



Grease separators manufactured from polyethylene

For free-standing and
underground installation





The complete range of grease separator systems
for free-standing installation in frost-protected
rooms or for underground installation



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Reasons for installing a grease separation system...

Operational and public effects of fats, oils and grease (FOGs)





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.

...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.

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 waste-water 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

Clear advantages when using polyethylene...

The long term solution –
grease separator systems made of PE polyethylene



...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. Additional interior surface finishing such as is required for concrete separators.

...Easy to retrofit

Version G for free-standing installation can simply be retrofitted to any other version.



German Institute for Structural Engineering (DIBt) certified.



KESSEL extends the warranty period for tanks and upper sections beyond the statutory requirement to 20 years.

This covers the water-tightness, usability and static safety of these components.

Separator function based on EN 1825

The KESSEL grease 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.

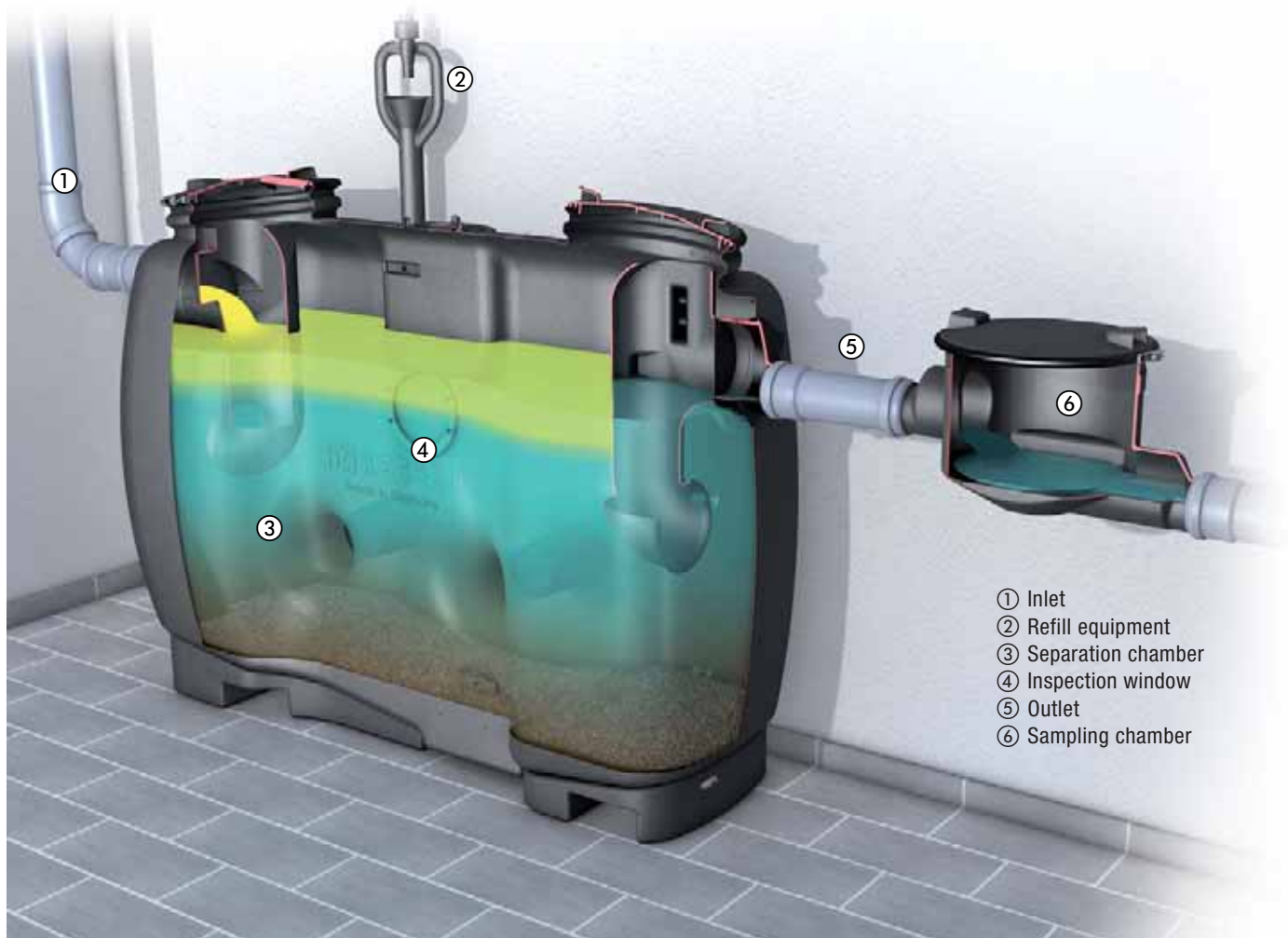
Examples of what should be connected to a separator: kitchen floor drains with odor traps, drainage channels, sinks, dishwashing machines and cooking vats.

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) separates from the wastewater and rises 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.



- ① Inlet
- ② Refill equipment
- ③ Separation chamber
- ④ Inspection window
- ⑤ Outlet
- ⑥ Sampling chamber

Individual Special Solutions

Thanks to our knowledge and possibilities in the field of polyethylene technology in terms of material, development, design, tooling and various polyethylene treatment methods, we are not only able to manufacture series products, we can also manufacture special solutions in accordance with your project-specific requirements.

To discuss your individual project, please get in contact with our Project Services Group at psg@kessel.com

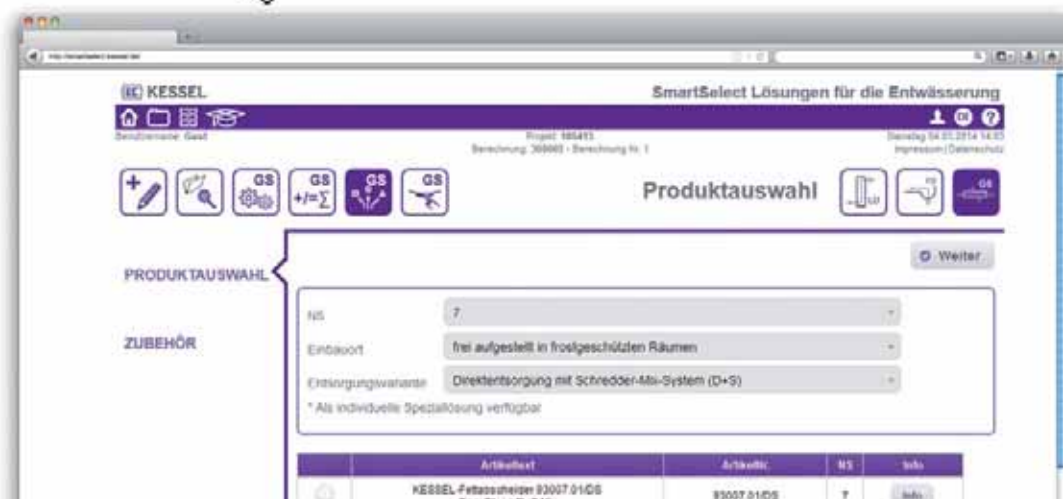


SmartSelect – simply makes planning faster

SmartSelect is an efficient tool for configuring, designing and calculating drainage solutions. It significantly reduces planning effort.

