

Product range _____


Grease separators



Easy. Clean.

New generation
fully EN 1825 certified
grease separators



 Made in Germany

Leading in drainage

Overview


Separator technology

Grease separators



Grease separator
EasyClean free

Auto Mix & Pump
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Mix & Pump
➤ Page 12, 23



Auto Mix
➤ Page 14, 24



Mix
➤ Page 16, 25



Direct
➤ Page 18, 26



Standard
➤ Page 20, 27




Grease separator
EasyClean free Basic

Direct
➤ Page 30



Standard
➤ Page 31




Grease separator
EasyClean Modular

Direct
➤ Page 33




Standard
➤ Page 33




Grease separator
EasyClean ground

Auto Mix & Pump
➤ Page 41



Auto Mix
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Direct
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Standard
➤ Page 44




Grease separator
EasyClean free SkimTech

➤ Page 55









Secondary wastewater treatment
Bifena

➤ Page 59

Installation location

-  Outdoor, underground
-  Indoor, free-standing
-  Floor slab installation

Disposal options

-  Auto Mix & Pump
-  Mix & Pump
-  Auto Mix
-  Mix
-  Direct
-  Standard/Basic

**Coalescence /
Oil / Fuel separators**



Coalescence and oil separator
EasyOil free & ground

[↗ Page 65](#)

Sediment separators



Sediment separators
EasySink free & ground

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Starch separators



Starch separator
EasyStarch free & ground

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Everything specialists need to know

Why you need a grease separator



Areas of application

- Kitchen operations and large-scale catering establishments, e.g. restaurants, hotels, canteens, motorway service stations
- Butchers
- Slaughterhouses / Abattoirs
- Soap and stearin factories
- Cooking oil refineries
- Canning factories
- ... and many more

Statutory provision

Grease separators are required by law for fat, oil and grease contaminated wastewater streams from commercial kitchens.

Pipe blockages, corrosion and odour formation

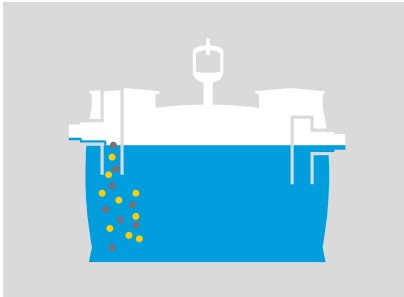
Fat, oil, grease and food residue entering the building's wastewater drainage pipe system results in build-up, blockage and odour issues which are difficult to handle. This results in corrosion or complete failure of the drainage pipe system.

Environmental protection

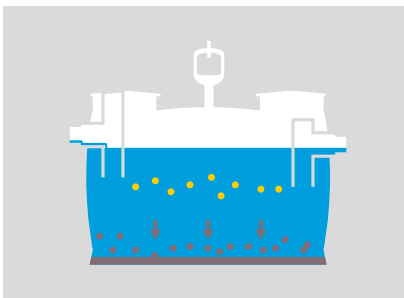
Grease separators prevent the environment from being contaminated by greasy wastewater and contribute to the trouble-free operation of sewage treatment plants.

Operation of a grease separator

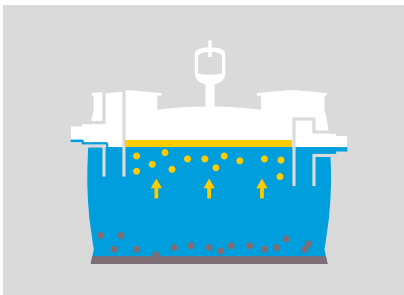
The operation of grease separators is based on the gravity principle. Lighter than water oil and grease float to the surface of the separator, heavier than water flood sludge settle to the bottom of the separator and the clean treated water leaves the separator via a protected outlet.



The contaminated wastewater is routed into the grease separator where it is slowed down by a deflector plate.



Substances that are heavier than water sink to the bottom and settle in the sludge trap.



Grease and oil rise to the top and form a grease layer that is retained between the inlet and outlet.

Polymer grease separators

Polymer grease separator systems are an advantageous alternative to stainless steel solutions as they 100 % corrosion free.

The polyethylene material used is resistant to aggressive fatty acids – and therefore particularly durable.

In addition to the statutory provision, we provide a 20-year warranty with regard to the leak tightness and structural safety of tanks and upper sections.



Grease separator disposal - the right choice

Grease separators must be completely emptied on a regular basis to dispose of the retained waste materials. The options range from a basic system with manual disposal to a fully automatic disposal system.

Direct disposal

Enables the extraction of the grease separator contents through a permanently installed disposal pipe without opening the tank.

Shredder-Mix-System

Fully mixes the contents of the grease separator into a slurry to aide in the disposal process.

Control unit

Enables the convenient setting and control of the grease separator functions using a control unit mounted on the wall.

Disposal pump

Handles the disposal of the grease separator in the case of longer distances between the separator and the disposal truck.

Fully automatic

Controls the disposal and rinsing processes fully automatically.

Disposal options	EasyClean free (Basic)		EasyClean free			
	Standard	Direct	Mix	Auto Mix	Mix & Pump	Auto Mix & Pump
Connection for direct disposal		✓	✓	✓	✓	✓
Shredder-Mix-System			✓	✓	✓	✓
Control unit				✓	✓	✓
Disposal pump					✓	✓
Fully automatic						✓

Connection to the drainage system

with a lifting station or a hybrid lifting station.

Separator outlet below sewer level – lifting station required



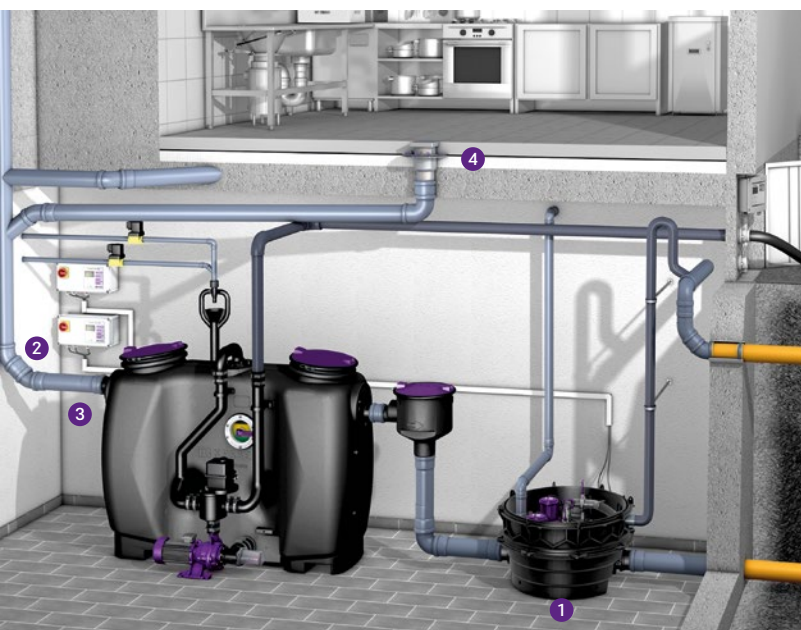
- ① Properly sized lifting station
- ② Two 45° curved fittings
- ③ Wastewater calming section
- ④ Connected drainage fixtures

The wastewater must flow into the grease separator system with gravity. Grease separator systems whose water level is below the backwater level (see EN 752-1) or sewer level should be connected to a properly sized lifting station (shown as ① in the illustration).

The wastewater 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 blockages and deposits. The transition from downpipes to horizontal pipes must be handled with two 45° curved fittings with a large radius. A wastewater calming section, the length of which corresponds to at least the 10-fold of the inlet pipe's nominal width in millimetres, must then be provided immediately before the inlet of the separator.

Discharge points, such as floor drains, must be equipped with odour traps and, if necessary, with sludge buckets that can be removed for cleaning.

Separator outlet above sewer level- hybrid lifting station required



- ① Properly sized hybrid lifting station
- ② Two 45° curved fittings
- ③ Wastewater calming section
- ④ Connected drainage fixtures

Grease separators *EasyClean free*

The versatile solution for free-standing installation

The KESSEL grease separator *EasyClean free* combines ease of installation, cleaning performance and energy efficiency. The narrow tank shape offers two advantages: 1) the complete technology can be integrated on the base area of the separator. 2) easier to transport the grease separator through narrow entranceways and set it up directly against the wall, saving a great deal of space.



Improved access thanks to the curved shape

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

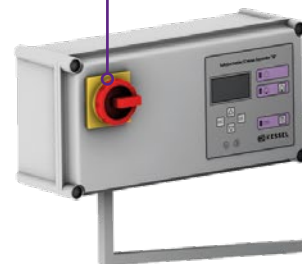
Remote control

located at the disposal truck connection.



Control unit

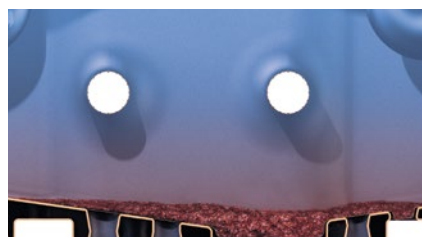
with multilingual (EN, DE, FR, IT, PL, NL) digital display for operating state and servicing instructions as well as connection option for building management system.



Improved cleaning results

Integrated sloped base for extraction at the lowest point (only 3 litres residual sludge volume).

For nominal sizes NS 2 - NS 10.



Grease separators 60 Hz/400 V

Now also available in 60 Hz. For more information contact us at info@kessel.com

Refill unit

Hot water for cleaning and cold water for refilling the separator after disposal.

SonicControl

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



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.



Planning made easy!

Direction of flow can be changed on site by swapping inlet and outlet.

Shredder-Mix-System

serves to mix and clean the tank contents without odor emission during disposal. 13-steps fully automated disposal (adjustable steps to meet site requirements)

**Polyethylene
Warranty
20 Years**

Warranty

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

Grease separator *EasyClean* free Auto Mix & Pump NS 2 – 10

for free-standing installation



EN 1825

Tank

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, inspection window with interior cleaning arm, 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).

Disposal System

Auto Mix & Pump version fully automated odour free disposal, cleaning and refilling system at touch of button, maintenance free macerating pump (stainless steel blades) for separator cleaning and disposal, includes closure valve for easy pump removal, pump floor mount included with installation hardware and anti-vibration matt, actuator valve for automated transfer from cleaning to disposal mode, pumping capacity 3.0 kW (stronger pumps available on re-quest), 5 m cable length, top mounted water jet(s) for grease layer breakup and water spray nozzles for interior wall cleaning during disposal, twin 1 inch solenoid valves for connection of cold and hot water pipes to separator, 1 inch interior threaded refill inlet with air gap.

Control Unit with LCD display control settable in English, German, French, Italian, Dutch or Polish language and mains power safety on / off switch, with BMS connections.

