistant when installed in the groundwater up to 500 mm

A load distribution plate must be provided for class D.

Nominal size	∅	a	b	h [1]	h1	h2	Sludge	Grease	Total (including water)
NS 1	110	1380	1106	1050	540	610	140 l	70 l	370 l
NS 2	110	1380	1106	1300	790	860	200 l	120 l	570 l
NS 4	110	1380	1106	1550	1040	1110	400 l	160 l	770 l

Further nominal sizes on request

[1] Specifications apply for type 80. For type 120, h* = h + 250 mm.

Euro Basic (G) NS 7 - 35

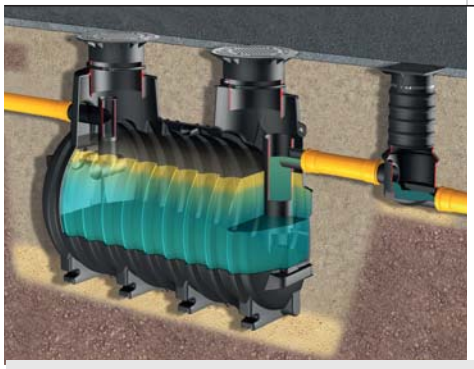


Illustration	NS	Installation depth D in mm	Weight class B	Cover class A/B Article #	Weight class D	Cover class D Article #
	NS 7*	740 to 1175	315 kg	**93 007/120 B**	450 kg	**93 007/120 D**
	NS 10*	740 to 1175	340 kg	**93 010/120 B**	480 kg	**93 010/120 D**
	NS 15*	765 to 1200	435 kg	**93 015/120 B**	630 kg	**93 015/120 D**
	NS 20*	765 to 1200	490 kg	**93 020/120 B**	670 kg	**93 020/120 D**
	NS 25	800 to 1235	665 kg	**93 925/120 B**	765 kg	**93 925/120 D**
	NS 30	800 to 1235	665 kg	**93 930/120 B**	765 kg	**93 930/120 D**
	NS 35	650 to 1085	665 kg	**93 935/120 B**	765 kg	**93 935/120 D**

Delivery:
System completely assembled.

Accessories see page 291-293:
Sampling chamber, extension section, direct disposal, *SonicControl*.
Pumping stations see chapter 3 “lifting stations”.

* **Certification: Z-54.1-440** (NS 7 - 20)

Grease separator *Euro Basic (G)*
NS 7/10/15/20/25/30/35

☐ in accordance with EN 1825 and DIN 4040-100, made of polyethylene

For underground installation
Upper section made of polymer, height and level adjustment, with cover class A/B, D in accordance with EN 124, made of cast iron (can be driven over by cars and trucks), sealed odour-tight, incl. lift-out key.

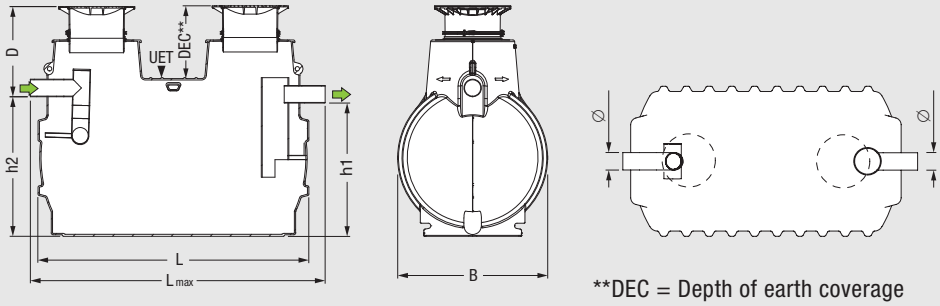
☐ **for ground installation: frost-free depth**

Minimum installation depth achieved by sawing the upper section as required

Installation is possible with groundwater up to the upper edge of the tank (UET).

A load distribution plate must be provided for class D.

Further nominal sizes on request



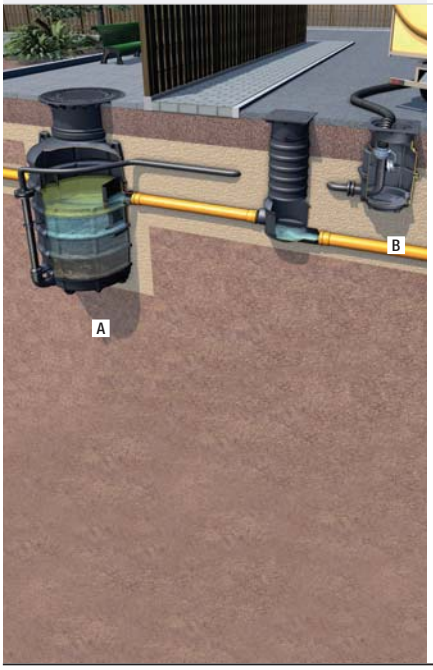
D = Installation depth
∅ = Outer diameter

**DEC = Depth of earth coverage
Class D = 700 mm ≤ DEC ≤ 1500 mm
Class A/B = 700 mm ≤ DEC ≤ 1800 mm

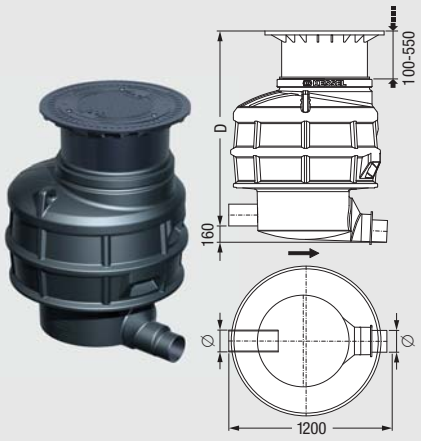
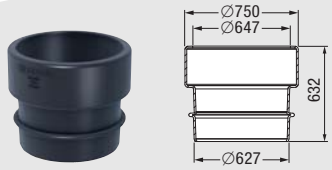
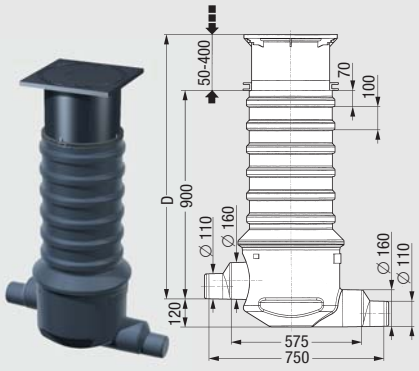
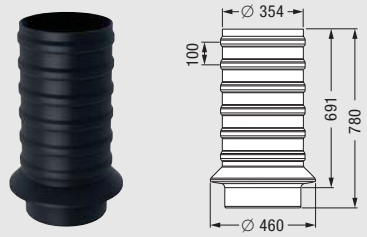
Nominal size	∅	L	B	h1	h2	Sludge	Grease	Total (incl. water)	D-DEC	Lmax mm
NS 7	160	2390	1200	1030	1100	700 l	280 l	1800 l	220 mm	2540
NS 10	160	2910	1200	1030	1100	1000 l	400 l	2600 l	220 mm	3060
NS 15	200	2590	1760	1550	1620	1500 l	600 l	4300 l	185 mm	2780
NS 20	200	3110	1760	1550	1620	2000 l	800 l	5800 l	185 mm	3300
NS 25	200	3470	2010	1550	1650	2500 l	2000 l	7800 l	480 mm	3760
NS 30	250	3470	2010	1550	1650	3000 l	2000 l	7800 l	480 mm	3760
NS 35	250	3470	2010	1700	1800	3500 l	2000 l	8300 l	330 mm	3760

Technical note:
Weather-related influences or cooling of the tanks during the installation phase (caused by filling with cold water) can lead to deviations in dimensions from the catalogue specifications in the case of cisterns and separators installed in the ground.