In addition, SmartSelect provides registered users with a project management program which can be used to request and edit saved projects. Registration at smartselect.kessel.de is free and takes only a few minutes!

- Calculation module lifting stations
- Calculation module separators
- Configurator for alternative sealing in the system



Overview of grease separators “free-standing installation”



PV+S

Page 14

- 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



M+S

Page 15

- 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



D+SP

Page 16

- 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



D+S

Page 17

- Direct disposal with Shredder-Mix-System for homogenisation of the tank contents
- Clean and odour-free disposal and cleaning
- Simple control
- Low-maintenance operation



D

Page 18

- With direct disposal connection
- Without pump
- Disposal with the tank closed
- Low-maintenance operation



G

Page 19

- Without direct disposal connection
- Without pump
- Low-maintenance operation

Overview of grease separators

“partial disposal of grease and sludge”



SE Premium Page 20

- With self disposal device for separated floating, setting sludge and grease removal**
- 750 W pump**
- Disposal possible during separator operation
- System with an external pump for removing the sediment from the grease separation chamber

“underground installation”



G NS 1 - 4 Page 24

- Basic version**
- Without direct disposal**
- Without pump**
- Low-maintenance operation



G NS 7 - 35 Page 25

- Basic version**
- Without direct disposal**
- Without pump**
- Low-maintenance operation

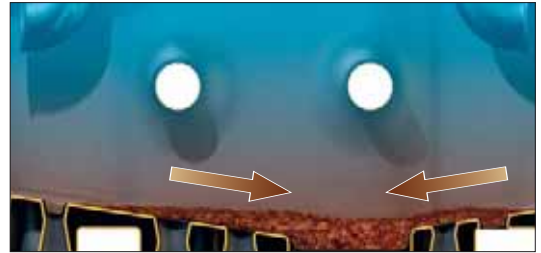
EasyClean - Grease separators made of polyethylene for free-standing installation

The new KESSEL grease separators *EasyClean* bring ease of installation, cleaning performance and energy efficiency up to a new level. The curved shape of the tank allows integration of the complete technology - the filling equipment, for example - within the standing area of the separator. It can also be set up directly against the wall, saving a great deal of space.

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

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.



Optimum use of space

Thanks to the refill inlet integrated in the separator. This makes installation directly against the wall possible.



Retrofitting

Can be retrofitted up to the *PV+S* variant



Variant *G Basic*



Variant *PV+S*

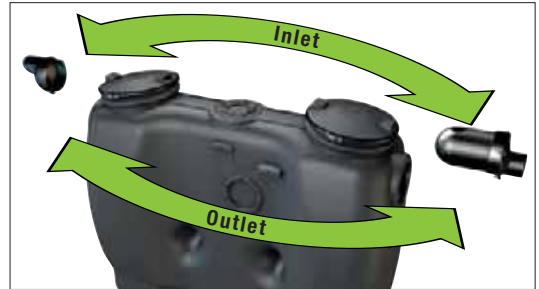
Straightforward maintenance and inspection

Sloped arrangement of the tank openings permits better access.



Flexible and easier planning

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.



Easier tank placement

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



shorter disposal times up to **40 %**

Time saved by high-performance disposal pump

less water consumption up to **32 %**

Low freshwater consumption during cleaning and filling thanks to disposal slopes and high-performance disposal pump.

Optimum disposal time

SonicControl
Layer thickness measuring device
with ultrasonic sensor*

For the measurement, display and control of the grease layer thickness and the water temperature.


* standard or optional

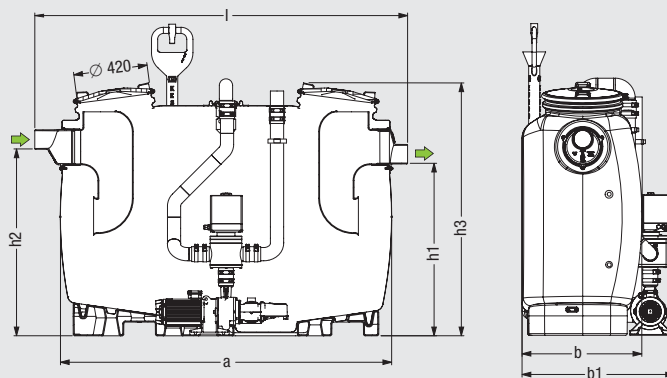
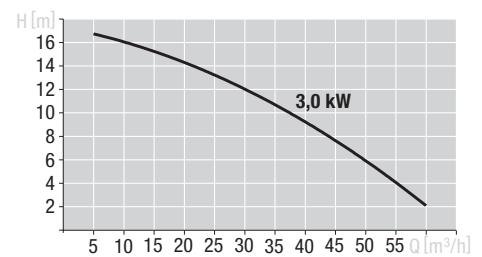


Grease separators for free-standing installation

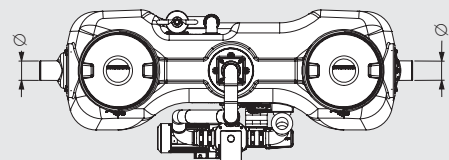
Grease separator *EasyClean PV+S Auto Mix & Pump*

Products

Illustration	Description	NS	Weight	Article #
 <p>Certification: Z-54.1-474</p> <p>Delivery: System completely assembled.</p> <p>Further nominal sizes on request</p>	<p>Grease separator EasyClean PV+S Auto Mix & Pump NS ...</p> <p><input type="checkbox"/> with Shredder-Mix-System and fully automated disposal, cleaning and refilling program, according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW</p> <p>With inspection window, filling device and pump</p> <p>For free-standing installation in frost-protected rooms</p> <p>Version: Right side (can be changed to left side version by exchanging inlet and outlet).</p> <p>Accessories: Sampling chamber, lifting stations, remote control</p>	NS 2	160 kg	without <i>SonicControl</i> 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
		NS 2	160 kg	with <i>SonicControl</i> 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