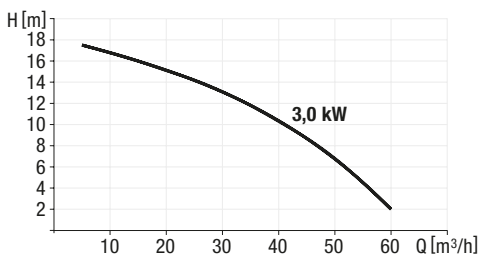
Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber, remote control, *TeleControl* pages 35 – 37, lifting stations see chapter "3"

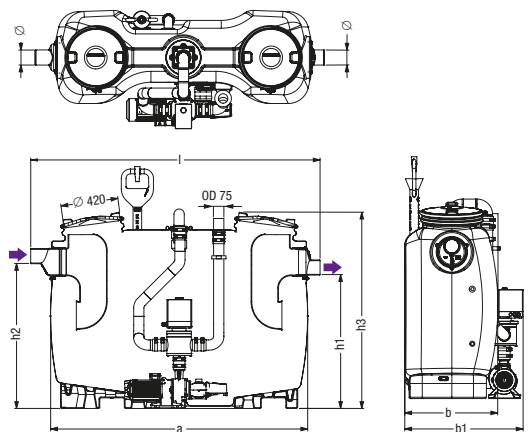
➤ **Technical note:** page 34

➤ **Note:** Also available in 60 Hz / 400 V

Pumping capacity



	without <i>SonicControl</i>	with <i>SonicControl</i>
NS	Art. no.	Art. no.
NS 2	93 002.01/PVS	93 002.02/PVS
NS 3	93 003.01/PVS	93 003.02/PVS
NS 4	93 004.01/PVS	93 004.02/PVS
NS 7	93 007.01/PVS	93 007.02/PVS
NS 10	93 010.01/PVS	93 010.02/PVS



NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
2	110	1500	1735 × 680	860	985	1055	1435	160	200	400	100	600
3	110	1500	1735 × 680	860	985	1055	1435	165	300	300	120	600
4	110	1880	2115 × 680	860	985	1055	1435	178	400	400	160	800
7	160	1910	2145 × 940	1130	1185	1255	1655	226	700	650	280	1350
10	160	2590	2820 × 940	1130	1185	1255	1655	272	1000	900	400	1900

Ø = Outer diameter b1 = Set-up dimensions

Grease separator *EasyClean* free Auto Mix & Pump NS 15 – 50

for free-standing installation



EN 1825

Tank

Manufactured from virgin, non-recycled polyethylene, for free-standing installation in frost-protected areas, with integrated sludge trap and sloped base 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. Inspection window with wiper. Inlet and outlet Ø 200 / 250 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Disposal System

Auto Mix & Pump with program-controlled disposal and rinsing device and Shredder-Mix-System, KESSEL disposal system Auto Mix & Pump 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; stronger pumps available on request) with integrated chopping mechanism and closure valve, 5 m cable length, 2 solenoid valves 1", with refill inlet in accordance with DIN 1988.

Control Unit for actuating the pump(s) with potential-free contact.

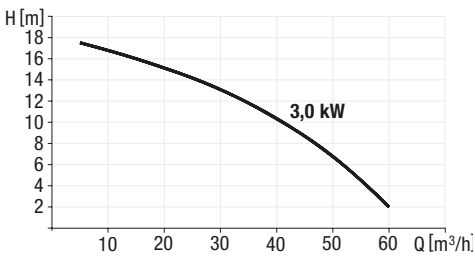
Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber, remote control, *TeleControl*, *SonicControl* level sensing system pages 35 – 37, lifting stations see chapter "3"

➤ **Technical note:** page 34

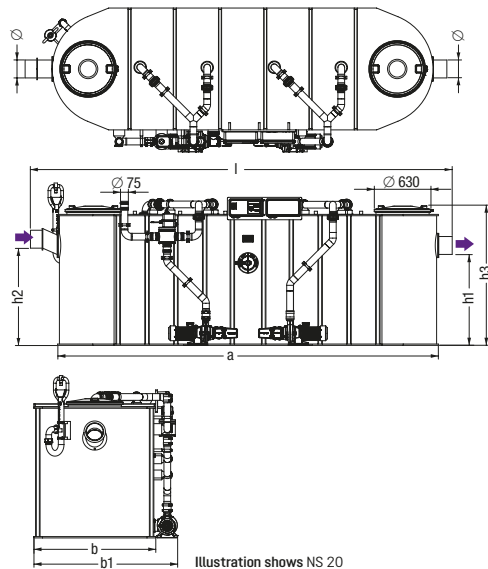
➤ **Note:** Also available in 60 Hz / 400 V

Pumping capacity



without SonicControl

NS	Art. no.
NS 15	93 015.01/PVS
NS 20	93 020.01/PVS
NS 25	93 025.01/PVS
NS 30	93 030.01/PVS
NS 35	93 035.01/PVS
NS 40	93 040.01/PVS
NS 50	93 050.01/PVS



NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
15	200	3300	3560 × 1350	1620	1130	1200	1625	1500	2300	600	3800
20	200	4250	4510 × 1350	1620	1030	1100	1525	2000	3050	800	5050
25	200	4500	4760 × 1350	1620	1030	1100	1525	2500	2830	1000	5330
30	250	4600	4860 × 1350	1620	1170	1240	1655	3000	2650	1200	5650
35	250	6000	6480 × 1500	1770	1130	1200	1662	3500	4500	1400	8000
40	250	6200	6680 × 1600	1870	1130	1200	1662	4000	5000	1600	9000
50	250	6200	6680 × 1800	2070	1350	1420	1882	5000	6200	2240	11200

Ø = Outer diameter b1 = Set-up dimensions

Grease separator *EasyClean* free Mix & Pump NS 2 – 10 for free-standing installation



EN 1825

Tank

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, inspection window with interior cleaning arm, 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).

Disposal System

Mix & Pump version manually controlled odour free disposal, cleaning and refilling system at touch of button, maintenance free macerating pump (stainless steel blades) for separator cleaning and disposal, includes closure valve for easy pump removal, pump floor mount included with installation hardware and anti-vibration matt, manual hand valve for transfer from cleaning to disposal mode, pumping capacity 3.0 kW (stronger pumps available on request), 5 m cable length, top mounted water jet(s) for grease layer breakup and water spray nozzles for interior wall cleaning during disposal, 1 inch manual hand valve for water refill, 1 inch interior threaded refill inlet with air gap.

Control Unit with LCD display control settable in English, German, French, Italian, Dutch or Polish language and mains power safety on/off switch, with BMS connections.

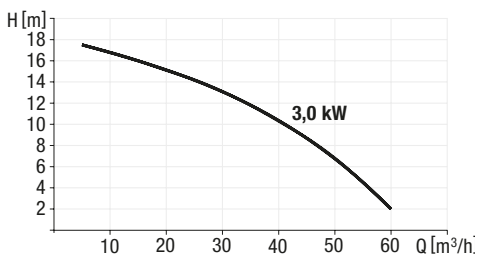
Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber pages 35 – 37, lifting stations see chapter "3"

➤ **Technical note:** page 34

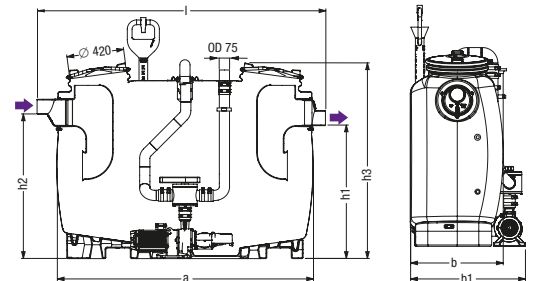
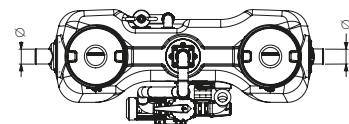
➤ **Note:** Also available in 60 Hz / 400 V

Pumping capacity



without SonicControl *with SonicControl*

NS	Art. no.	Art. no.
NS 2	93 002.01/MS	93 002.02/MS
NS 3	93 003.01/MS	93 003.02/MS
NS 4	93 004.01/MS	93 004.02/MS
NS 7	93 007.01/MS	93 007.02/MS
NS 10	93 010.01/MS	93 010.02/MS



NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
2	110	1500	1735 × 680	860	985	1055	1435	155	200	400	100	600
3	110	1500	1735 × 680	860	985	1055	1435	160	300	300	120	600
4	110	1880	2115 × 680	860	985	1055	1435	173	400	400	160	800
7	160	1910	2145 × 940	1130	1185	1255	1655	221	700	650	280	1350
10	160	2590	2820 × 940	1130	1185	1255	1655	267	1000	900	400	1900

Ø = Outer diameter b1 = Set-up dimensions

Grease separator *EasyClean* free Mix & Pump NS 15 – 50

for free-standing installation



EN 1825

Tank

Manufactured from virgin, non-recycled polyethylene, for free-standing installation in frost-protected areas, with integrated sludge trap and sloped base 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. Inspection window with wiper. Inlet and outlet \varnothing 200 / 250 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Disposal System

Mix & Pump with manual disposal and rinsing device and Shredder-Mix-System, KESSEL disposal system Mix & Pump with switching distribution, mixing and rinsing device via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, pumping capacity 3.0 kW (stronger pumps available on request), 5 m cable length, refill inlet in accordance with DIN 1988.

Control Unit for actuating the pump(s).

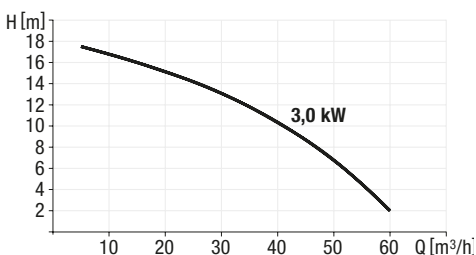
Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber, *SonicControl* level sensing system pages 35 – 37, lifting stations see chapter "3"

➤ **Technical note:** page 34

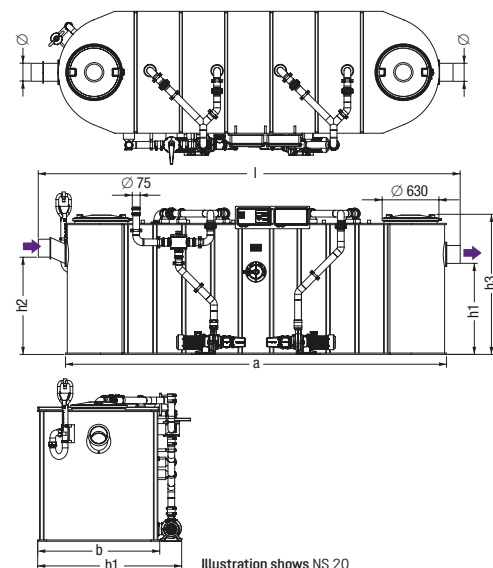
➤ **Note:** Also available in 60 Hz / 400 V

Pumping capacity



without *SonicControl*

NS	Art. no.
NS 15	93 015.01/MS
NS 20	93 020.01/MS
NS 25	93 025.01/MS
NS 30	93 030.01/MS
NS 35	93 035.01/MS
NS 40	93 040.01/MS
NS 50	93 050.01/MS



NS	\varnothing (mm)	a (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
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35	250	6000	6480 × 1500	1770	1130	1200	1662	3500	4500	1400	8000
40	250	6200	6680 × 1600	1870	1130	1200	1662	4000	5000	1600	9000
50	250	6200	6680 × 1800	2070	1350	1420	1882	5000	6200	2240	11200

\varnothing = Outer diameter b1 = Set-up dimensions

Grease separators *EasyClean* free Auto Mix NS 2 – 10 for free-standing installation



EN 1825

Tank

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, inspection window with interior cleaning arm, 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).