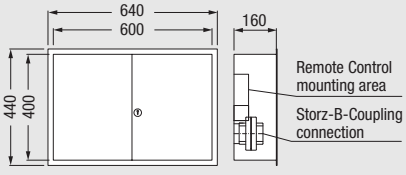
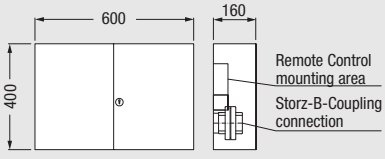
Direct disposal / disposal chamber — Accessories

Illustration	Article description	NS	Article #
	**Direct disposal** (A) **for grease separators** according to EN 1825 ☐ **without disposal chamber** Factory equipment for grease separators installed in the ground with direct disposal connection With flange connection ∅ 65, PN 10 (welded collar and loose flange) for the suction pipe on site, with Storz-B coupling R 2 1/2“ for disposal vehicle, for nominal sizes NS 1 - NS 35		
	☐ **Disposal connection right**	-	**917 419.00**
	☐ **Disposal connection left**	-	**917 419.50**
	Delivery: Installed suction device for the joint disposal from sludge trap and separating chamber, tank and direct connection completely assembled, disposal pipe and Storz-B connection on site. **Further installation depths, sizes and connections on request**		
	**Disposal chamber ∅ 400** (B) made of polyethylene, **for separator systems** according to EN 1825 **for installation in the ground, watertight** Installation depth (D) 630 mm to 980 mm With telescopic, height-adjustable upper section made of polymer with clamping ring,		
	☐ **with cover class A/B**	-	**917 422 B**
	☐ **with cover class D**	-	**917 422 D**
	in accordance with EN 124 made of cast iron, sealed odour-tight, incl. lift-out key, with Storz-B coupling R 2 1/2“ for disposal vehicle for grease separators *PV+S*, *D+SP* and *D+S*		
	Joint and connection set made of polyethylene For connection of the grease separator (NS 1 - NS 4) to the technical chamber for the variants grease separators *PV+S*, *D+SP* and *D+S* in ground installation, incl. Storz-B coupling, pipe clamps	-	**917 421**
	**Direct disposal** (A) + (B) **for grease separators** according to EN 1825 ☐ **including disposal chamber ∅ 400** (B) Factory equipment for grease separators installed in the ground with direct disposal connection With flange connection ∅ 65, PN 10 (welded collar and loose flange) for the suction pipe on site, with Storz-B coupling R 2 1/2“ for disposal vehicle, with chamber system ∅ = 400 mm incl. cover class A/B/D, sealed, Installation depth 630 mm to 980 mm for nominal sizes NS 1 - NS 35		
	☐ **Disposal connection right**	-	**917 420.00**
	☐ **Disposal connection left**	-	**917 420.50**
	Delivery: Installed suction device for the joint disposal from sludge trap and separating chamber, tank and direct connection completely assembled, disposal pipe on site. **Further installation depths, sizes and connections on request**		

Grease separator in accordance with EN 1825 — Accessories

Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Suitable for grease separator	Article #
	**Sampling chamber ∅ 1000** in polyethylene, **for separation systems,** **for underground installation** Installation depth (D) 1180 - 1630 mm (Other installation depths available on request) Inlet and outlet ∅ ... for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC-KG (according to EN 1401-1); PP or AS. With integrated access steps, with telescopically height-adjustable upper section made of polymer, with cover class A/B, D according to EN 124 in cast iron sealed odour-tight, incl. removal mechanism. Drop height 160 mm. 1 **Cover class A/B** 2 **Cover class D**	1 ∅ 110 ∅ 160 ∅ 200 2 ∅ 110 ∅ 160 ∅ 200	NS 1/NS 2/NS 4 NS 7 and NS 10 NS 15, NS 20 and custom-made NS 1/NS 2/NS 4 NS 7 and NS 10 NS 15, NS 20 and custom-made	**915 10 10 B** **915 10 15 B** **915 10 20 B** **915 10 10 D** **915 10 15 D** **915 10 20 D**
NEW 	**Extension section** made of polymer, ∅ **600** height increase: 500 mm	-	-	**917 460**
	**Sampling chamber ∅ 400** in polymer, **for separation systems,** **for underground installation** Installation depth (D) 400 - 1300 mm (minimum installation depth can be achieved by cutting off) For connection to outlet pipe of separator. Telescopic upper section with clamping ring, cover class A/B/D, sealed odour-tight, without removal mechanism, **drop height 120 mm**. Drop height 160 mm on request. ☐ **Cover class A** ☐ **Cover class B** ☐ **Cover class D** Extension by 600 mm with extension section Art. # 915 402	∅ 110/150 ∅ 200 ∅ 110/150 ∅ 200 ∅ 110/150 ∅ 200	- - - - - -	**915 880 A** **915 880 A-200** **915 880 B** **915 880 B-200** **915 880 D** **915 880 D-200**
	**Extension section** For deep installation Extension height max. 600 mm (can be shortened on-site). Check maintenance accessibility when installing in recesses! For sampling chamber ∅ 400 and ∅ 450	-	-	**915 402**

Grease separator in accordance with EN 1825 — Accessories

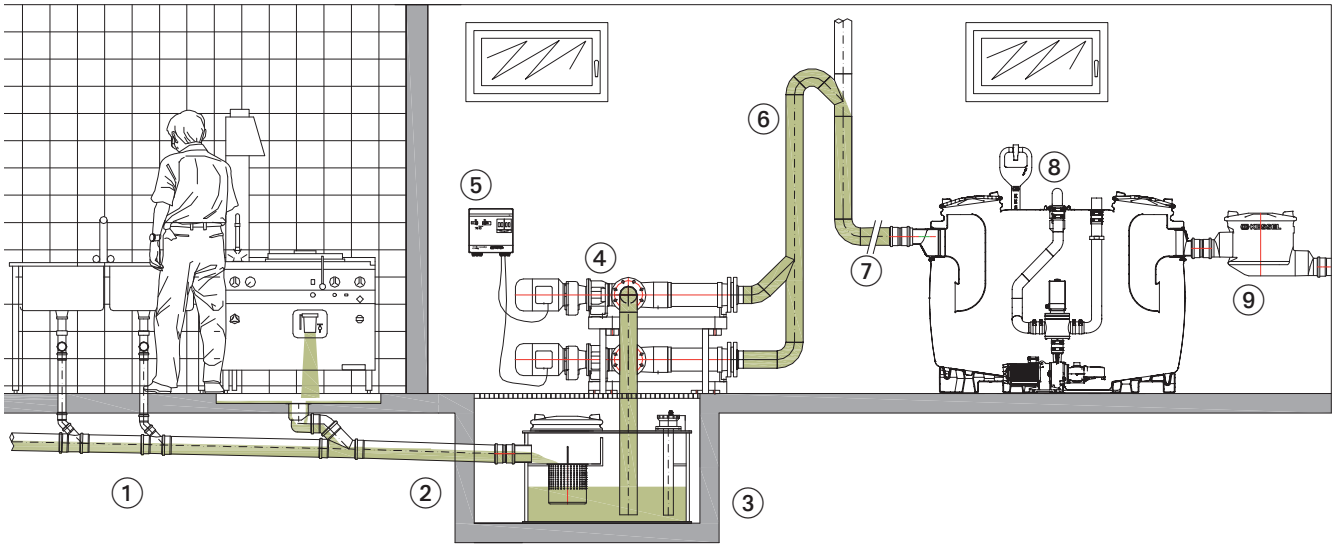
Illustration and dimensioned drawing	Article description	Outer diameter ∅ (mm)	Article #
	***SonicControl* level sensing system with ultra sonic sensor for grease separator** Accurate monitoring and data transfer of grease levels. 230 V - 50 Hz power connection. With battery back up, connection for remote speaker. Installation set with easy assembly and maintenance. For use on above ground or below ground separators. For retrofit use on existing separators. Control unit with optical and audible alarm with potential free contact. Electronic log book with 12 month capacity. Data transfer by telemetry. Voltage: 230 V ~ 50 Hz Protection: IP 54 Plug: Schuko 1.5 m Cable length: 10 m (extendable on-site to 60 meters) **Accessories** Audible alarm Art. # 20 162, 25 m cable extension available upon request. PE-HD Cable access conduit Art. # 917 822	-	**917 821**
	**Cable extension set for *SonicControl*** ☐ 10 m extension ☐ 20 m extension ☐ 30 m extension	- - -	**917 871** **917 872** **917 873**
	**Cable access conduit** Required for watertight connection of *SonicControl* cable into separator chamber (for underground separators a conduit pipe with chase wire should be planned)	-	**917 822**
	***TeleControl* telemetric system** for connection to KESSEL Comfort control units (lifting stations and separators) 230 Volt and 400 Volt. Relaying of full text messages to up to three mobile phones. Without SIM card.	-	**28 792**
	***TeleControl* antenna booster** for *TeleControl* telemetric system incl. 2.5 m cable to improve reception. With magnetic base.	-	**28 793**
	Antenna booster extension cable cable length 2.5 m	-	**28 794**
	**Stainless steel access panel** For recessed wall installation with Storz-B disposal pipe hook up connection and remote control connection for use with fully automated grease separators. Remote control not included. Dimensions: 640 x 440 x 160 mm (Width x Height x Depth) **Model: "Recessed"**, 2 doors, lockable	-	**917 414**
	**Stainless steel access panel** For wall installation with Storz-B disposal pipe hook-up connection and remote control connection for use with fully automated grease separators. Remote control not included. Dimensions: 600 x 400 x 160 mm (Width x Height x Depth) **Model: "Wall installation"**, 2 doors, lockable	-	**917 413**