∅ = Outer diameter
b1 = Set-up dimensions



Nominal size	∅	a	Installation dimensions				b1	h1	h2	h3	Wastewater contents		Grease separator	Total
			l	x	b	Sludge trap					Separators			
NS 2	110	1500	1735	680	860	985	1055	1435	200 l	400 l	100 l	600 l		
NS 3	110	1500	1735	680	860	985	1055	1435	300 l	300 l	120 l	600 l		
NS 4	110	1880	2115	680	860	985	1055	1435	400 l	400 l	160 l	800 l		
NS 7	160	1910	2145	940	1130	1185	1255	1655	700 l	650 l	280 l	1350 l		
NS 10	160	2590	2820	940	1130	1185	1255	1655	1000 l	900 l	400 l	1900 l		

Special offer packages


- Package 1** with *SonicControl* and sampling chamber (lateral outlet)
Package 2 with *SonicControl* and sampling chamber (vertical outlet)

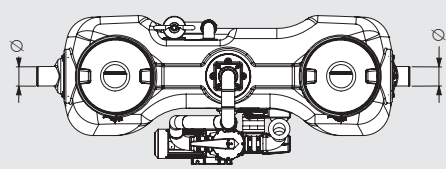
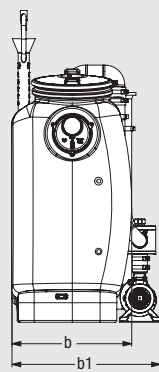
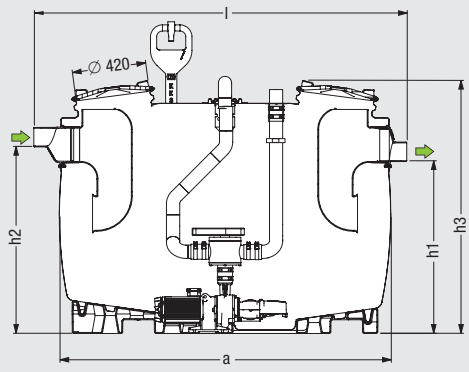
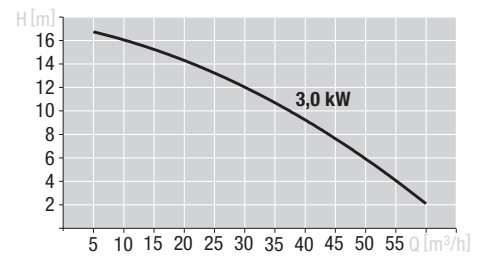
913 101
913 102

Grease separators for free-standing installation

Grease separator *EasyClean M+S Mix & Pump*

Products

Illustration	Description	NS	Weight	Article #
 <p>Certification: Z-54.1-474</p> <p>Delivery: System completely assembled.</p> <p>Further nominal sizes on request</p>	<p>Grease separator <i>EasyClean M+S Mix & Pump</i> NS ...</p> <p><input type="checkbox"/> with Shredder-Mix-System and manually controlled disposal, cleaning and refilling program, according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW</p> <p>With inspection window, refill inlet and pump</p> <p>For free-standing installation in frost-protected rooms</p> <p>Version: Right side (can be changed to left side version by exchanging inlet and outlet).</p> <p>Accessories: Sampling chamber, lifting stations</p>	NS 2	155 kg	without <i>SonicControl</i> 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
		NS 2	155 kg	with <i>SonicControl</i> 93 002.02/MS
		NS 3	160 kg	93 003.02/MS
		NS 4	173 kg	93 004.02/MS
		NS 7	221 kg	93 007.02/MS
		NS 10	267 kg	93 010.02/MS



∅ = Outer diameter
b1 = Set-up dimensions

Nominal size	∅	a	Installation dimensions				b1	h1	h2	h3	Wastewater contents		Grease separator	Total
			l	x	b	Sludge trap					Separators			
NS 2	110	1500	1735	680	860	860	985	1055	1435	200 l	400 l	100 l	600 l	
NS 3	110	1500	1735	680	860	860	985	1055	1435	300 l	300 l	120 l	600 l	
NS 4	110	1880	2115	680	860	860	985	1055	1435	400 l	400 l	160 l	800 l	
NS 7	160	1910	2145	940	1130	1130	1185	1255	1655	700 l	650 l	280 l	1350 l	
NS 10	160	2590	2820	940	1130	1130	1185	1255	1655	1000 l	900 l	400 l	1900 l	

Special offer packages

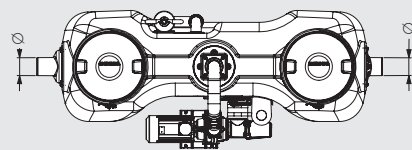
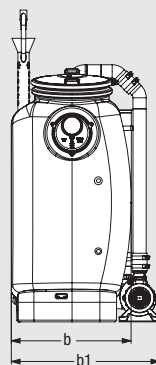
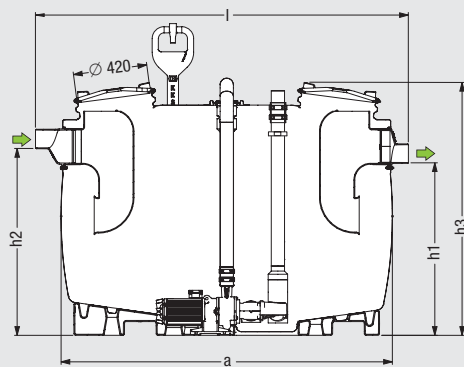
Package 1	with <i>SonicControl</i> and sampling chamber (lateral outlet)	913 101
Package 2	with <i>SonicControl</i> and sampling chamber (vertical outlet)	913 102

Grease separators for free-standing installation

Grease separator *EasyClean D+SP Auto Mix*

Products

Illustration	Description	NS	Weight	Article #
 <p>NEW</p>	<p>Grease separator EasyClean D+SP Auto Mix NS ...</p> <p><input type="checkbox"/> with direct disposal and Shredder-Mix-System, according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW</p> <p>With inspection window, refill inlet</p> <p>For free-standing installation in frost-protected rooms</p> <p>Version: Right side (can be changed to left side version by exchanging inlet and outlet).</p> <p>Accessories: Sampling chamber, lifting stations, remote control</p>	NS 2	150 kg	without SonicControl 93 002.01/DSP
		NS 3	155 kg	93 003.01/DSP
<p>Certification: Z-54.1-474</p> <p>Delivery: System completely assembled.</p> <p>Further nominal sizes on request</p>		NS 4	168 kg	93 004.01/DSP
		NS 7	216 kg	93 007.01/DSP
		NS 10	262 kg	93 010.01/DSP
		NS 2	150 kg	with SonicControl 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