Disposal System

Auto Mix 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 pump (stainless steel blades) includes closure valve for easy pump removal, pump 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, pumping capacity 3.0 kW (stronger pumps available on request), 5 m cable length, 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).

Control Unit with LCD display control settable in English, German or French language and mains power safety on/off switch, with BMS connections.

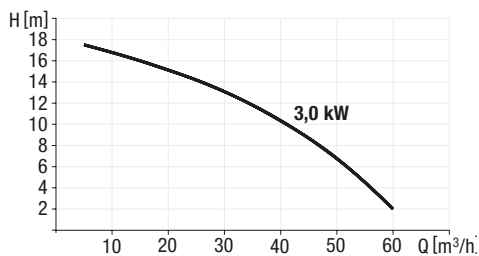
Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber, remote control, *TeleControl* pages 35 – 37, lifting stations see chapter "3"

➤ **Technical note:** page 34

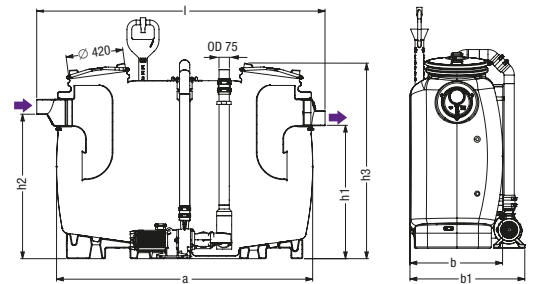
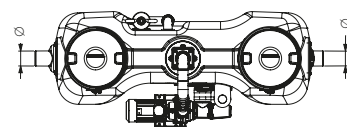
➤ **Note:** Also available in 60 Hz / 400 V

Pumping capacity



without SonicControl *with SonicControl*

NS	Art. no.	Art. no.
NS 2	93 002.01/DSP	93 002.02/DSP
NS 3	93 003.01/DSP	93 003.02/DSP
NS 4	93 004.01/DSP	93 004.02/DSP
NS 7	93 007.01/DSP	93 007.02/DSP
NS 10	93 010.01/DSP	93 010.02/DSP



NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
2	110	1500	1735 × 680	860	985	1055	1435	150	200	400	100	600
3	110	1500	1735 × 680	860	985	1055	1435	155	300	300	120	600
4	110	1880	2115 × 680	860	985	1055	1435	168	400	400	160	800
7	160	1910	2145 × 940	1130	1185	1255	1655	216	700	650	280	1350
10	160	2590	2820 × 940	1130	1185	1255	1655	262	1000	900	400	1900

Ø = Outer diameter b1 = Set-up dimensions

Grease separator *EasyClean* free Auto Mix NS 15 – 50

for free-standing installation



EN 1825

Tank

Manufactured from virgin, non-recycled polyethylene, for free-standing installation in frost-protected areas, with integrated sludge trap and sloped base 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.

2 solenoid valves 1", inspection window with wiper, viewing window with wiper. Inlet and outlet \varnothing 200 / 250 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Disposal System

Auto Mix with direct disposal and Shredder-Mix-System, KESSEL Shredder-Mix-System with mixing and rinsing via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, pumping capacity 3.0 kW (stronger pumps available on request), 5 m cable length, refill inlet in accordance with DIN 1988, R 1 connection.

Control Unit for actuating the pump(s) and the solenoid valves.

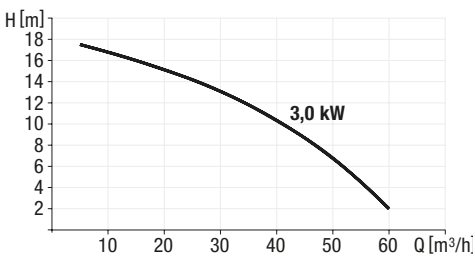
Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber, remote control, *TeleControl*, *SonicControl* level sensing system pages 35 – 37, lifting stations see chapter "3"

➤ **Technical note:** page 34

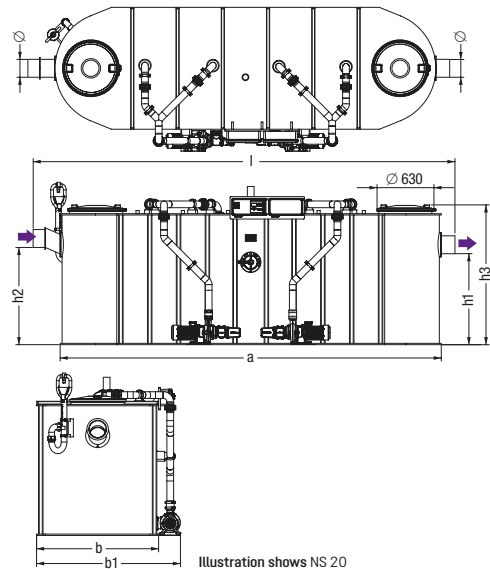
➤ **Note:** Also available in 60 Hz / 400 V

Pumping capacity



without *SonicControl*

NS	Art. no.
NS 15	93 015.01/DSP
NS 20	93 020.01/DSP
NS 25	93 025.01/DSP
NS 30	93 030.01/DSP
NS 35	93 035.01/DSP
NS 40	93 040.01/DSP
NS 50	93 050.01/DSP



NS	\varnothing (mm)	a (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
15	200	3300	3560 × 1350	1620	1130	1200	1625	1500	2300	600	3800
20	200	4250	4510 × 1350	1620	1030	1100	1525	2000	3050	800	5050
25	200	4500	4760 × 1350	1620	1030	1100	1525	2500	2830	1000	5330
30	250	4600	4860 × 1350	1620	1170	1240	1655	3000	2650	1200	5650
35	250	6000	6480 × 1500	1770	1130	1200	1662	3500	4500	1400	8000
40	250	6200	6680 × 1600	1870	1130	1200	1662	4000	5000	1600	9000
50	250	6200	6680 × 1800	2070	1350	1420	1882	5000	6200	2240	11200

\varnothing = Outer diameter b1 = Set-up dimensions

Grease separators *EasyClean* free Mix NS 2 – 10

for free-standing installation



EN 1825

Tank

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, inspection window with interior cleaning arm, 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).

Disposal System

Mix 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 pump (stainless steel blades) includes closure valve for easy pump removal, pump floor mount included with installation hardware and anti-vibration matt, pumping capacity 3.0 kW (stronger pumps available on request), 5 m cable length, 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.

Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber, inspection window pages 35 – 37, lifting stations see chapter "3"

➤ **Technical note:** page 34

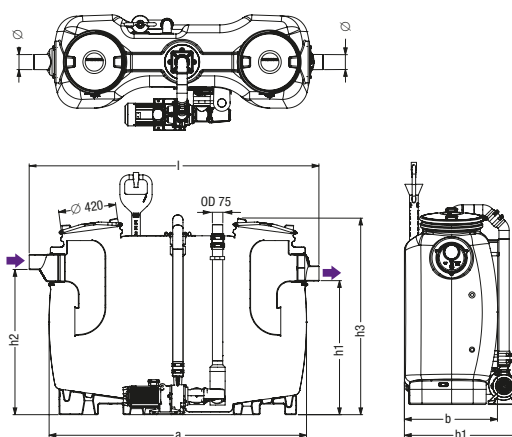
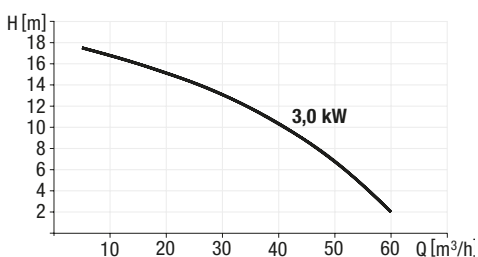
➤ **Note:** Also available in 60 Hz / 400 V



without SonicControl *with SonicControl*

NS	Art. no.	Art. no.
<i>Without inspection window</i>		
NS 2	93 002.01/DS	93 002.02/DS
NS 3	93 003.01/DS	93 003.02/DS
NS 4	93 004.01/DS	93 004.02/DS
NS 7	93 007.01/DS	93 007.02/DS
NS 10	93 010.01/DS	93 010.02/DS
<i>With inspection window</i>		
NS 2	93 002.31/DS	93 002.32/DS
NS 3	93 003.31/DS	93 003.32/DS
NS 4	93 004.31/DS	93 004.32/DS
NS 7	93 007.31/DS	93 007.32/DS
NS 10	93 010.31/DS	93 010.32/DS

Pumping capacity



NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
2	110	1500	1735 × 680	860	985	1055	1435	145	200	400	100	600
3	110	1500	1735 × 680	860	985	1055	1435	150	300	300	120	600
4	110	1880	2115 × 680	860	985	1055	1435	163	400	400	160	800
7	160	1910	2145 × 940	1130	1185	1255	1655	211	700	650	280	1350
10	160	2590	2820 × 940	1130	1185	1255	1655	257	1000	900	400	1900

Ø = Outer diameter b1 = Set-up dimensions

Grease separator *EasyClean* free Mix NS 15 – 50

for free-standing installation



EN 1825

Tank

Manufactured from virgin, non-recycled polyethylene, for free-standing installation in frost-protected areas, with integrated sludge trap and sloped base 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 \varnothing 200 / 250 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Disposal System

Mix with direct disposal and Shredder-Mix-System, KESSEL Shredder-Mix-System with mixing and rinsing via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, pumping capacity 3.0 kW (stronger pumps available on request), 5 m cable length, refill inlet in accordance with DIN 1988, R 1 connection.

Switch Unit for actuating the pump.