Custom lifting stations upstream from the grease separator

In the case where the grease separator is located higher than the collected wastewater from the kitchen, the EN 1825 norm requires the use of special lifting stations.

Standard lifting stations with vortex or macerating pumps `mix‘ the wastewater as it is pumped. This causes the food waste and grease from the kitchen to fully mix with the wastewater which can negatively effect the efficiency of an EN 1825 grease separator. For this reason, positive displacement pumps (also known as `screw‘ pumps) are required for use in these cases. A screw pump `pushes‘ the wastewater into the grease separator, without any mixing taking place, allowing for proper grease separator operation.

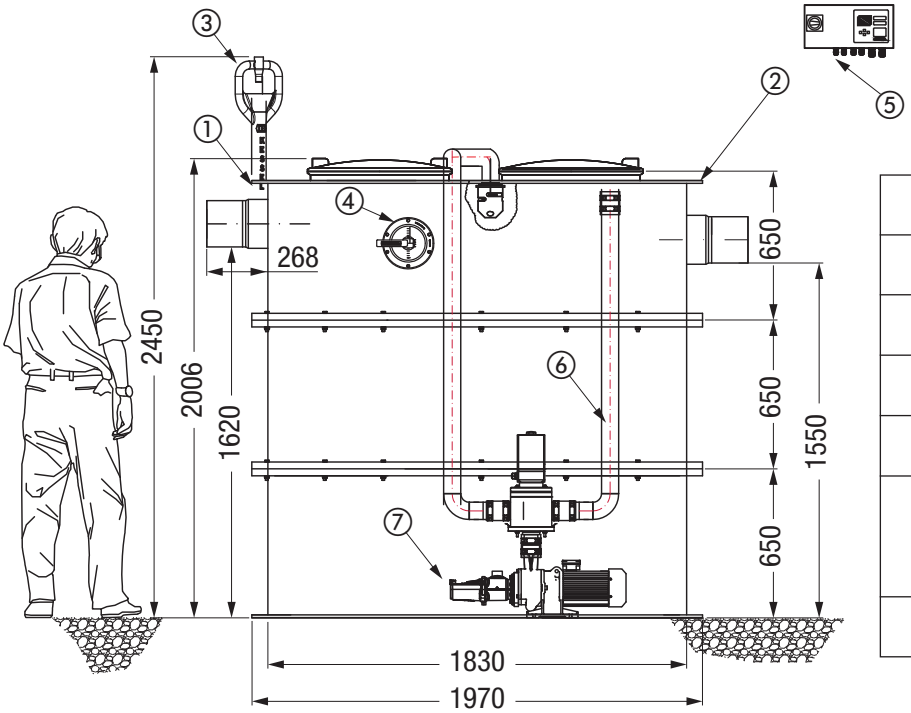
For additional information concerning Kessel positive displacement pumps, please contact KESSEL directly.



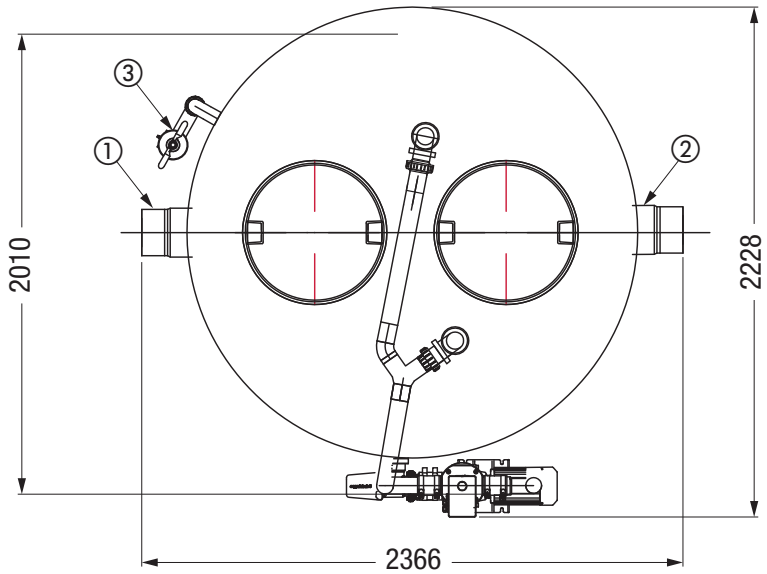
1	Drains in the kitchen
2	Inlet pipe
3	Collecting tank
4	Screw pump double system
5	Control unit
6	Pressure pipe
7	Calmed inlet
8	Grease separator
9	Sampling chamber

Custom lifting stations for pumping into grease separators NEW

For free standing grease separators in the NS 15 and NS 20 range, access into the room of installation or simply the available area for set up of the separator is often limited.
For these applications, KESSEL offers our `Round' series of above ground grease separators. These separators are available in a component system (as seen in the illustration) so that the separator can be taken apart on-site to reduce its size, brought through the limited access area and then set up again in the room of installation. For sites with full access but limited set up space, we also offer these separators in a monolith (single body) design which takes up less floor space than a rectangular separator.



1	Inlet DN 200 / OD = 200 mm
2	Outlet DN 200 / OD = 200 mm
3	Refill inlet 1"
4	Inspection window
5	Control unit
6	Disposal pipe DN 65, PN 10 with flange connection and Storz-B coupling 2 1/2" (EN 1092)
7	Disposal pump 3.0 kW



Our light liquid separators are resistant to E10 fuel and biodiesel.