Ø = Outer diameter
b1 = Set-up dimensions

Nominal size	Ø	a	Installation dimensions			b1	h1	h2	h3	Wastewater contents		Grease separator	Total
			l	x	b					Sludge trap	Separators		
NS 2	110	1500	1735	680	860	985	1055	1435	200 l	400 l	100 l	600 l	
NS 3	110	1500	1735	680	860	985	1055	1435	300 l	300 l	120 l	600 l	
NS 4	110	1880	2115	680	860	985	1055	1435	400 l	400 l	160 l	800 l	
NS 7	160	1910	2145	940	1130	1185	1255	1655	700 l	650 l	280 l	1350 l	
NS 10	160	2590	2820	940	1130	1185	1255	1655	1000 l	900 l	400 l	1900 l	


Special offer packages

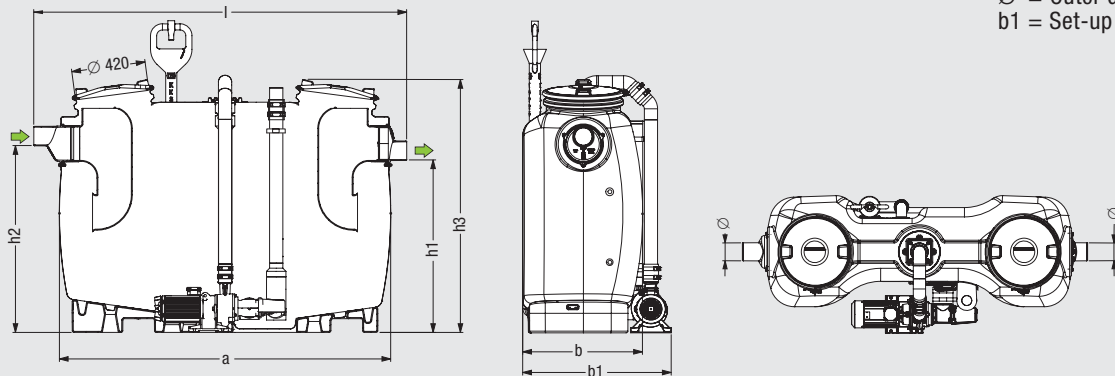
Package 1	with <i>SonicControl</i> and sampling chamber (lateral outlet)	913 101
Package 2	with <i>SonicControl</i> and sampling chamber (vertical outlet)	913 102

Grease separators for free-standing installation

Grease separator *EasyClean D+S Mix*

Products

Illustration	Description	NS	Weight	Article #		
 <p>NEW</p> <p>Certification: Z-54.1-474</p> <p>Delivery: System completely assembled.</p> <p>Further nominal sizes on request</p>	<p>Grease separator EasyClean D+S Mix NS ...</p> <p><input type="checkbox"/> with direct disposal and Shredder-Mix-System, according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene, pumping capacity 3.0 kW</p> <p>With refill inlet</p> <p>For free-standing installation in frost-protected rooms</p> <p>Version: Right side (can be changed to left side version by exchanging inlet and outlet).</p> <p>Accessories: Sampling chamber, lifting stations</p>	NS 2 NS 3 NS 4 NS 7 NS 10	145 kg 150 kg 163 kg 211 kg 257 kg	without <i>SonicControl</i>		
				without inspection window	with inspection window	
				93 002.01/DS	93 002.31/DS	
				93 003.01/DS	93 003.31/DS	
				93 004.01/DS	93 004.31/DS	
		93 007.01/DS	93 007.31/DS			
		93 010.01/DS	93 010.31/DS			
		NS 2 NS 3 NS 4 NS 7 NS 10		145 kg 150 kg 163 kg 211 kg 257 kg	with <i>SonicControl</i>	
					without inspection window	with inspection window
					93 002.02/DS	93 002.32/DS
93 003.02/DS	93 003.32/DS					
93 004.02/DS	93 004.32/DS					
93 007.02/DS	93 007.32/DS					
93 010.02/DS	93 010.32/DS					



Nominal size	Ø	a	Installation dimensions			b1	h1	h2	h3	Wastewater contents		Grease separator	Total
			l	x	b					Sludge trap	Separators		
NS 2	110	1500	1735	680	860	985	1055	1435	200 l	400 l	100 l	600 l	
NS 3	110	1500	1735	680	860	985	1055	1435	300 l	300 l	120 l	600 l	
NS 4	110	1880	2115	680	860	985	1055	1435	400 l	400 l	160 l	800 l	
NS 7	160	1910	2145	940	1130	1185	1255	1655	700 l	650 l	280 l	1350 l	
NS 10	160	2590	2820	940	1130	1185	1255	1655	1000 l	900 l	400 l	1900 l	


Special offer packages

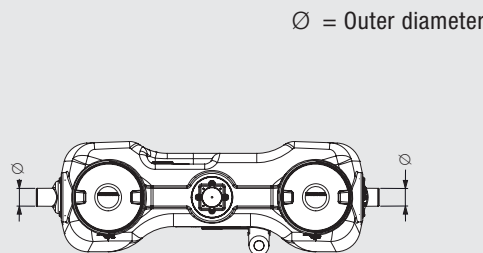
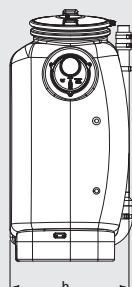
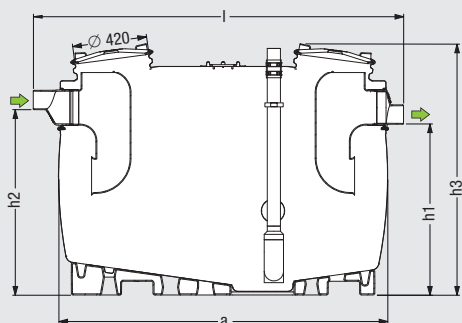
Package 1	with <i>SonicControl</i> and sampling chamber (lateral outlet)	913 101
Package 2	with <i>SonicControl</i> and sampling chamber (vertical outlet)	913 102

Grease separators for free-standing installation

Grease separator *EasyClean D Standard*

Products

Illustration	Description	NS	Weight	Article #			
 <p>NEW</p> <p>Certification: Z-54.1-474</p> <p>Delivery: System completely assembled.</p> <p>Further nominal sizes on request</p>	<p>Grease separator <i>EasyClean D Standard</i> NS ...</p> <p><input type="checkbox"/> with direct disposal according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene.</p> <p>For free-standing installation in frost-protected rooms</p> <p>Version: Right side (can be changed to left side version by exchanging inlet and outlet).</p> <p>Accessories: Refill inlet, sampling chamber, lifting stations</p>			without <i>SonicControl</i>			
				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 <i>SonicControl</i>	
						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				