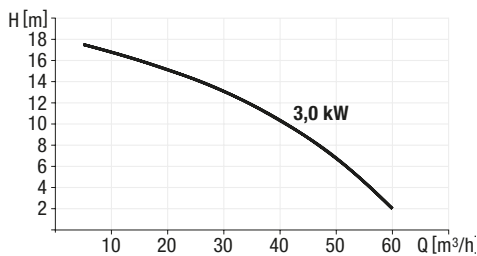
Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber, inspection window, *SonicControl* level sensing system pages 35 – 37; lifting stations see chapter "3"

➤ **Technical note:** page 34

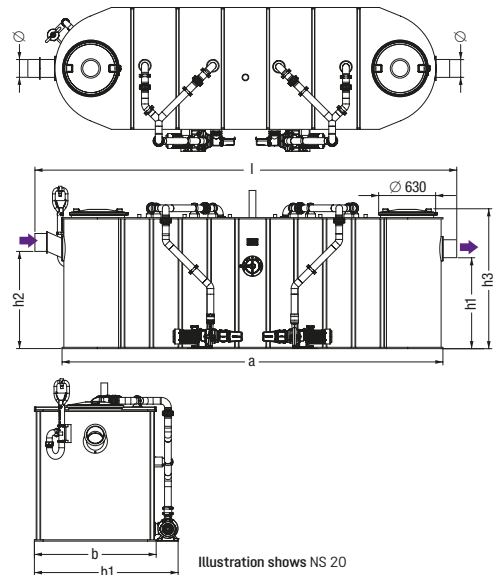
➤ **Note:** Also available in 60 Hz / 400 V

Pumping capacity



without *SonicControl*

NS	Art. no.
NS 15	93 015.01/DS
NS 20	93 020.01/DS
NS 25	93 025.01/DS
NS 30	93 030.01/DS
NS 35	93 035.01/DS
NS 40	93 040.01/DS
NS 50	93 050.01/DS



NS	\varnothing (mm)	a (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
15	200	3300	3560 × 1350	1620	1130	1200	1625	1500	2300	600	3800
20	200	4250	4510 × 1350	1620	1030	1100	1525	2000	3050	800	5050
25	200	4500	4760 × 1350	1620	1030	1100	1525	2500	2830	1000	5330
30	250	4600	4860 × 1350	1620	1170	1240	1655	3000	2650	1200	5650
35	250	6000	6480 × 1500	1770	1130	1200	1662	3500	4500	1400	8000
40	250	6200	6680 × 1600	1870	1130	1200	1662	4000	5000	1600	9000
50	250	6200	6680 × 1800	2070	1350	1420	1882	5000	6200	2240	11200

\varnothing = Outer diameter b1 = Set-up dimensions

Grease separators *EasyClean* free Direct NS 2 – 10 for free-standing installation



EN 1825

Tank

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, 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).

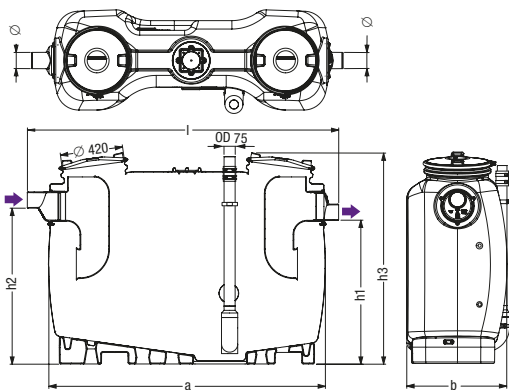
Disposal System

Direct version with factory installed pressure pipe suction outlet - requires disposal truck with vacuum system for separator disposal, disposal is completely odour free.

Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber, inspection window, refill inlet; lifting stations see chapter "3", pages 35 – 37

➤ **Technical note:** page 34



without *SonicControl* **with *SonicControl***

NS	Art. no.	Art. no.
<i>Without accessories</i>		
NS 2	93 002.01/D	93 002.02/D
NS 3	93 003.01/D	93 003.02/D
NS 4	93 004.01/D	93 004.02/D
NS 7	93 007.01/D	93 007.02/D
NS 10	93 010.01/D	93 010.02/D
<i>With inspection window</i>		
NS 2	93 002.21/D	93 002.22/D
NS 3	93 003.21/D	93 003.22/D
NS 4	93 004.21/D	93 004.22/D
NS 7	93 007.21/D	93 007.22/D
NS 10	93 010.21/D	93 010.22/D
<i>With refill inlet</i>		
NS 2	93 002.11/D	93 002.12/D
NS 3	93 003.11/D	93 003.12/D
NS 4	93 004.11/D	93 004.12/D
NS 7	93 007.11/D	93 007.12/D
NS 10	93 010.11/D	93 010.12/D
<i>With inspection window and refill inlet</i>		
NS 2	93 002.31/D	93 002.32/D
NS 3	93 003.31/D	93 003.32/D
NS 4	93 004.31/D	93 004.32/D
NS 7	93 007.31/D	93 007.32/D
NS 10	93 010.31/D	93 010.32/D

NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
2	110	1500	1735 × 680	860	985	1055	1435	69	200	400	100	600
3	110	1500	1735 × 680	860	985	1055	1435	74	300	300	120	600
4	110	1880	2115 × 680	860	985	1055	1435	87	400	400	160	800
7	160	1910	2145 × 940	1130	1185	1255	1655	135	700	650	280	1350
10	160	2590	2820 × 940	1130	1185	1255	1655	181	1000	900	400	1900

Ø = Outer diameter b1 = Set-up dimensions

Grease separator *EasyClean* free Direct NS 15 – 50

for free-standing installation



EN 1825

Tank

Manufactured from virgin, non-recycled polyethylene, for free-standing installation in frost-protected areas, with integrated sludge trap and sloped base 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 \varnothing 200 / 250 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Disposal System

Direct version with factory installed pressure pipe suction outlet - requires disposal truck with vacuum system for separator disposal, disposal is completely odour free.

Delivery: System completely assembled.

➤ **Accessories:** Inspection window and refill inlet, sampling chamber; lifting stations see chapter "3", pages 35 – 37

➤ **Technical note:** page 34



without *SonicControl*

NS	Art. no.
Without accessories	
NS 15	93 015.01/D
NS 20	93 020.01/D
NS 25	93 025.01/D
NS 30	93 030.01/D
NS 35	93 035.01/D
NS 40	93 040.01/D
NS 50	93 050.01/D

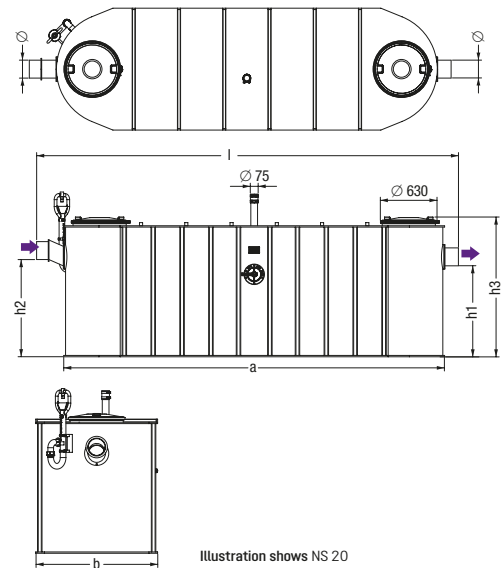


Illustration shows NS 20

NS	\varnothing (mm)	a (mm)	Installation dimension l × b (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
15	200	3300	3560 × 1350	1130	1200	1625	1500	2300	600	3800
20	200	4250	4510 × 1350	1030	1100	1525	2000	3050	800	5050
25	200	4500	4760 × 1350	1030	1100	1525	2500	2830	1000	5330
30	250	4600	4860 × 1350	1170	1240	1655	3000	2650	1200	5650
35	250	6000	6480 × 1500	1130	1200	1662	3500	4500	1400	8000
40	250	6200	6680 × 1600	1130	1200	1662	4000	5000	1600	9000
50	250	6200	6680 × 1800	1350	1420	1882	5000	6200	2240	11200

\varnothing = Outer diameter

Grease separators *EasyClean* free Standard NS 2 – 10 for free-standing installation



EN 1825

Tank

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, integrated fork lift grips at base of separator, 100% corrosion free polyethylene body construction (20 year warranty).

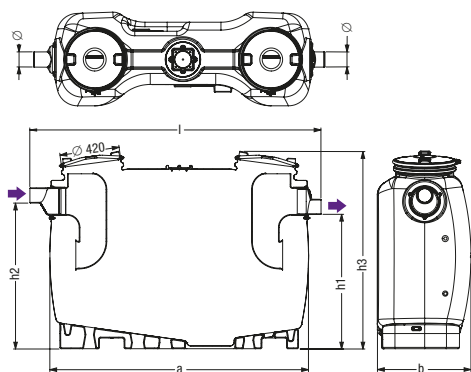
Disposal System

Standard version requires disposal truck with vacuum system for separator disposal.

Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber, inspection window, refill inlet; lifting stations see chapter "3", pages 35 – 37

➤ **Technical note:** page 34



without SonicControl **with SonicControl**

NS	Art. no.	Art. no.
<i>Without accessories</i>		
NS 2	93 002.01	93 002.02
NS 3	93 003.01	93 003.02
NS 4	93 004.01	93 004.02
NS 7	93 007.01	93 007.02
NS 10	93 010.01	93 010.02
<i>With inspection window</i>		
NS 2	93 002.21	93 002.22
NS 3	93 003.21	93 003.22
NS 4	93 004.21	93 004.22
NS 7	93 007.21	93 007.22
NS 10	93 010.21	93 010.22
<i>With refill inlet</i>		
NS 2	93 002.11	93 002.12
NS 3	93 003.11	93 003.12
NS 4	93 004.11	93 004.12
NS 7	93 007.11	93 007.12
NS 10	93 010.11	93 010.12
<i>With inspection window and refill inlet</i>		
NS 2	93 002.31	93 002.32
NS 3	93 003.31	93 003.32
NS 4	93 004.31	93 004.32
NS 7	93 007.31	93 007.32
NS 10	93 010.31	93 010.32

NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
2	110	1500	1735 × 680	860	985	1055	1435	69	200	400	100	600
3	110	1500	1735 × 680	860	985	1055	1435	74	300	300	120	600
4	110	1880	2115 × 680	860	985	1055	1435	87	400	400	160	800
7	160	1910	2145 × 940	1130	1185	1255	1655	135	700	650	280	1350
10	160	2590	2820 × 940	1130	1185	1255	1655	181	1000	900	400	1900

Ø = Outer diameter b1 = Set-up dimensions

Grease separator *EasyClean* free Standard NS 15 – 50

for free-standing installation



EN 1825

Tank

Manufactured from virgin, 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 Ø 200 / 250 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Disposal System

Standard version requires disposal truck with vacuum system for separator disposal.

Delivery: System completely assembled.