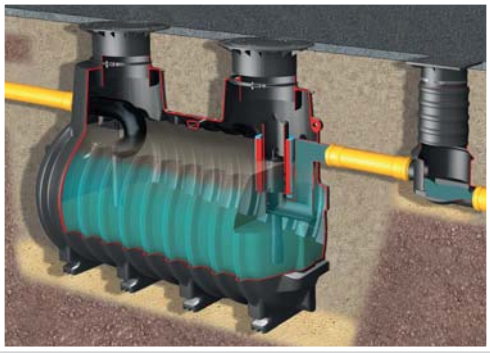
Light liquid separator made of polymer with DIBt approval

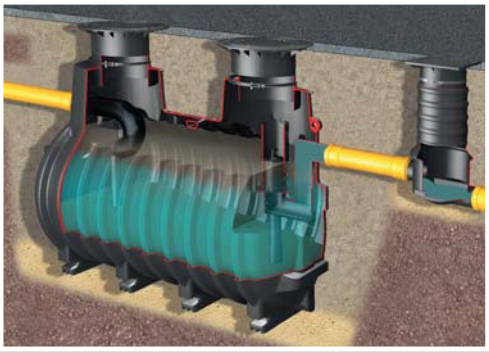
The renovation free alternative from plastic - with certification.

The KESSEL oil / fuel and coalescence separators are ideally suited for the everyday uses as well as protecting the environment. The certified structural testing, tank durability and complete watertightness (up to the top of the separator cover) are some of the many advantages of using polyethylene separators.

The allowable limits are met with low volume sludge traps. Low disposal costs are the advantage. The German Institute for Building Technology (DIBt) has approved these separators for use.

Light liquid separator for underground installation with DIBt approval





Coalescence separator
with DIBt approval

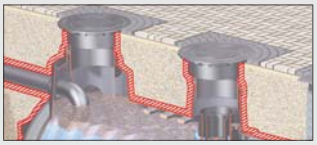
Oil-/Fuel separator
with DIBt approval

INSTALLATION

The telescopic upper sections allow easy individual installation depths and adaptation to ground levels.

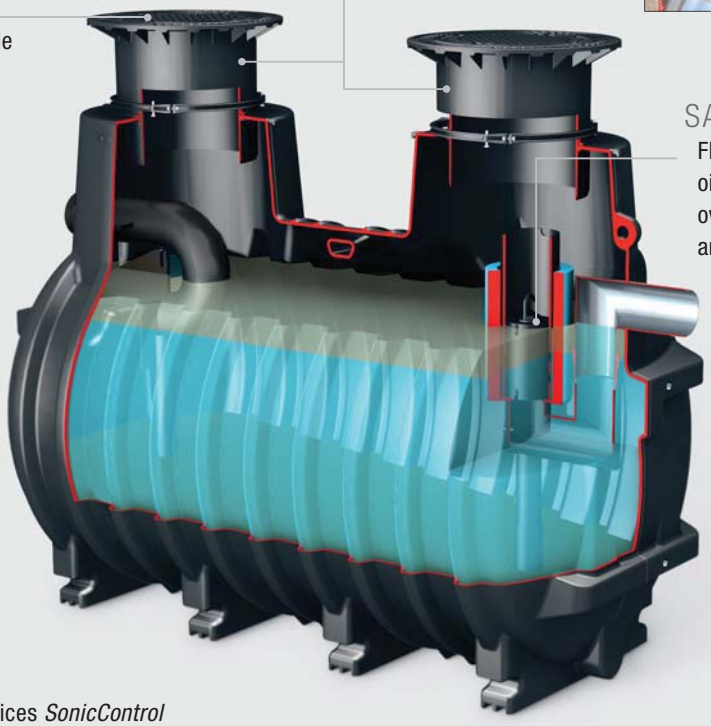
SAFE

Water-tight up to the top ground surface thanks to variable upper section with lip seal.



ODOR TIGHT

Odor tight covers available in classes A/B or D.



SAFETY

Float switch outlet lock prevents oil / fuel from the separator from overflowing out of the separator and into the sewer.

TRANSPORT

Low weight tanks as well as integrated fork lift grips allow for easy separator transport and installation

PRACTICAL

Automatic measuring devices *SonicControl* offers cm accurate monitoring and notification of oil / fuel or sludge layers as well as a flood / back-up warning.

KESSEL extends the warranty period for tanks beyond the statutory requirement to 20 years. This covers the water-tightness, usability and static safety of these components.

Polyethylene Warranty 20 Years

Oil-/Fuel separator, coalescence separator

Drinking water is one of our most precious resources. Our water is in danger wherever contaminants such as oil and petrol are used, such as at filling stations or during vehicle servicing and cleaning, or where lubricants are used. One single drop of petrol is enough to contaminate 1000 liters of water, which is why environmental damage must be prevented at an early stage. For this reason, soiled waste water is treated and cleaned before it is discharged into the sewage system. These tasks are taken over by light liquid separators.

Oil- / Fuel separators (Class II)

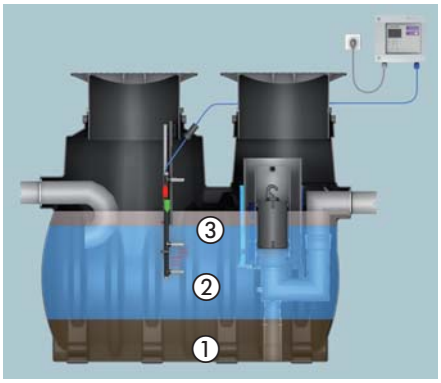
Oil/fuel separators are used to protect bodies of water and sewage systems from pollution through mineral oils. They work on the principle that the lower specific density of insoluble mineral oil products in wastewater makes them float upwards and collect at the surface. The outlet system with self-actuated closure prevents separated materials from flowing out.
EN 858 requires that oil-/fuel separators have hydrocarbon outlet concentrations at or below 100 mg/liter.

Coalescence separators (Class I)

Coalescence separators work on the same gravity principle as oil/fuel separators. To increase coalescence performance, there is an additional coalescence filter in the tank, unlike with oil/fuel separators. This filter is made of high-quality polymers and has two functions. Firstly, it has a positive influence on the flow within the separator, secondly it „filters“ the entire wastewater through the coalescence material.
EN 858 requires that coalescence separators have hydrocarbon outlet concentrations at or below 5 mg/liter.

The principle of gravity in the separator

The separating process is handled in the separator by making use of the principle of gravity (weight and buoyancy). The separator is divided into three zones, the sludge trap ①, the separator chamber ② and the oil trap ③. The sludge trap at the bottom serves to retain sediments such as sand. The oil trap located at the top serves to retain light liquids up to a density of 0.95 g/cm^3. In the zone between the sludge trap and the oil trap, the so-called separating chamber, the incoming wastewater is calmed to a major extent due to the increase in flow cross-section and in surface area. Under the influence of the above-mentioned forces the light liquid, water and sludge are separated.



YouTube

Which standards must be taken into account?

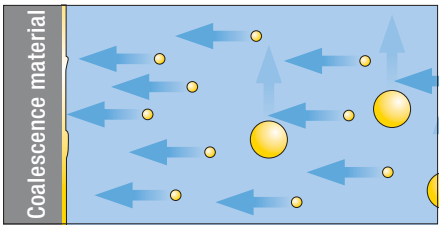
EN 858

Separator systems for volatile liquids such as oil and petrol
Basic construction, function and testing principles, marking and quality monitoring, choice of nominal size, installation, operation and maintenance

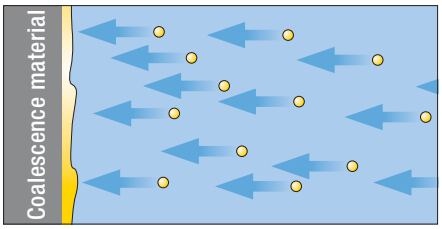
– Preventing environmental damage

Increased efficiency using coalescence filter inserts

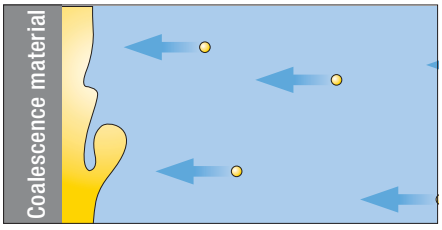
The efficiency of the oil/fuel separators can be increased by using coalescence filters. The finest droplets of oil can be separated out owing to the increased separator efficiency.