Nominal size	Ø	a	Installation dimensions			h1	h2	h3	Wastewater contents		Grease separator	Total
			l	x	b				Sludge trap	Separators		
NS 2	110	1500	1735	680	680	985	1055	1435	200 l	400 l	100 l	600 l
NS 3	110	1500	1735	680	680	985	1055	1435	300 l	300 l	120 l	600 l
NS 4	110	1880	2115	680	680	985	1055	1435	400 l	400 l	160 l	800 l
NS 7	160	1910	2145	940	940	1185	1255	1655	700 l	650 l	280 l	1350 l
NS 10	160	2590	2820	940	940	1185	1255	1655	1000 l	900 l	400 l	1900 l

Special offer packages


Package 1	with <i>SonicControl</i> and sampling chamber (lateral outlet)
Package 2	with <i>SonicControl</i> and sampling chamber (vertical outlet)

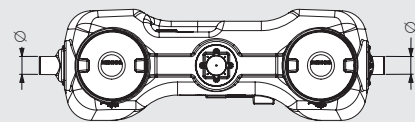
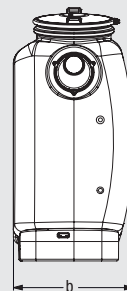
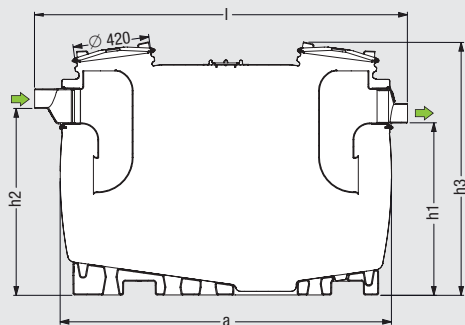
913 101
913 102

Grease separators for free-standing installation

Grease separator *EasyClean G Basic*

Products

Illustration	Description	NS	Weight	Article #			
 <p>NEW</p> <p>Certification: Z-54.1-474*</p> <p>Delivery: System completely assembled.</p> <p>Further nominal sizes on request</p>	<p>Grease separator <i>EasyClean G Basic</i> NS ...</p> <p><input type="checkbox"/> according to Euro Norm EN 1825, manufactured from virgin, non-recycled polyethylene.</p> <p>For free-standing installation in frost-protected rooms</p> <p>Version: Right side (can be changed to left side version by exchanging inlet and outlet).</p> <p>Accessories: Refill inlet, sampling chamber, lifting stations. Retrofitting up to <i>PV+S</i> Auto Mix & Pump possible.</p>			without <i>SonicControl</i>			
				without accessories	with inspection window		
				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	93 002.02	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 <i>SonicControl</i>	
						without accessories	with inspection window
				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 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

Nominal size	∅	a	Installation dimensions			h1	h2	h3	Wastewater contents		Grease separator	Total
			l	x	b				Sludge trap	Separators		
NS 2	110	1500	1735		680	985	1055	1435	200 l	400 l	100 l	600 l
NS 3	110	1500	1735		680	985	1055	1435	300 l	300 l	120 l	600 l
NS 4	110	1880	2115		680	985	1055	1435	400 l	400 l	160 l	800 l
NS 7	160	1910	2145		940	1185	1255	1655	700 l	650 l	280 l	1350 l
NS 10	160	2590	2820		940	1185	1255	1655	1000 l	900 l	400 l	1900 l


Special offer packages

Package 1	with <i>SonicControl</i> and sampling chamber (lateral outlet)	913 101
Package 2	with <i>SonicControl</i> and sampling chamber (vertical outlet)	913 102

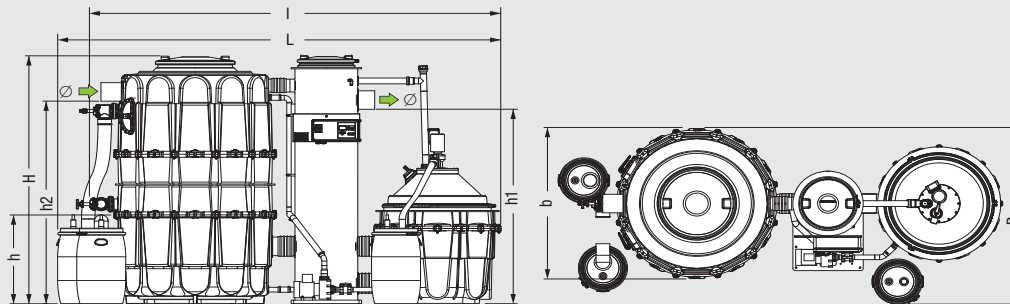
Grease separators for free-standing installation

Grease separator "SE Premium"

Products

Illustration	Description	NS	Weight		Article #
 <p>① Grease separator (Art. # 99 007.01) ② Sampling chamber (Art. # 915 870) ③ Lifting station (Art. # 28 766)</p> <p>For free-standing installation in frost-protected rooms</p> <p>Delivery: System completely assembled.</p> <p>Further nominal sizes on request</p>	<p>"SE Premium" Grease Separator NS ...</p> <p>Separator that complies to C/J/T 295-2008 / EN 1825 / DIN 4040, made of polyethylene PE-HD</p> <p>For free standing installation in frost-free rooms, with upstream sludge trap, quick release and odour-tight removeable access covers, separator chamber with heated lid cover screwed tight to prevent odours escaping. Inlet and outlets Ø ... for SML-connection in compliance with DIN 19522.</p> <p>With self-disposal device for separated floating, settling sludge and grease removal via manual taps. Visual control of disposal with see-thru disposal hoses, disposal possible during separator operation. Each with a grease, scum and sediment disposal bucket with an adapter lid and a spare bucket.</p> <p>System with an external pump for removing the sediment from the grease separation chamber (230 V, 50 Hz, 750 W), electrical heating (230 V, 50 Hz, 1200 W) for grease collection chamber and motor-driven mixer (230 V, 50 Hz, 360 W) and control unit (230 V, 50 Hz, 6,3 - 10 A), general system protection class IP 54</p>	NS 2 NS 4 NS 7 NS 10	empty 260 kg 290 kg 400 kg 450 kg	full 1460 kg 1490 kg 2100 kg 2520 kg	99 002.01 99 004.01 99 007.01 99 010.01

∅ = Outer diameter






Nominal size	∅ (mm)	H* (mm)	L (mm)	I (mm)	B (mm)	h1 (mm)	h2 (mm)	Largest component	
								h	b
NS 2	110	1920	3286	2971	1351	1585	1655	610	1012
NS 4	110	1950	3316	3021	1351	1585	1655	610	1062
NS 7	160	2139	3531	3273	1519	1680	1750	670	1298
NS 10	160	2139	3831	3577	1519	1680	1750	670	1298

* Please note that additional space above the separator is required for service / maintenance purposes (at least 50 cm is recommended)