➤ **Accessories:** Inspection window and refill inlet, sampling chamber; lifting stations see chapter "3", pages 35 – 342

➤ **Technical 37:** page 34



without SonicControl

NS	Art. no.
Without accessories	
NS 15	93 015.01
NS 20	93 020.01
NS 25	93 025.01
NS 30	93 030.01
NS 35	93 035.01
NS 40	93 040.01
NS 50	93 050.01

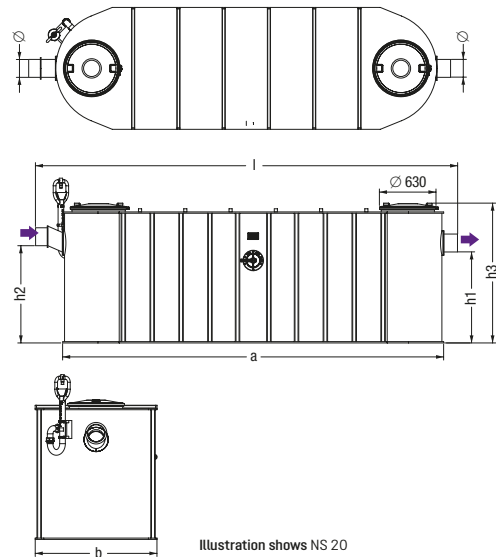


Illustration shows NS 20

NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
15	200	3300	3560 × 1350	1130	1200	1625	1500	2300	600	3800
20	200	4250	4510 × 1350	1030	1100	1525	2000	3050	800	5050
25	200	4500	4760 × 1350	1030	1100	1525	2500	2830	1000	5330
30	250	4600	4860 × 1350	1170	1240	1655	3000	2650	1200	5650
35	250	6000	6480 × 1500	1130	1200	1662	3500	4500	1400	8000
40	250	6200	6680 × 1600	1130	1200	1662	4000	5000	1600	9000
50	250	6200	6680 × 1800	1350	1420	1882	5000	6200	2240	11200

Ø = Outer diameter

Grease separator *EasyClean* round free Auto Mix & Pump NS 10 – 20

for free-standing installation



EN 1825

Tank

Manufactured from virgin, non-recycled polyethylene, for free-standing installation in frost-protected areas, with integrated sludge trap, with integrated sloped base directing wastewater into mixing / disposal pump, twin access covers with quick-release odour tight covers, 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. Inspection window with wiper. Inlet and outlet Ø 160 / 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Disposal System

Auto Mix & Pump with program-controlled disposal and rinsing device and Shredder-Mix-System, KESSEL disposal system Auto Mix & Pump 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; stronger pumps available on request) with integrated chopping mechanism and closure valve, 5 m cable length, 2 solenoid valves 1", with refill inlet in accordance with DIN 1988.

Control Unit for actuating the pump(s) with potential-free contact.

Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber, remote control, *TeleControl*, *SonicControl* level sensing system page 35 – 37, lifting stations see chapter "3"

➤ **Technical note:** page 34

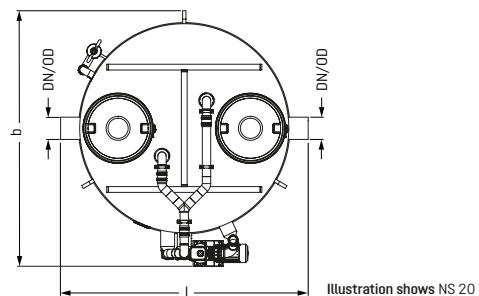
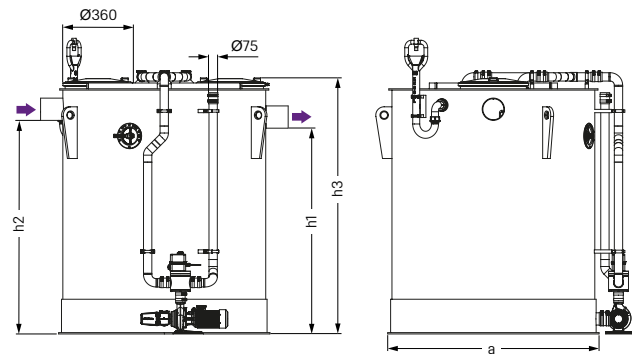
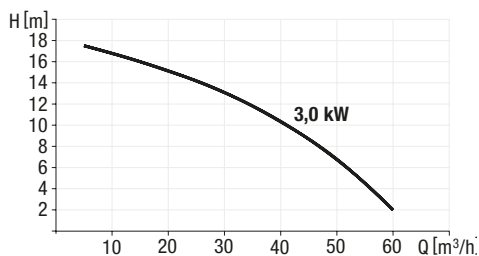
➤ **Note:** Also available in 60 Hz / 400 V



without *SonicControl*

NS	Art. no.
NS 10	93 010.05/PVS
NS 15	93 015.05/PVS
NS 20	93 020.05/PVS

Pumping capacity



NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
10	160	1570	1900 × 1915	1500	1570	1910	1000	1500	400	2500
15	200	1880	2230 × 2300	1550	1620	2020	1500	2300	600	3800
20	200	1880	2230 × 2300	1850	1920	2300	2000	2650	800	4650

Ø = Outer diameter

Grease separator *EasyClean* round free Mix & Pump NS 10– 20

for free-standing installation



EN 1825

Tank

Manufactured from virgin, non-recycled polyethylene, for free-standing installation in frost-protected areas, with integrated sludge trap, with integrated sloped base directing wastewater into mixing / disposal pump, twin access covers with quick-release odour tight covers, 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. Inspection window with wiper. Inlet and outlet Ø 160 / 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.



without *SonicControl*

Disposal System

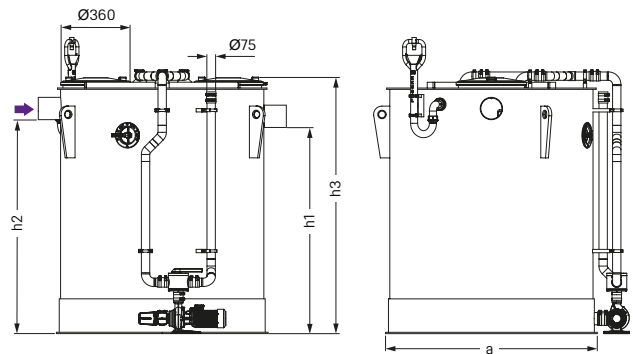
Mix & Pump with manual disposal and rinsing device and Shredder-Mix-System, KESSEL disposal system Mix & Pump with switching distribution, mixing and rinsing device via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, pumping capacity 3.0 kW (stronger pumps available on request), 5 m cable length, refill inlet in accordance with DIN 1988.

NS	Art. no.
NS 10	93 010.05/MS
NS 15	93 015.05/MS
NS 20	93 020.05/MS

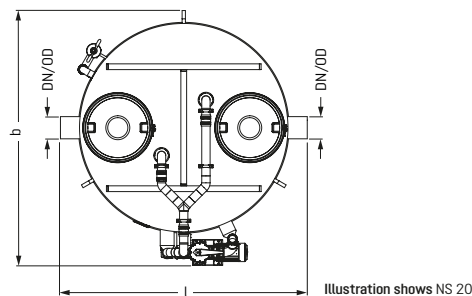
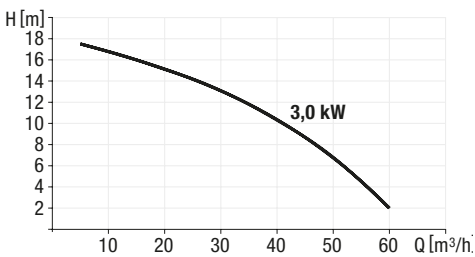
Control Unit for actuating the pump(s).

Delivery: System completely assembled.

- **Accessories:** Sampling chamber, *SonicControl* level sensing system page 35 – 37, lifting stations see chapter "3"
- **Technical note:** page 34
- **Note:** Also available in 60 Hz / 400 V



Pumping capacity



NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
10	160	1570	1900 × 1915	1500	1570	1910	1000	1500	400	2500
15	200	1880	2230 × 2300	1550	1620	2020	1500	2300	600	3800
20	200	1880	2230 × 2300	1850	1920	2300	2000	2650	800	4650

Ø = Outer diameter

Grease separator *EasyClean* round free Auto Mix NS 10 – 20

for free-standing installation



EN 1825

Tank

Manufactured from virgin, non-recycled polyethylene, for free-standing installation in frost-protected areas, with integrated sludge trap, with integrated sloped base directing wastewater into mixing / disposal pump, twin access covers with quick-release odour tight covers, 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. 2 solenoid valves 1", viewing window with wiper, inspection window with wiper. Inlet and outlet Ø 160 / 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.



without *SonicControl*

Disposal System

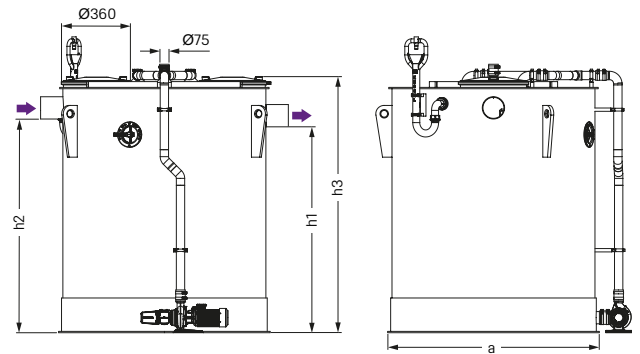
Auto Mix with direct disposal and Shredder-Mix-System, KESSEL Shredder-Mix-System with mixing and rinsing via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, pumping capacity 3.0 kW (stronger pumps available on request), 5 m cable length, refill inlet in accordance with DIN 1988, R 1 connection.

Control Unit for actuating the pump(s) and the solenoid valves.

Delivery: System completely assembled.