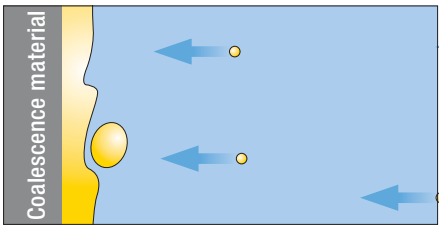
The oil droplets, which are not separated out owing to their different specific gravities with respect to the water, reach the oleophilic coalescence material and combine.



Owing to the coalescence effects, additional oil droplets can be retained. As a result of this, the oil film on the coalescence material continues to increase.



The increased size of the oil film increases the buoyancy. Individual large oil droplets split off.



The oil droplet floats to the surface and is separated out.

Outlet closure lock - self actuated

Oil/fuel separators and coalescence separators are equipped as standard with a self-actuated closure lock. This self-actuated closure lock prevents light liquid being released into the outlet, when the separator reaches its maximum oil/fuel storage volume. In the KESSEL light liquid separator this safety factor consists of a float inside a guide pipe which in normal operation is filled with water. The float is calibrated to float in water and sink in the light liquid (handles all substances with a specific gravity up to 0.95 g/cm^3). If the maximum oil storage volume is achieved, the oil flows through lateral openings into the float guide pipe. The float then sinks and completely seals the outlet of the separator.

Automatic measuring device *SonicControl*

In compliance with the Euro standard EN 858-1, light liquid separators must be equipped with automatic warning devices. The ultrasonic measuring instrument *SonicControl* for light liquid separators is used for reliable and continual measurement of the oil layer, the sludge level and detection of backwater.

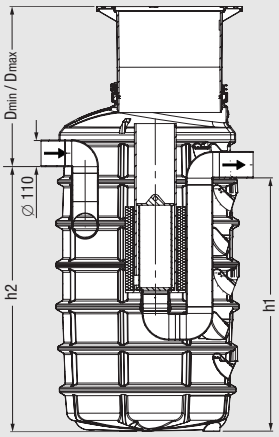
***SonicControl* for light liquid separators offers the following advantages:**

- Up to three warning devices in one
  - Monitoring of the oil layer
- - Monitoring of the sludge layer
  - Backwater warning
- Control through control unit
- USB - connection for data memory read-out
- Fast and easy installation
- Suitable for all light liquid separators from KESSEL AG
- Can be retrofitted to existing equipment
- Readout software *SonicControl Viewer* available on request

Low disposal costs thanks to oil/sludge extraction feature

During standard disposal, the hose from the disposal vehicle is held into the light liquid separator and the entire contents are pumped out. However, the quantity of light liquid is significantly lower than the total volume of the separator. Here, the situation is remedied with the oil extraction device. The suction hose is coupled to the oil suction system for disposal of the light liquid. This means that the disposal vehicle can only dispose of the volume that corresponds to the maximum quantity of light liquid. This saves time during disposal, reduces disposal costs and goes easy on the built-in components in the separator.
In the same way, the sludge suction system can be used to significantly reduce the disposal quantity too.

Coalescence Separator — NS 3 - NS 6



Coalescence separator class I Ø 1000

☐ according to EN 858, made of polyethylene

For underground installation, installation depth D from 565 to 1015 mm

With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³.

With removable coalescence filter insert.

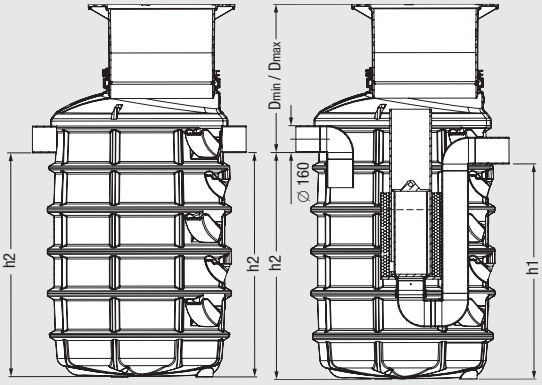
Completely water tight to top of cover, resistant against aggressive wastewaters. Vertically adjustable polymer upper section, tiltable to 5°, cast iron manhole cover according to EN 124, load class D, with removal key, certified structural test.
Inlet and outlet Ø ..... for synthetic material pipes in:
PE-HD (according to EN 12666-1);
PVC pipe (according to EN 1401-1); PP or AS.

Choose separator size and article number from table below. Contact KESSEL for separator sizing support if required.

1 **Cover class A/B**

2 **Cover class D**

Illustration	Article description	NS	Sludge trap capacity	Article #
	1	NS 6	200 liter	**99 706.02B**
		NS 6	600 liter	**99 706.06B**
		NS 3	800 liter	**99 703.04B**
		NS 6[1)]	1000 liter	**99 706.10B**
		NS 3	1600 liter	**99 703.10B**
		NS 6[1)]	1800 liter	**99 706.18B**
	2	NS 6	200 liter	**99 706.02D**
		NS 6	600 liter	**99 706.06D**
		NS 3	800 liter	**99 703.04D**
		NS 6[1)]	1000 liter	**99 706.10D**
		NS 3	1600 liter	**99 703.10D**
		NS 6[1)]	1800 liter	**99 706.18D**



Accessories:
see page 304 and 306

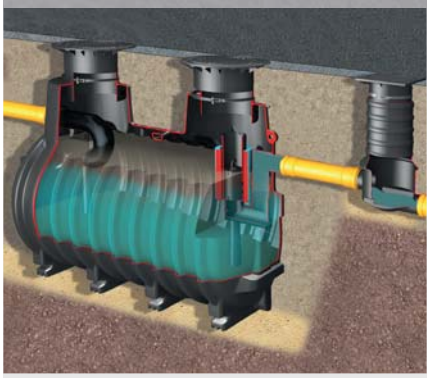
Delivery:
Completely assembled.

Not for installation in high groundwater areas!

NS	Ø*	Sludge disposal volume in liter	D min	D max	Weight in kg	h2 (Inlet bottom) in mm	h1 (Outlet bottom) in mm	Oil storage capacity in liter	Article #
1 NS 6	160	100	560	1090	175	1090	1020	200	**99 706.02B**
NS 6	160	300	560	1090	175	1590	1520	200	**99 706.06B**
NS 3	110	400	545	995	175	1105	1055	200	**99 703.04B**
NS 6[1)]	160	500	560	1090	305	1090	1020	200	**99 706.10B**
NS 3	110	800	545	995	190	1605	1555	200	**99 703.10B**
NS 6[1)]	160	800	560	1090	320	1590	1520	200	**99 706.18B**
2 NS 6	160	100	560	1090	205	1090	1020	200	**99 706.02D**
NS 6	160	300	560	1090	220	1590	1520	200	**99 706.06D**
NS 3	110	400	545	995	205	1105	1055	200	**99 703.04D**
NS 6[1)]	160	500	560	1090	338	1090	1020	200	**99 706.10D**
NS 3	110	800	545	995	220	1605	1555	200	**99 703.10D**
NS 6[1)]	160	900	560	1090	353	1590	1520	200	**99 706.18D**

[1)] = Twin-chamber system * Ø = Inlet and outlet outer diameter (mm)