Grease separators for free-standing installation

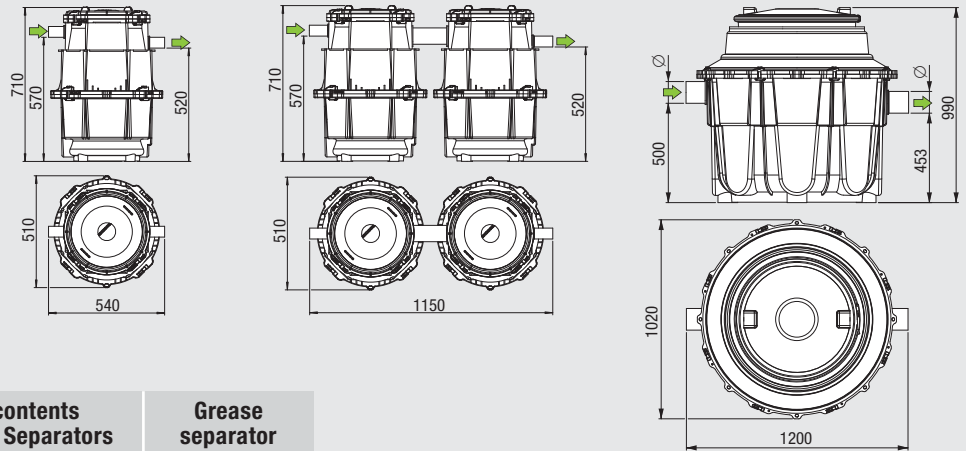
Grease separator Euro "G"

Products

Illustration	Description	NS	Weight	Article #
 Art. # 93 001	Grease separator Euro "G" NS ... <input type="checkbox"/> 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	20 kg	93 025
 Art. # 93 050		NS 0.5	45 kg	93 050
 Art. # 93 025		NS 1	65 kg	93 001

Delivery:
System completely assembled.
Further nominal sizes on request

∅ = Outer diameter



Nominal size	∅	Wastewater contents		Grease separator
		Sludge trap	Separators	
NS 0.25	50	25 l	28 l	15 l
NS 0.5	50	50 l	42 l	30 l
NS 1	110	100 l	75 l	60 l



Technical note:

Production- and weather-related influences can lead to deviations from our specifications in the case of free-standing separators. führen. 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.

Grease separators made of polyethylene for underground installation

Grease separators installed simply and safely outside the building save space and are practical to use. The one-piece grease separator tanks are odour-tight and root-proof. The telescopic upper sections with individual adaptation to the ground level and to compensate subsidence have odour-tight covers in Classes A, B or D.

Safe and clean **alternative**

Completely assembled systems installed safely and almost invisibly outside the building.



Simple and fast **assembly**

Complete chamber made in one piece and lightweight PE (polyethylene) material make it easy to place in excavation pit.



Simple disposal of wastewater

Cleaned wastewater flows through natural gradient into the sewage channel. No additional pump is required for this.

Space saved in the house

up to **6.0 m²**

Variable installation depths

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



More flexible planning

Grease separator installed in the ground outside the building leaves more space in the cellar.



Optimum disposal time

SonicControl Layer thickness measuring device with ultrasonic sensor*

For the measurement, display and control of the grease layer thickness and the water temperature.


* standard or optional



Grease separators for underground installation

Grease separator Euro "G"

Products

Article illustration / article description	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 30
SonicControl (NS 2 and NS 4) see page 28/29

Further installation depths on request

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 polymer

For underground installation

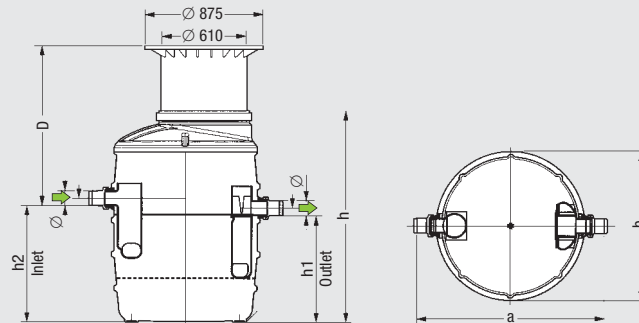
Upper section made of polyethylene, infinite height and level adjustment, with cover Class A/B, D in accordance with EN 124 made of cast iron, sealed odour-tight, incl. lift-out key.

1 for ground installation frost-free depth 800 mm

2 for ground installation frost-free depth 1200 mm

Resistant when installed in the groundwater up to 500 mm

A load distribution plate must be provided for Class D.




D = Installation depth
Ø = Outer diameter

Nominal size	Ø	a	b	h ¹⁾	h1	h2	Wastewater contents		Grease separator
							Sludge trap	Separators	
NS 1	110	1380	1106	1050	540	610	140 l	230 l	70 l
NS 2	110	1380	1106	1300	790	860	200 l	370 l	120 l
NS 4	110	1380	1106	1550	1040	1110	400 l	370 l	160 l

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

Grease separators for underground installation

Grease separator Euro "G" Products

Article illustration / article description	NS	Weight	Installation depth D in mm	Cover, Class A/B Article #	Cover, Class D Article #
	NS 7*	305 kg	745 to 1180	93 007/120 B	93 007/120 D
	NS 10*	360 kg	755 to 1190	93 010/120 B	93 010/120 D
	NS 15*	455 kg	755 to 1190	93 015/120 B	93 015/120 D
	NS 20*	530 kg	750 to 1185	93 020/120 B	93 020/120 D
	NS 25	570 kg	810 to 1245	93 925/120 B	93 925/120 D
	NS 30	570 kg	810 to 1245	93 930/120 B	93 930/120 D
	NS 35	570 kg	660 to 1095	93 935/120 B	93 935/120 D

Delivery:
System completely assembled.

Accessories see page 30
SonicControl (see page 28/29)

Further installation depths on request

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

Grease separator Euro "G" NS 7/10/15/20/25/30/35

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

For underground installation

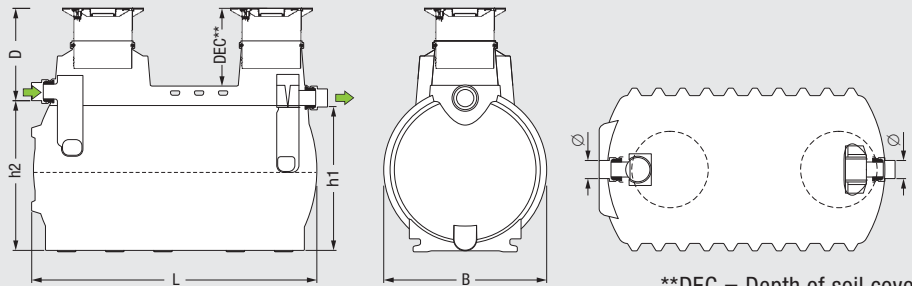
Upper section made of polymer, infinite height and level adjustment, with cover Class A/B, D in accordance with EN 124, made of cast iron (can be driven over by cars and trucks), sealed odour-tight, incl. lift-out key.