- **Accessories:** Sampling chamber, remote control, *TeleControl*, *SonicControl* level sensing system page 35 – 37, lifting stations see chapter "3"
- **Technical note:** page 34
- **Note:** Also available in 60 Hz / 400 V

NS	Art. no.
NS 10	93 010.05/DSP
NS 15	93 015.05/DSP
NS 20	93 020.05/DSP



Pumping capacity

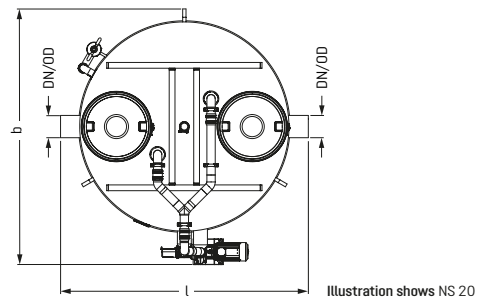
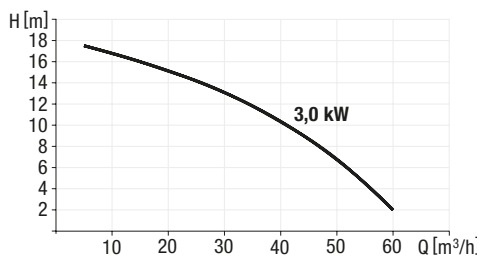


Illustration shows NS 20

NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
10	160	1570	1900 × 1915	1500	1570	1910	1000	1500	400	2500
15	200	1880	2230 × 2300	1550	1620	2020	1500	2300	600	3800
20	200	1880	2230 × 2300	1850	1920	2300	2000	2650	800	4650

Ø = Outer diameter

Grease separator *EasyClean* round free Mix NS 10 – 20

for free-standing installation



EN 1825

Tank

Manufactured from virgin, non-recycled polyethylene, for free-standing installation in frost-protected areas, with integrated sludge trap, with integrated sloped base directing wastewater into mixing / disposal pump, twin access covers with quick-release odour tight covers, 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 Ø 160 / 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.



without *SonicControl*

Disposal System

Mix with direct disposal and Shredder-Mix-System, KESSEL Shredder-Mix-System with mixing and rinsing via jet and conic nozzles, external pump(s), with integrated chopping mechanism and closure valve, pumping capacity 3.0 kW (stronger pumps available on request), 5 m cable length, refill inlet in accordance with DIN 1988, R 1 connection.

Control Unit for actuating the pump.

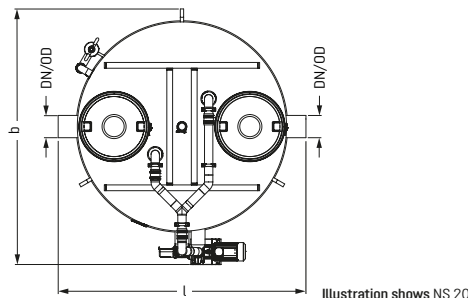
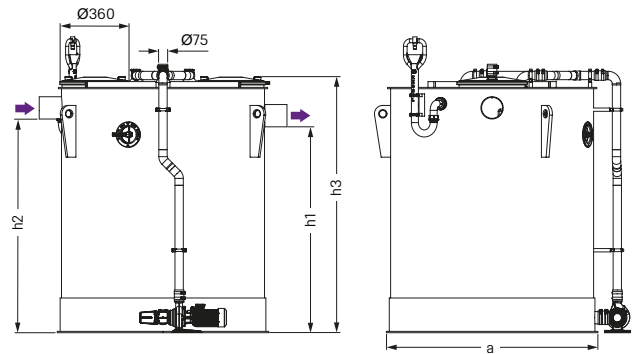
Delivery: System completely assembled.

➤ **Accessories:** Sampling chamber, inspection window, *SonicControl* level sensing system page 35 – 37, lifting stations see chapter "3"

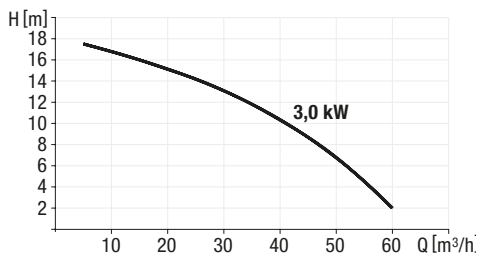
➤ **Technical note:** page 34

➤ **Note:** Also available in 60 Hz / 400 V

NS	Art. no.
NS 10	93 010.05/DS
NS 15	93 015.05/DS
NS 20	93 020.05/DS



Pumping capacity



NS	Ø (mm)	a (mm)	Installation dimension l × b (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
10	160	1570	1900 × 1915	1500	1570	1910	1000	1500	400	2500
15	200	1880	2230 × 2300	1550	1620	2020	1500	2300	600	3800
20	200	1880	2230 × 2300	1850	1920	2300	2000	2650	800	4650

Ø = Outer diameter

Grease separator *EasyClean* round free Direct NS 10 – 20 for free-standing installation



EN 1825

Tank

Manufactured from virgin, non-recycled polyethylene, for free-standing installation in frost-protected areas, with integrated sludge trap, with integrated sloped base directing wastewater into mixing / disposal pump, twin access covers with quick-release odour tight covers, 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 \varnothing 160 / 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Disposal System

Direct version with factory installed pressure pipe suction outlet - requires disposal truck with vacuum system for separator disposal, disposal is completely odour free.

Delivery: System completely assembled.

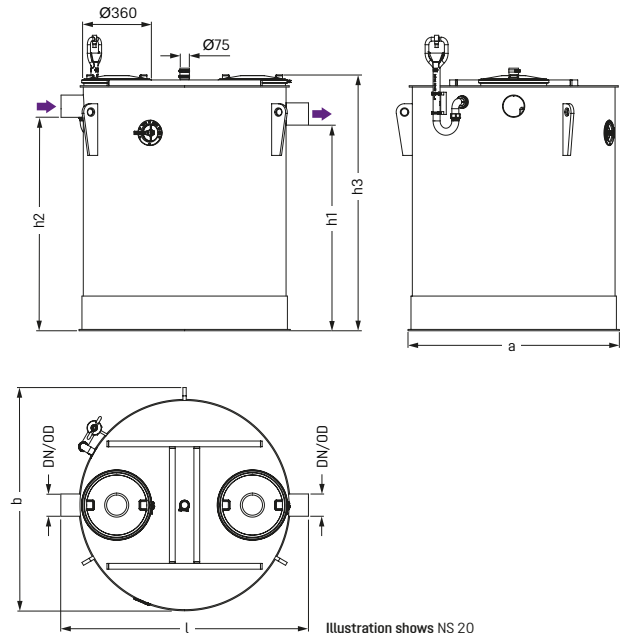
➤ **Accessories:** Inspection window and refill inlet, sampling chamber; lifting stations see chapter "3", pages 35 – 37

➤ **Technical note:** page 34



without *SonicControl*

NS	Art. no.
Without accessories	
NS 10	93 010.05/D
NS 15	93 015.05/D
NS 20	93 020.05/D



NS	\varnothing (mm)	a (mm)	Installation dimension l × b (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
10	160	1570	1900 × 1690	1500	1570	1910	1000	1500	400	2500
15	200	1880	2230 × 1922	1550	1620	2020	1500	2300	600	3800
20	200	1880	2230 × 1922	1850	1920	2300	2000	2650	800	4650

\varnothing = Outer diameter

Grease separator *EasyClean* round free Standard NS 10 – 20

for free-standing installation



EN 1825

Tank

Manufactured from virgin, 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 \varnothing 160 / 200 mm for the connection to PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560, PP or AS.

Disposal System

Standard version requires disposal truck with vacuum system for separator disposal.

Delivery: System completely assembled.

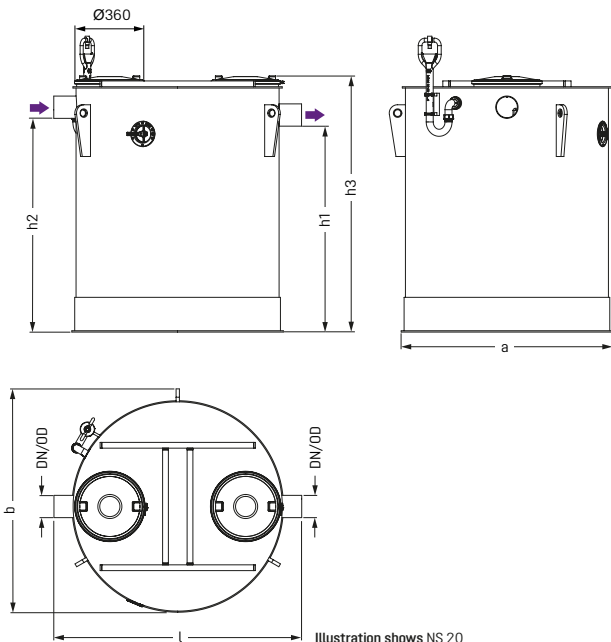
➤ **Accessories:** Inspection window and refill inlet, sampling chamber; lifting stations see chapter "3", pages 35 – 37

➤ **Technical note:** page 34



without *SonicControl*

NS	Art. no.
Without accessories	
NS 10	93 010.05
NS 15	93 015.05
NS 20	93 020.05



NS	\varnothing (mm)	a (mm)	Installation dimension l × b (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
10	160	1570	1900 × 1690	1500	1570	1910	1000	1500	400	2500
15	200	1880	2230 × 1922	1550	1620	2020	1500	2300	600	3800
20	200	1880	2230 × 1922	1850	1920	2300	2000	2650	800	4650

\varnothing = Outer diameter

Grease separator *EasyClean* free Basic

The economic solution for wastewater treatment in kitchens

The *EasyClean* free Basic grease separator is the latest model in our quality separator series. It has been developed to satisfy all of the requirements of modern wastewater technology at a market entry price level.

The result is a separator made of durable polyethylene, which is still working reliably even decades after its installation. It is available with two disposal options. In addition to the standard version, there is a Direct version, which has a convenient direct disposal connection. With the help of this, the disposal of the separator content can be done completely odourless over a permanently installed disposal line. Both versions can be ordered with practical accessories, such as an inspection window or a refill inlet, and thus adapt perfectly to the requirements on site.

The *EasyClean* free Basic is the new standard and **economic solution** for wastewater treatment in kitchens and food processing facilities.

Made in Germany! Made by KESSEL!



Direct disposal

Enables the extraction of the grease separator contents through a permanently installed odour free disposal pipe without opening the tank covers (Direct version).

Quick release access covers

Slanted twin access covers with quick release odour tight snap closures for quick and easy maintenance and cleaning.



100 % corrosion free polyethylene body

The polyethylene material used is resistant to aggressive fatty acids – and therefore particularly durable. In addition to the statutory provision, we provide a 20-year warranty with regard to the leak tightness and structural safety of tanks and upper sections.

Perfect cleaning results

Integrated sloped base allows wastewater to flow with gravity directly to the suction intake – saving time and disposal costs.

Grease separators *EasyClean* free Basic Direct NS 2 – 10 for free-standing installation



EN 1825

- Service side ... (left/right)
- Inspection window (with/without)
- Refill inlet (with/without)

The separator for grease contaminated wastewater is suitable for free-standing installation in frost protected areas and contains no metal parts in the chamber. The separator chamber made of resistant polymer (PE) includes an integrated sludge trap. Two odour-tight covers with quick-release closures allow easy access for cleaning and maintenance tasks. For odour-reducing manual disposal, with factory installed pressure pipe suction outlet. After disposal, only approx. 3 L of residual sludge volume remains in the tank.