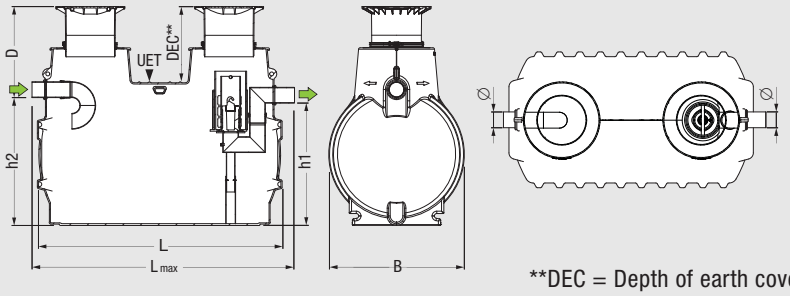
Coalescence separator — NS 3 - NS 15

Illustration	Article description	NS	Total volume	Article #
Suitable for filling stations with high-performance filling pumps, E10 and biodiesel fuels 	**Coalescence separator NS 3 - NS 15, class I** 1	NS 3	1800	**99 503.10B EX**
	☐ according to EN 858, made of polymer	NS 6	4300	**99 706.30B EX**
	For underground installation, installation depth D = ... mm	NS 6	5800	**99 706.80B EX**
		NS 10	2600	**99 710.15B EX**
	With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³.	NS 10	4300	**99 710.30B EX**
		NS 10	5800	**99 710.80B EX**
		NS 15	5800	**99 715.80B EX**
	With removable coalescence filter.			
	Upper sections made of polymer, continuous height and level adjustment, tiltable to 5°, with covers according to EN 124 in cast iron, including removal mechanism, private vehicle traffic proof, class B (depth of earth coverage DEC 700 to 1800 mm), traffic proof for heavy duty vehicles, class D (depth of earth coverage DEC 700 to 1500 mm and additional concrete slab provided on-site), certified statics, Inlet and outlet ∅ ... for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC pipe (according to EN 1401-1); PP or AS.	2 NS 3	1800	**99 503.10D EX**
		NS 6	4300	**99 706.30D EX**
		NS 6	5800	**99 706.80D EX**
		NS 10	2600	**99 710.15D EX**
		NS 10	4300	**99 710.30D EX**
		NS 10	5800	**99 710.80D EX**
		NS 15	5800	**99 715.80D EX**
	Choose separator size and article number from table below. Contact KESSEL for separator sizing support if required.			
	1 **Cover class A/B**			
	2 **Cover class D**			

Certification no. Z-54.3-454

∅ 160: D-DEC = 155 mm
∅ 200: D-DEC = 180 mm

Accessories:
Sampling chamber for underground installation, extension section for deep installation, alarm units for when the maximum oil level is reached and there is a back-up of water (required according to EN 858 Part 1), oil and sludge suction system, pump station, *SonicControl*, *TeleControl*.



Installation is possible with groundwater up to the upper edge of the tank (UET).

A load distribution plate must be planned for class D.

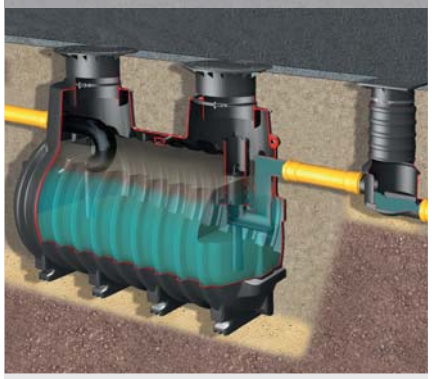
**DEC = Depth of earth coverage
Class D = 700 mm ≤ DEC ≤ 1500 mm
Class A/B = 700 mm ≤ DEC ≤ 1800 mm

NS	∅*	capacity	L	B	D min	D max	h2	h1	Oil storage capacity	level	Weight	Lmax mm
NS 3	160	1000 l	2390	1200	840	1240	1100	1070	217 l	80 mm	395 kg	2642
NS 6	200 [2]	2500 l [1]	2590	1760	850	1230	1630	1600	271 l	100 mm	535 kg	2940
NS 6	200 [2]	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	610 kg	3460
NS 10	160	1500 l	2910	1200	840	1240	1110	1070	267 l	100 mm	440 kg	3162
NS 10	200 [2]	2500 l [1]	2590	1760	850	1230	1630	1600	271 l	100 mm	535 kg	2940
NS 10	200 [2]	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	610 kg	3460
NS 15	200	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	610 kg	3460

[1] **Comparable sludge trap total volume in accordance with the dimensioning according to EN 858.**
[2] eccentric reduction inlet/outlet to ∅ 160 possible on-site, as a consequence the sampling chamber 915880 A/B/D can be used see page 304.

* ∅ = Inlet and outlet outer diameter (mm)

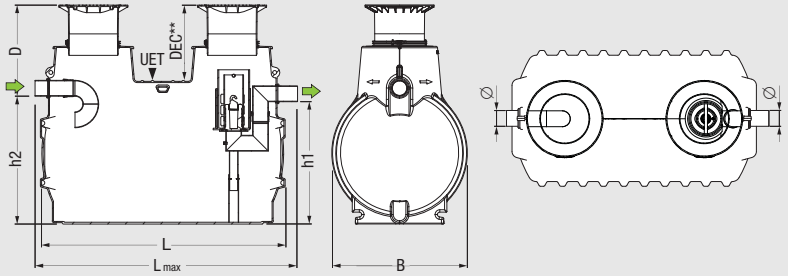
Oil-/fuel separator — NS 3 - NS 20

Illustration	Article description	NS	Total volume	Article #
Suitable for filling stations with high-performance filling pumps, E10 and biodiesel fuels 	**Oil-/fuel separator NS 3 - NS 20, class II** 1 ☐ according to EN 858, made of polymer **For underground installation, installation depth D = ... mm** With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³. Upper sections made of polymer, continuous height and level adjustment, tiltable up to 5°, with covers according to EN 124 in cast iron, incl. removal mechanism, private vehicle traffic proof, class B (depth of earth coverage DEC 700 to 1800 mm), traffic proof for heavy duty vehicles, class D (depth of earth coverage DEC 700 to 1500 mm and additional concrete slab provided on-site), certified statics, Inlet and outlet ∅ ... for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC pipe (according to EN 1401-1); PP or AS. Choose separator size and article number from table below. Contact KESSEL for separator sizing support if required. **1 Cover class A/B** **2 Cover class D**	NS 3 NS 6 NS 6 NS 10 NS 10 NS 10 NS 15 NS 20 NS 3 NS 6 NS 6 NS 10 NS 10 NS 10 NS 15 NS 20	1800 4300 5800 2600 4300 5800 5800 5800 1800 4300 5800 2600 4300 5800 5800 5800	**99 403.10B EX** **99 606.30B EX** **99 606.80B EX** **99 610.15B EX** **99 610.30B EX** **99 610.80B EX** **99 615.80B EX** **99 620.80B EX** **99 403.10D EX** **99 606.30D EX** **99 606.80D EX** **99 610.15D EX** **99 610.30D EX** **99 610.80D EX** **99 615.80D EX** **99 620.80D EX**

Certification no. Z-54.2-453

∅ 160: D-DEC = 155 mm
∅ 200: D-DEC = 180 mm

Accessories:
Sampling chamber for underground installation, extension section for deep installation, alarm units for when the maximum oil level is reached and there is a back-up of water (required according to EN 858 Part 1), oil and sludge suction system, coalescence filter insert for retrofitting to the coalescence separator, pump station, *SonicControl*, *TeleControl*.



Installation is possible with groundwater up to the upper edge of the tank (UET).

A load distribution plate must be planned for class D.