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 (see dotted line).

A load distribution plate must be provided for Class D.



D = Installation depth
Ø = Outer diameter

**DEC = Depth of soil cover
Class D = 700 mm ≤ DEC ≤ 1500 mm
Class A/B = 700 mm ≤ DEC ≤ 1800 mm

Nominal size	Ø	L	B	h1	h2	Wastewater contents		Grease separator	D-DEC
						Sludge trap	Separators		
NS 7	160	2080	1200	1030	1100	700 l	1100 l	280 l	155 mm
NS 10	160	2860	1200	1030	1100	1000 l	1600 l	400 l	155 mm
NS 15	200	2300	1760	1560	1630	1500 l	2800 l	600 l	180 mm
NS 20	200	3060	1760	1560	1630	2000 l	3800 l	800 l	180 mm
NS 25	200	3470	2010	1550	1650	2500 l	5300 l	2000 l	480 mm
NS 30	250	3470	2010	1550	1650	3000 l	4800 l	2000 l	480 mm
NS 35	250	3470	2010	1700	1800	3500 l	4800 l	2000 l	330 mm

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.

Layer thickness measuring device *SonicControl* – Reliable monitoring of the grease layer and observation of the disposal intervals



Layer thickness measuring device *SonicControl* with ultrasonic sensor for grease separator

Automatic measuring device for the measurement, display and control of grease layer thickness and water temperature; with mains connection, battery backup and connection possibility for a remote signal generator. With attachment set for simple, on-site assembly and maintenance; suitable for KESSEL grease separators for free-standing set-up and installation in the ground. Control unit with optical and acoustic alarm with potential-free contact; electronic operating log, designed for 12 months; operating log can be read out via the serial interface.

A restaurant that prepares 200 meals per day produces an estimated amount of 6.9 kg of grease / day in the wastewater. (Source: Hesse Institute for the Environment). Use of a grease separator will reduce this amount to approx. 25 %.

This is absolutely necessary because

- greases form aggressive acids and lead to damage to sewage pipes
- grease leads to deposits on the walls of the wastewater pipes. This causes the pipe cross-sections to become narrower and pipes to become severely blocked
- high grease levels in wastewater have a negative effect on how well wastewater treatment plants work

This problem has been tackled. EN 1825 and DIN 4040-100 state: "Companies which produce greasy wastewater must install grease separator systems".

Disposal is also clearly regulated:

"Unless specified otherwise, sludge traps and separators should be emptied, cleaned and filled with fresh water once a month, or preferably every two weeks" (EN 1825-2).

In accordance with DIN 4040-100, the disposal intervals must be defined in such a way that the storage capacity of the sludge trap and the separator is not exceeded.



Yet experience shows that monitoring adherence to the standards is difficult.

The grease layer thickness measuring device *SonicControl* offers you the following advantages:

- + Read-off of grease layer
- + Measurement of the temperature in the grease separator
- + Remote monitoring possibility
- + Environment protection → Disposal of clean water no longer necessary, takes the pressure off resources, simple, time-saving control
- + Makes disposal in accordance with requirements possible → Takes the pressure of companies with low grease quantities
- + Complete monitoring of adherence to disposal intervals
- + Free read-out software *SonicControl Viewer* available upon request


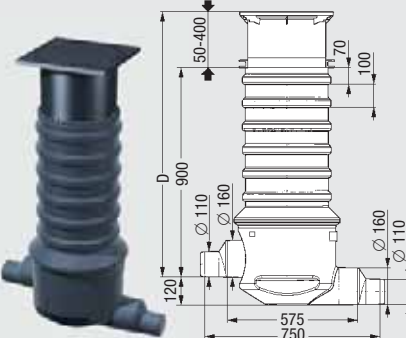


Grease separators for free-standing installation

Grease separator in accordance with EN 1825			Accessories
Illustration	Description	Nominal width	Article #
	<p>Remote control</p> <p>Suitable for KESSEL separator systems for free-standing set-up, for connection to an isolated ground socket</p> <p>Variants <i>PV+S</i> and <i>D+SP</i> in accordance with DIN 4040 and EN 1825. Cable length 15 m.</p>	-	916 601
	<p>Sampling chamber Ø 400 made of polymer for separation systems</p> <p>For connection to outlet pipe of separator. Inlet and outlet Ø 110/160 available options for synthetic material pipes in: PE-HD (according to DIN 19537); PVC-HT, PP or AS, drop height 120 mm. Cover sealed odour-tight with snap closure.</p> <p><input type="checkbox"/> Outlet lateral</p> <p><input type="checkbox"/> Outlet vertical</p>	<p>Ø 110/160</p> <p>Ø 110/160</p>	<p>915 871</p> <p>915 870</p>

Retrofit sets		Accessories
	Description	Article #
	<input type="checkbox"/> D Standard With suction pipe	913 101/D
	<input type="checkbox"/> D+S Mix 1 NS 2-7 2 NS 10 Refill inlet, 1 screw-type valve, suction pipe	1 913 101/DS 2 913 101/DS10
	<input type="checkbox"/> D+SP Auto Mix 1 NS 2-7 2 NS 10 Refill inlet, inspection window, 2 solenoid valves, suction pipe, control unit	1 913 101/DSP 2 913 101/DSP10
	<input type="checkbox"/> M+S Mix & Pump 1 NS 2-7 2 NS 10 Refill inlet, inspection window, 1 screw-type valve, suction pipe, control unit	1 913 101/MS 2 913 101/MS10
	<input type="checkbox"/> PV+S Auto Mix & Pump 1 NS 2-7 2 NS 10 Refill inlet, inspection window, 2 solenoid valves, suction pipe, control unit	1 913 101/PVS 2 913 101/PVS10