Warranty for polyethylene material: 20 years

Standard: EN 1825

Connection of inlet/outlet fittings: PE-HD pipes according to DIN 19537, HT pipes according to DIN 19560 (PP or AS piping)

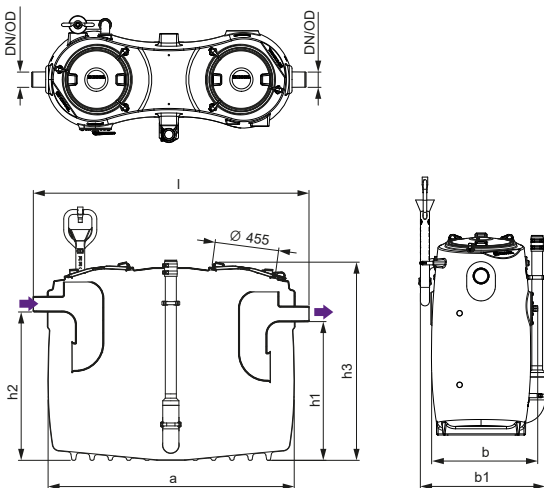
Disposal connection DN(OD): 65 (75 mm) PN10

Delivery: System completely assembled.

- **Accessories:** Sampling chamber page 35
- **Technical note:** page 34



Illustration shows Art. no. 94 004.32DR



	Direction of flow "left"	Direction of flow "right"
NS	Art. no.	Art. no.
Without accessories		
NS 2	94 002.10DL	94 002.10DR
NS 4	94 004.10DL	94 004.10DR
NS 7	94 007.10DL	94 007.10DR
NS 10	94 010.10DL	94 010.10DR
With inspection window		
NS 2	94 002.21DL	94 002.21DR
NS 4	94 004.21DL	94 004.21DR
NS 7	94 007.21DL	94 007.21DR
NS 10	94 010.21DL	94 010.21DR
With refill inlet		
NS 2	94 002.12DL	94 002.12DR
NS 4	94 004.12DL	94 004.12DR
NS 7	94 007.12DL	94 007.12DR
NS 10	94 010.12DL	94 010.12DR
With inspection window and refill inlet		
NS 2	94 002.32DL	94 002.32DR
NS 4	94 004.32DL	94 004.32DR
NS 7	94 007.32DL	94 007.32DR
NS 10	94 010.32DL	94 010.32DR

NS	Outer diameter Ø (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
2	110	1560 × 700	920	985	1055	1420	85	200	460	80	660
4	110	1960 × 700	905	985	1055	1420	105	400	420	160	820
7	160	1960 × 920	1140	1185	1255	1670	155	700	670	280	1370
10	160	2610 × 920	1120	1185	1255	1670	175	1000	880	400	1880

Ø = Outer diameter b1 = Set-up dimensions

Grease separators *EasyClean* free Basic Standard NS 2 – 10

for free-standing installation



EN 1825

- Service side ... (left/right)
- Inspection window (with/without)
- Refill inlet (with/without)

The separator for grease contaminated wastewater is suitable for free-standing installation in frost protected areas and contains no metal parts in the chamber. The separator chamber made of resistant polymer (PE) includes an integrated sludge trap. Two odour-tight covers with quick-release closures allow easy access for cleaning and maintenance tasks. Requires disposal truck with vacuum system. The tank cover is opened during manual disposal.

Warranty for polyethylene material: 20 years

Standard: EN 1825

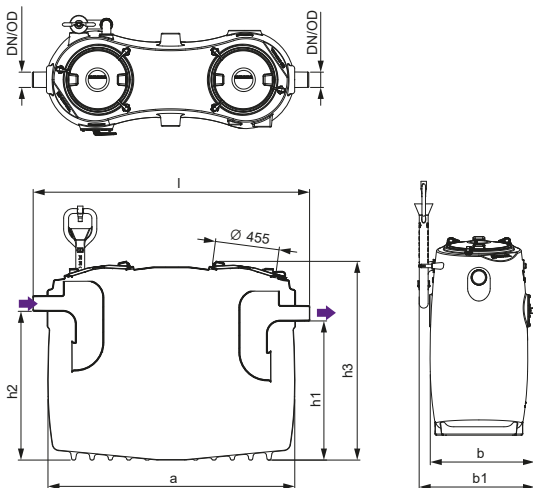
Connection of inlet/outlet fittings: PE-HD pipes according to DIN 19537, HT pipe according to DIN 19560 (PP or AS piping)

Delivery: System completely assembled.

- **Accessories:** Sampling chamber page 35
- **Technical note:** page 34



Illustration shows Art. no. 94 004.32R



	Direction of flow "left"	Direction of flow "right"
NS	Art. no.	Art. no.
<i>Without accessories</i>		
NS 2	94 002.10	94 002.10
NS 4	94 004.10	94 004.10
NS 7	94 007.10	94 007.10
NS 10	94 010.10	94 010.10
<i>With inspection window</i>		
NS 2	94 002.21L	94 002.21R
NS 4	94 004.21L	94 004.21R
NS 7	94 007.21L	94 007.21R
NS 10	94 010.21L	94 010.21R
<i>With refill inlet</i>		
NS 2	94 002.12L	94 002.12R
NS 4	94 004.12L	94 004.12R
NS 7	94 007.12L	94 007.12R
NS 10	94 010.12L	94 010.12R
<i>With inspection window and refill inlet</i>		
NS 2	94 002.32L	94 002.32R
NS 4	94 004.32L	94 004.32R
NS 7	94 007.32L	94 007.32R
NS 10	94 010.32L	94 010.32R

NS	Outer diameter Ø (mm)	Installation dimension l × b (mm)	b1 (mm)	h1 (mm)	h2 (mm)	h3 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
2	110	1560 × 700	850	985	1055	1420	80	200	460	80	660
4	110	1960 × 700	850	985	1055	1420	100	400	420	160	820
7	160	1960 × 920	1080	1185	1255	1670	150	700	670	280	1370
10	160	2610 × 920	1080	1185	1255	1670	170	1000	880	400	1880

Ø = Outer diameter b1 = Set-up dimensions

Grease separators

EasyClean Modular

The flexible solution for limited access / narrow entry.

The *EasyClean* Modular combines the advantages of the *EasyClean* free with maximum transportability. It is the ideal grease separator for extremely narrow entranceways that can make it difficult to transport a standard grease separator to the set-up location. This grease separator can be disassembled into small individual components and assembled at the set-up location.

Always the right choice:
kessel.com/smartselect

Different disposal options

Standard [↗ Page 33](#)

Direct [↗ Page 33](#)



1 Separator component 2 Assembled grease separator 3 Direct disposal connection

Grease separator *EasyClean Modular Standard and Direct NS 0.25 – 4*

for free-standing installation, two component version



NS 0.25 / NS 0.5 / NS 1: KESSEL-Norm NS 2 / NS 3 / NS 4: EN 1825

Made of polyethylene PE-HD

Installation: In frost-protected rooms

Version: Can be disassembled

Delivery: System completely assembled (only NS 0.25 / NS 0.5 / NS 1)

Note for NS 0.25 / NS 0.5 / NS 1: The separated grease must be skimmed off daily in the case of weekly emptying and cleaning.

Custom made product: Delivery time on request

➤ **Accessories for NS 2 / NS 3 / NS 4:** Sampling chamber, refill inlet, inspection window, *SonicControl* from page 35 – 37, lifting stations see chapter "3"

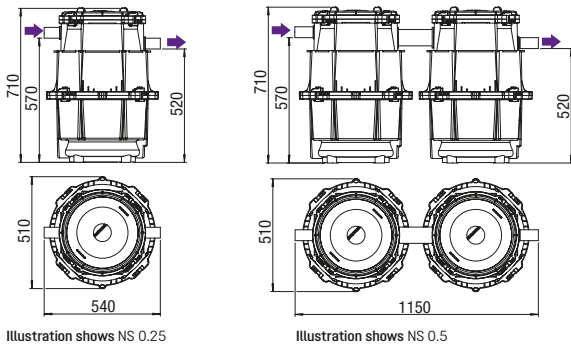


Illustration shows NS 0.25

Illustration shows NS 0.5

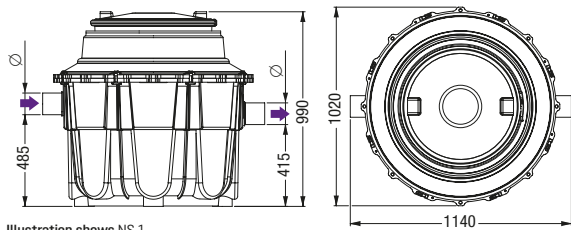


Illustration shows NS 1

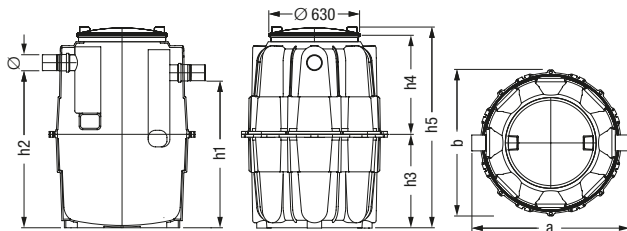


Illustration shows NS 2



Illustration shows Art. no. 93 002-R

EasyClean Modular Standard

NS	Art. no.
NS 0.25	93 025
NS 0.5	93 050
NS 1	93 001
NS 2	93 002-R
NS 3	93 003-R
NS 4	93 004-R

EasyClean Modular Direct with direct disposal

NS	Art. no.
NS 2	93 002.00/D1-R
NS 3	93 003.00/D1-R
NS 4	93 004.00/D1-R

NS	Ø (mm)	a (mm)	b (mm)	h1 (mm)	h2 (mm)	h3 (mm)	h4 (mm)	h5 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
0.25	50	-	-	-	-	-	-	-	20	25	28	15	53
0.5	50	-	-	-	-	-	-	-	45	50	42	30	92
1	110	-	-	-	-	-	-	-	65	100	100	40	200
2	110	1100	1020	1020	1090	650	690	1395	60	200	400	100	600
3	110	1100	1020	1020	1090	650	690	1395	60	300	300	120	600
4	110	1400	1300	1090	1160	765	790	1620	110	400	560	160	960

Ø = Outer diameter h4 × b = access opening

Grease separator *EasyClean Modular Standard and Direct NS 1 – 4*

for free-standing installation, three component version



Following approval no. Z-54.1-473

Made of polyethylene PE-HD

Installation: In frost-protected rooms

Version: Standard or with direct disposal
(only *EasyClean Modular Direct*)

Consisting of: Integrated sludge trap,
polyethylene quick release odour tight covers

Delivery: System completely assembled.

Screw connection can be undone to minimum installation dimensions.

Installation:

Ideal where access is extremely narrow.

Separator can be disassembled into 3 parts for installation opening of max. 58 cm.