**DEC = Depth of earth coverage
Class D = 700 mm ≤ DEC ≤ 1500 mm
Class A/B = 700 mm ≤ DEC ≤ 1800 mm

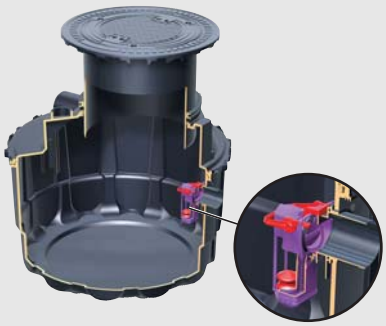
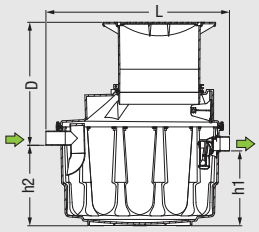
NS	∅*	D capacity	L	B	min	max	h2	h1	Oil storage capacity	Excess level	Weight	Lmax mm
NS 3	150	1000 l	2390	1200	840	1240	1100	1070	217 l	80 mm	379 kg	2642
NS 6	200	2500 l	2590	1760	850	1230	1630	1600	271 l	100 mm	519 kg	2940
NS 6	200	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	594 kg	3460
NS 10	150	1500 l	2910	1200	840	1240	1110	1070	267 l	100 mm	424 kg	3162
NS 10	200	2500 l	2590	1760	850	1230	1630	1600	271 l	100 mm	519 kg	2940
NS 10	200	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	594 kg	3460
NS 15	200	5000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	594 kg	3460
NS 20	200	4000 l	3110	1760	870	1250	1630	1600	356 l	130 mm	600 kg	3460

[1] **Comparable sludge trap total volume in accordance with the dimensioning according to EN 858-2.**
[2] eccentric reduction inlet/outlet to ∅ 160 possible on-site, as a consequence the sampling chamber 915880 A/B/D can be used see page 304.

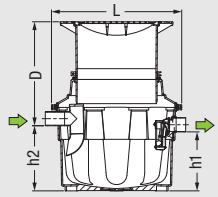
Technical note:
Weather-related influences or cooling of the tanks during the installation phase (caused by filling with cold water) can lead to deviations in dimensions from the catalogue specifications in the case of cisterns and separators installed in the ground.

* ∅ = Inlet and outlet outer diameter (mm)

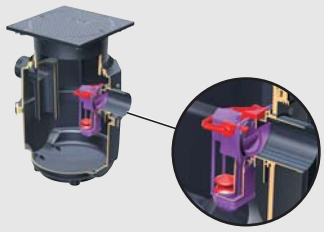
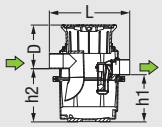
Oil-/fuel separator according to KESSEL Standard — NS 1.5

Illustration and dimensioned drawing	Article description	∅	Weight	Article #
 	**Oil-/fuel separator NS 1.5, class II, ∅ 1000** **For underground installation, installation depth D = ... mm** With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³. **Optional with backwater flap valve according to DIN 13564** Upper sections made of polymer, continuous height and level adjustment, cover class D. Inlet and outlet ∅ 110 for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC pipe (according to EN 1401-1); PP or AS. **Accessories:** - Sampling chamber - Alarm unit (upon request); not suitable for *SonicControl*	1000	110 kg	**99 601.041D**

NS	∅	Sludge trap capacity	L	B	D min	D max	h2	h1	Oil storage capacity	Excess level
NS 1.5	110	360 l	1425	1300	570	995	630	583	110 l	70

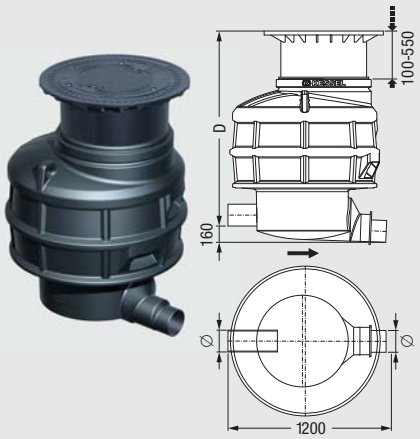
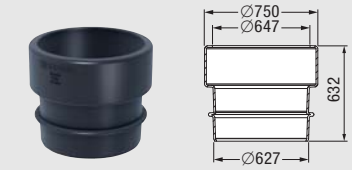
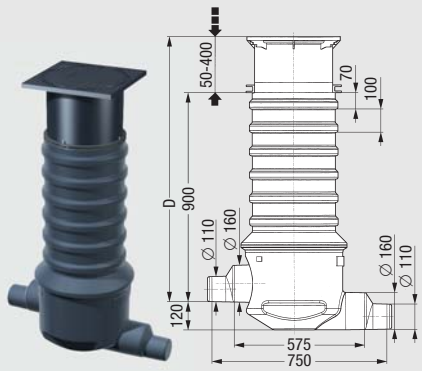
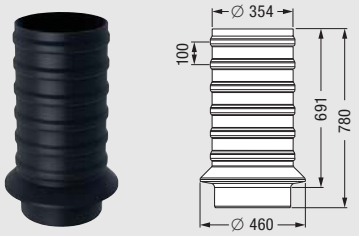
Illustration and dimensioned drawing	Article description	∅	Weight	Article #
 	**Oil-/fuel separator NS 1.5, class II, ∅ 800** **For underground installation, installation depth D = ... mm** With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³. **Optional with backwater flap valve according to DIN 13564** Upper sections made of polymer, continuous height and level adjustment, cover class B/D. Inlet and outlet ∅ 110 for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC pipe (according to EN 1401-1); PP or AS. **Accessories:** - Sampling chamber - Alarm unit (upon request); not suitable for *SonicControl*	800 800	74 kg 74 kg	**99 601.016B** **99 601.016D**

NS	∅	Sludge trap capacity	L	B	D min	D max	h2	h1	Oil storage capacity	Excess level
NS 1.5	110	130 l	1091	1012	518	942	508	461	70.5 l	50

Illustration and dimensioned drawing	Article description	∅	Weight	Article #
 	**Oil-/fuel separator NS 1.5, class II, ∅ 400** **For underground installation, installation depth D = ... mm** With integrated sludge trap and self-actuated closure lock, calibrated for light liquid with densities between 0.85 to 0.95 g/cm³. **Optional with backwater flap valve according to DIN 13564** Upper sections made of polymer, continuous height and level adjustment, cover class B. Inlet and outlet ∅ 110 for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC pipe (according to EN 1401-1); PP or AS. **Accessories:** - Sampling chamber - Not suitable for *SonicControl*	400	12 kg	**99 601.002B**

NS	∅	Sludge trap capacity	L	B	D min	D max	h2	h1	Oil storage capacity	Excess level
NS 1.5	110	17 l	582	520	231	324	389	342	17.6 l	50

Oil-/fuel separator / Coalescence separator — Accessories

Illustration and dimensioned drawing	Article description		Nominal width	Article #
	**Sampling chamber ∅ 1000** in polyethylene, **for separation systems,** **for underground installation** Installation depth (D) 1180 - 1630 mm (Other installation depths available on request) Inlet and outlet ∅ ... for synthetic material pipes in: PE-HD (according to EN 12666-1); PVC (according to EN 1401-1); PP or AS. With integrated access steps, with telescopically height-adjustable upper section made of polymer, with cover class A/B, D according to EN 124 in cast iron sealed odour-tight, incl. removal mechanism. Drop height 160 mm. 1 **Cover class A/B** 2 **Cover class D**	1 2	∅ 110 ∅ 160 ∅ 200 ∅ 110 ∅ 160 ∅ 200	**915 10 10 B** **915 10 15 B** **915 10 20 B** **915 10 10 D** **915 10 15 D** **915 10 20 D**
NEW 	**Extension section** made of polymer, ∅ **600** height increase: 500 mm		-	**917 460**
	**Sampling chamber ∅ 400** in polymer, **for separation systems,** **for underground installation** Installation depth (D) 400 - 1300 mm (minimum installation depth can be achieved by cutting off) For connection to outlet pipe of separator. Telescopic upper section with clamping ring, cover class A/B/D, sealed odour-tight, without removal mechanism, **drop height 120 mm**. Drop height 160 mm on request. ☐ **Cover class A** ☐ **Cover class B** ☐ **Cover class D** Extension by 600 mm with extension section Art. # 915 402		∅ 110/150 ∅ 200 ∅ 110/150 ∅ 200 ∅ 110/150 ∅ 200	**915 880 A** **915 880 A-200** **915 880 B** **915 880 B-200** **915 880 D** **915 880 D-200**
	**Extension section** For deep installation Extension height max. 600 mm (can be shortened on-site). Check maintenance accessibility when installing in recesses! For sampling chamber ∅ 400 and ∅ 450		-	**915 402**