Grease separators for underground installation

Grease separator in accordance with EN 1825			Accessories	
Illustration	Description	Nominal width	Suitable for grease separator	Article #
	<p>Sampling chamber Ø 1000 in polyethylene, for separation systems, for underground installation</p> <p>Installation depth (D) 1180 - 1630 mm (Other installation depths available on request)</p> <p>Inlet and outlet Ø ... for synthetic material pipes in: PE-HD (according to DIN 19537); PVC-KG (according to DIN V19534); PP or AS.</p> <p>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 odor-tight, incl. removal mechanism. Drop height 160 mm.</p> <p>1 Cover Class A/B 2 Cover Class D</p>	<p>1 Ø 110 Ø 160 Ø 200</p> <p>2 Ø 110 Ø 160 Ø 200</p>	<p>NS 1/NS 2/NS 4 NS 7 and NS 10 NS 15, NS 20 and custom-made</p> <p>NS 1/NS 2/NS 4 NS 7 and NS 10 NS 15, NS 20 and custom-made</p>	<p>915 1010 B 915 1015 B 915 1020 B</p> <p>915 1010 D 915 1015 D 915 1020 D</p>
	<p>Extension section made of polymer for separation systems</p> <p>Fits all KESSEL Separation systems for underground installation, extension height 510 mm / 1010 mm; incl. gasket smaller/larger extension sections available on request</p> <p>1 Extension height 510 mm 2 Extension height 1010 mm</p>	<p>1 - 2 -</p>	-	<p>917 406 917 407</p>
	<p>Sampling chamber Ø 400 in polymer, for separation systems, for underground installation</p> <p>Installation depth (D) 400 - 1300 mm (minimum installation depth can be achieved by cutting off)</p> <p>For connection to outlet pipe of separator. Telescopic upper section with clamping ring, cover Class A/B/D, sealed odor-tight, without removal mechanism, drop height 120 mm. Drop height 160 mm on request.</p> <p>1 Cover Class A 2 Cover Class B 3 Cover Class D</p> <p>Extension by 600 mm with extension section Art. # 915 402</p>	<p>1 Ø 110/150 Ø 200</p> <p>2 Ø 110/150 Ø 200</p> <p>3 Ø 110/150 Ø 200</p>	-	<p>915 880 A 915 880 A-200</p> <p>915 880 B 915 880 B-200</p> <p>915 880 D 915 880 D-200</p>
	<p>Extension section</p> <p>For deep installation Extension height max. 600 mm (can be reduced). Check maintenance accessibility when installing in recesses!</p> <p>For sampling chamber Ø 400 and Ø 450</p>	-	-	915 402
	<p>Cable access conduit</p> <p>Required for watertight connection of <i>SonicControl</i> cable into separator chamber (for underground separators a conduit pipe with chase wire should be planned)</p>	-	-	917 822

Grease separators for underground installation

Direct disposal / disposal chamber			Accessories
Illustration	Description	Nominal width	Article #
	Direct disposal for grease separators <input type="checkbox"/> without disposal chamber	1 - 2 -	917 419.00 917 419.50
	<p>Factory equipment for grease separators installed in the ground with direct disposal connection</p> <p>With flange connection \varnothing 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</p> <p>1 Disposal connection right 2 Disposal connection left</p> <p>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</p>		
	Direct disposal for grease separators <input type="checkbox"/> including disposal chamber \varnothing 400	1 - 2 -	917 420.00 917 420.50
	<p>Factory equipment for grease separators installed in the ground with direct disposal connection</p> <p>With flange connection \varnothing 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 \varnothing = 400 mm incl. cover Class A/B/D, sealed, Installation depth 630 mm to 980 mm for nominal sizes NS 1 - NS 35</p> <p>1 Disposal connection right 2 Disposal connection left</p> <p>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</p>		
	Disposal chamber \varnothing 400 made of polyethylene, for separator systems for installation in the ground, watertight	-	917 422
	<p>Installation depth (D) 750 mm to 1100 mm</p> <p>With telescopic, height-adjustable upper section made of polyethylene with clamping ring, with cover Class A/B, 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 Euro "E+S PV", "D+S-P1" and "D+S"</p>		
	Joint and connection set made of polyethylene	-	917 421
	<p>For connection of the grease separator (NS 1 - NS 4) to the technical chamber for the variants grease separators Euro "E+S PV", "D+S-P1" and "D+S" in ground installation, incl. Storz-B coupling, pipe clamps</p>		

Lifting stations for fitting downstream to grease separator systems

Installation variants



Lifting station *Aqualift F XL* for free-standing installation

Ideal for connection to grease separators

Duo station with two S1 pumps which can run permanently with free-flow impeller. Rated input from 1400 W – 4500 W. Including Comfort control unit with display, USB port and self-diagnosis system SDS. 230 Volt or 400 Volt control unit ready for connection thanks to coded connectors. Shut-off valve made of polyethylene or cast iron.



Lifting station *Aqualift F Duo* for free-standing installation

Ideal for connection to grease separators

With horizontal pressure outlet and closure valve. Duo station with two pumps type SPF with Standard or Comfort control unit. Comfort control unit with display, USB port and self-diagnosis system SDS. 230 Volt control unit ready for connection thanks to coded connectors.



Lifting station for grey water *Aqualift S* for free-standing installation

Ideal for connection to small grease separators

Duo station with two pumps. Pressure control and Comfort control unit with display, USB port and self-diagnosis system SDS. 230 Volt control unit ready for connection thanks to coded connectors.



Aqualift S Duo Ø 1000

Aqualift S Duo Ø 600

Aqualift F Ø 1000

Pumping station *Aqualift S Duo* in the chamber system Ø 600 / Ø 1000 for installation in the ground

Ideal for direct wastewater disposal to the sewage system

With two removable pumps of the type *KTP 500* or *KTP 1000*, with SDS control unit and pneumatic level recording. Additional wastewater reserve volume in case of power failure. Ø 600 Chamber installation depths: 800 – 2250 mm. Ø 1000 Chamber installation depths: 1630 – 5130 mm. Covers: Class A/B or D.

Pumping station *Aqualift F* in the convenient chamber system Ø 1000 for installation in the ground

Ideal for longer distances to the sewage system

With two pumps 1.3 kW or 1.9 kW pumping capacity. Additional wastewater reserve volume in case of power failure. Optional 400 Volt Comfort control unit. Chamber installation depths: 1630 – 5130 mm. Covers: Class A/B or D.

See the **KESSEL** catalogue (010-773) for further information.



Leading in drainage

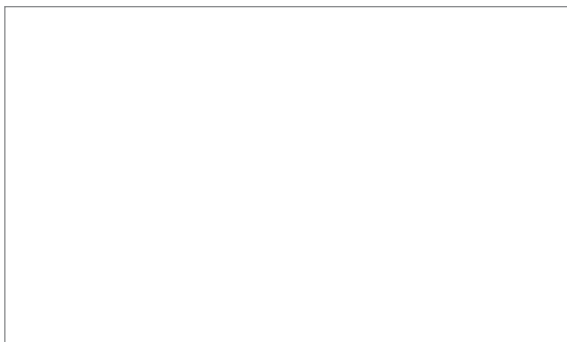


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on the KESSEL website: www.kessel.com/contact



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