Oil-/fuel separator / Coalescence separator — Accessories

Illustration	Article description	Type	Article #
 **Certification: BVS 11 ATEX E 040 X** - Can be used in explosive areas (Zone 0) - Acc. to RL 2014/34/EU designed in ignition protection class „Intrinsic safety“	***SonicControl* level sensing system with ultra sonic sensor for oil / coalescence separators from NS 3. With ATEX certification** **Accurate monitoring and data transfer…** ☐ **Type *OA*** of **oil layer thickness and back-up / overflow warning** ☐ **Type *O*** of **oil layer thickness** ☐ **Type *A*** **back-up / overflow warning;** With power chord, battery buffer system and connection for remote signalling device. Voltage: 230 V ~ 50 Hz; Protection type: IP 54; Plug: Schuko (double pole); Cable length: 30 m with cable duct set The sensor cable can be extended to a total length of 60 m.	Type OA Type O Type A	**917 826** **917 828** **917 830**
	**Cable extension set *SonicControl* for oil-, coalescence separators** ☐ 10 m cable length ☐ 20 m cable length ☐ 30 m cable length	- - -	**917 861** **917 862** **917 863**
 	***TeleControl* telemetric system** for connection to KESSEL Comfort control units 230 Volt and 400 Volt. Relaying of full text messages to up to three mobile phones. Without SIM card. ***TeleControl* antenna booster** for *TeleControl* telemetric system incl. 2.5 m cable to improve reception. With magnetic base. **Antenna booster extension cable** cable length 2.5 m	- - -	**28 792** **28 793** **28 794**
	**Cable access conduit** Required for watertight connection of *SonicControl* cable into separator chamber (for underground separators a conduit pipe with chase wire should be planned)	-	**917 822**

Oil/fuel separator / Coalescence separator — Accessories

Illustration	Article description	Outer diameter ∅ (mm)	Article #
	**Oil / fuel suction system** Intake suction hose (50 cm length) for direct suction of oil / fuel into disposal vehicle. Equipped with Storz B connection coupling.	∅ 160 ∅ 200	**917 803** **917 808**
	**Sludge suction system** Intake suction hose (50 cm length) for direct suction of sludge / sediment into disposal vehicle. Equipped with Storz B connection coupling.	∅ 160 ∅ 200	**917 804** **917 809**

Coalescence separator — Accessories

Illustration	Article description	Outer diameter ∅ (mm)	Article #
	**Coalescence filter insert** for retrofitting the KESSEL Oil/fuel separator NS 3 - NS 15 to coalescence separator	-	**917 805**
	**Coalescence filter** for KESSEL coalescence separator class I ∅ 1000	-	**917 816**

Separators
5

Underground lifting stations for use after oil-/fuel and coalescence separators see chapter 3 “lifting stations”.

Sediment separators for free-standing installation — NS 1 - NS 2

Illustration	Article description	NS	Weight	Article #
	**Sediment separator NS ...** ☐ **For free installation in frost protected areas** With removable polymer collection tank(s), polymer inlet cover and outlet odour trap, sealed with odour-tight domed cover. Inlet/outlet ∅ ..... for plastic adapter DIN 19534.	NS 1 NS 2	17 kg 50 kg	**97 201/000** **97 202/000**

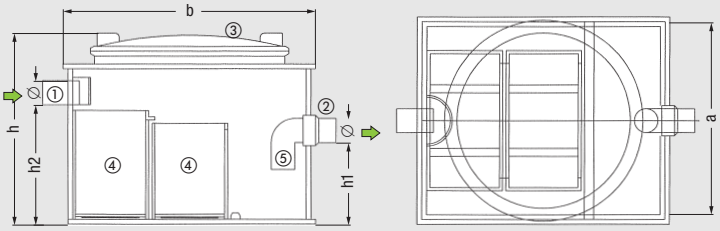
Delivery:
System completely assembled.

Delivery scope:
Tank with domed cover and removable collection tank(s)
NS 1: 1 collection tank
NS 2: 2 collection tank

Further nominal sizes on request.

III. shows NS 2

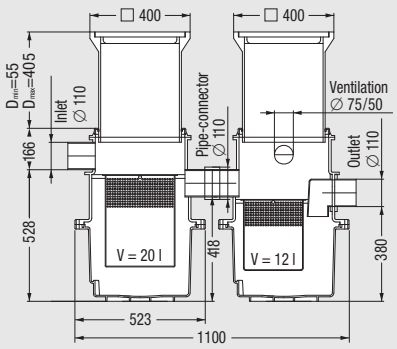
① Inlet
② Outlet
③ Domed cover
④ Collection tank
⑤ Odour trap



NS	∅	a	b	h	h1	h2	Volume collection tank (in litres)
NS 1	50	400	570	470	195	305	13
NS 2	70	650	800	596	255	373	51

Sediment separators for underground installation — NS 1 - NS 2

Illustration	Article description	NS	Weight	Article #
	**Sediment separator ∅ 400 NS ...** ☐ according to KESSEL factory standard **For underground installation** With detachable collection tank (hole diameter 5 mm), outlet odour trap. Vertically adjustable upper section with cover class A/B/D, odour-tight seal. Inlet/outlet ∅ 110 for plastic adapter DIN 19534.			
	☐ **Cover class A**	NS 1 NS 2	25 kg 45 kg	**97 201/00A** **97 202/00A**
	☐ **Cover class B**	NS 1 NS 2	25 kg 45 kg	**97 201/00B** **97 202/00B**
	☐ **Cover class D**	NS 1 NS 2	25 kg 45 kg	**97 201/00D** **97 202/00D**



Delivery:
System completely assembled.

Options:
Inlet/outlet ∅ = 40, 50, 75 mm
Stainless steel bucket with hole diameter: 3, 6, 8, 10, 12, 15 mm
Optional fine filter (mesh width 1.0 mm)

Delivery scope:
NS 1: 1 collection tank (12 l) removable
NS 2: 1 collection tank (12 l) + 1 collection tank (20 l) both are removable

PE starch separators for the food industry

According to DIN 1986-100, starch separators are required wherever wastewater containing starch exists.

Starch often results from the preparation of potatoes, grains, rice and husked vegetables. It is non dissolvable in water and sinks due to particle size and weight resulting in build-up, encrusting and blockage in wastewater pipes.

Germany does not have a product norm for starch separators and they are not required to be tested.

Starch separators for free-standing installation

Illustration	Article description	Article #
	**Starch separator** ☐ **For free installation in frost protected areas**	**System design and project planning to your specifications.**

Starch separators for underground installation

Illustration	Article description	Article #
	**Starch separator** ☐ **For underground installation**	**System design and project planning to your specifications.**

In compliance with DIN 1986-100, all companies that generate waste water containing starch require starch separators. Starch is created wherever potatoes, wheat or rice pulses are processed. Starch is insoluble in water and due to the particle size and density, it sinks to the bottom of the water, resulting in deposits, encrustation and blockages. There is no product standard in Germany for starch separators; also, they are not subject to mandatory testing.

Coalescence separator with bypass

EN 858-2 permits bypasses upstream from coalescence separators for cases where it is unlikely that significant contamination will result from light liquid in heavy rain. This means:

- ☐ for the treatment of oil contaminated run-off from car-parks, roads, parking lots or yards.
- ☐ not for treating contaminated water (industrial wastewater) from industrial processes.

Separators with bypass include a device which allows the liquid flow which exceeds the maximum permissible flow to be guided past the separator via a bypass.