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

Custom made product: Delivery time on request

➤ **Accessories:** Sampling chamber, *SonicControl*, refill inlet, from page 35 – 37, lifting stations see chapter "3"



EasyClean Modular Standard

NS	Art. no.
NS 1	93 001-R2
NS 2	93 002-R2
NS 3	93 003-R2
NS 4	93 004-R2

EasyClean Modular Direct with direct disposal

NS	Art. no.
NS 1	93 001.00/D1-R2
NS 2	93 002.00/D1-R2
NS 3	93 003.00/D1-R2
NS 4	93 004.00/D1-R2

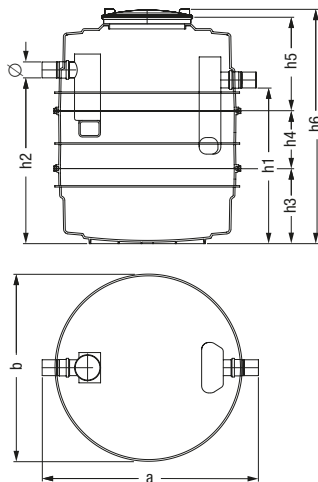


Illustration shows Standard version

Technical note for pages 10 – 34

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.

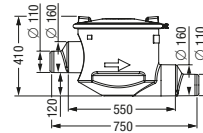
NS	Ø (mm)	a (mm)	b (mm)	h1 (mm)	h2 (mm)	h3 (mm)	h4 (mm)	h5 (mm)	h6 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
1	110	1120	1020	780	850	375	250	500	1236	80	100	230	80	330
2	110	1120	1020	1020	1090	485	300	550	1386	80	200	270	100	470
3	110	1120	1020	1020	1090	485	300	550	1386	130	300	300	120	600
4	110	1500	1300	1080	1150	520	390	580	1550	130	400	560	160	960

Ø = Outer diameter h5 × b = access opening

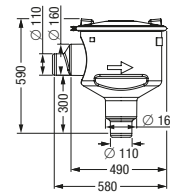
Accessories

Grease separators for free-standing installation

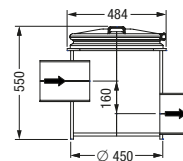
Sampling chamber Ø 400		Outer diameter Ø (mm)	Length in mm	Art. no.
Outlet lateral	<p>Compatibility: For connection to outlet pipe of separator, no ponding (allows accurate samples). Inlet and outlet Ø ... available options for synthetic material pipes in: PE-HD (according to EN 1519-1); PVC-HT, PP or AS; for grease separators for free-standing installation</p> <p>Inclusive: Cover sealed odour-tight with snap closure</p> <p>Drop height: 120 mm</p>	Ø 110/Ø 160	750	915 871
		Ø 200	780	915 883
		Ø 250	860	915 884



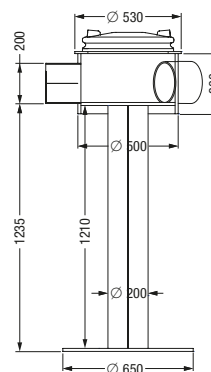
Outlet vertical	<p>Compatibility: For connection to outlet pipe of separator, no ponding (allows accurate samples). Inlet and outlet Ø ... available options for synthetic material pipes in: PE-HD (according to EN 1519-1); PVC-HT, PP or AS; for grease separators for free-standing installation</p> <p>Inclusive: Cover sealed odour-tight with snap closure</p> <p>Drop height: 120 mm</p>	Ø 110/Ø 160	915 870
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Sampling chamber Ø 450		Outer diameter Ø (mm)	Art. no.
Outlet lateral	<p>Compatibility: For connection to outlet pipe of separator. Inlet and outlet Ø 200 mm available options for synthetic material pipes in: PE-HD (according to EN 1519-1); PVC-HT, PP or AS; for grease separators for free-standing installation</p> <p>Inclusive: Cover sealed odour-tight with snap closure</p> <p>Drop height: 160 mm</p>	Ø 200	915 863-IS



Distribution box		Outer diameter Ø (mm)	Art. no.
Distribution box	<p>Compatibility: For twin (parallel) separator systems; for grease separators for free-standing installation</p> <p>Inclusive: With inlet and outlet connection for polymer pipes made of: PE-HD (according to DIN 19537); PVC-HT, PP or AS.</p>	Ø 110	915 700-100
		Ø 160	915 700-150
		Ø 200	915 700-200



Automated water refill *EasyFill*

Automated water refill <i>EasyFill</i>	<p>Compatibility: For grease separator <i>EasyClean</i> Standard, Direct, Mix, Mix & Pump according to EN 1825</p>	919 010
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Accessories

Grease separators for free-standing installation

SonicControl level sensing system

level sensing system

Compatibility: For grease separators for free-standing installation according to EN 1825
Inclusive: Ultra sonic sensor for electronic measurement, display and control of the grease layer thickness and the water temperature; power connection, battery back up, connection for remote speaker; installation set with easy assembly and maintenance; 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 type: IP 54
Plug: Schuko 1,5 m
Cable length: 10 m (extendable on-site to 60 meters)



Art. no.

917 821

Cable access conduit

Cable access conduit

Compatibility: For grease separators according to EN 1825 and DIN 4040; for watertight connection of SonicControl cable into separator chamber
Inclusive: Gasket, cable connection
Note: Conduit pipe with chase wire should be planned; requires 50 mm OD conduit pipe (PE-HD) -sourced on-site. Max. distance between separator and control unit 30 m



Art. no.

917 823

Cable extension set for SonicControl FA

10 m extension

20 m extension

30 m extension

extendable on-site to 60 meters



Art. no.

917 871

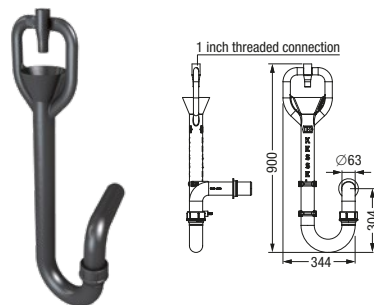
917 872

917 873

Refill inlet

Refill inlet

Compatibility: According to DIN 1988, for connection to filling and rinsing connection of the separation systems for free-standing installation according to EN 1825
Inclusive: Two pipe clamps, element with pipe sealing gasket $\varnothing 63$



Art. no.

915 800

Inspection window

Inspection window

Compatibility: For visual inspection of the thickness of the grease layer; for grease separators for free-standing installation according to EN 1825
Inclusive: High-gloss polished inspection glass, cleaning device, centimetre scale
Note: Only for installation by KESSEL certified workers



Art. no.

913 109

Accessories

Grease separators for free-standing installation

Remote control

Art. no.

Remote control

Compatibility: Fits KESSEL separation systems for free standing installation according to EN 1825, for connection to an isolated ground socket
Version: Model Auto Mix & Pump and Auto Mix in accordance with EN 1825
Cable length: 15 m



916 601

Access panel

Width × Height × Depth
in mm

Art. no.

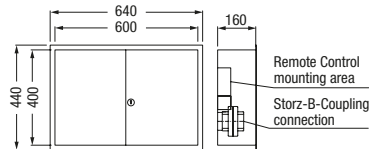
Recessed wall installation

Compatibility: For Storz-B disposal pipe hook up connection and remote control connection for use with fully automated grease separators. Remote control not included
Material: Stainless steel
Inclusive: 2 doors, lockable



640 × 440 × 160

917 414



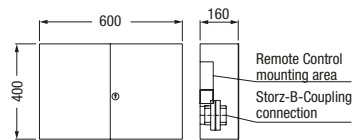
Wall installation

Compatibility: For Storz-B disposal pipe hook up connection and remote control connection for use with fully automated grease separators. Remote control not included
Material: Stainless steel
Inclusive: 2 doors, lockable



600 × 400 × 160

917 413





Progressive cavity pump for greasy wastewater

Material: Polyethylene PE-HD

Version: upstream from the grease separator

Custom made product: e-Mail: info@kessel.com

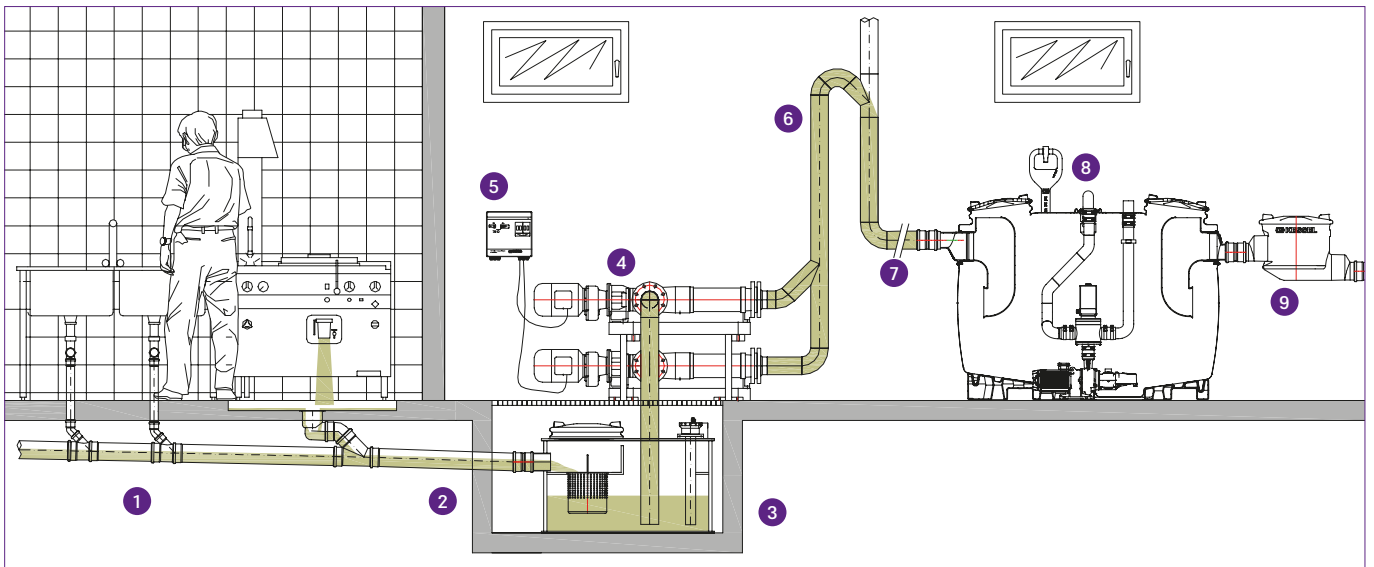
Application: In the case where the grease separator is located higher than the collected wastewater from the kitchen, the EN 1825 norm requires the use of special lifting stations. Standard lifting stations with vortex or macerating pumps mix the wastewater as it is pumped. This causes the food waste and grease from the kitchen to fully mix with the wastewater which can negatively effect the efficiency of an EN 1825 grease separator. A progressive cavity 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.



Illustration shows screw pump double system

- 1 Drains in the kitchen
- 2 Inlet pipe
- 3 Collecting tank
- 4 Progressive cavity pump twin system
- 5 Control unit
- 6 Pressure pipe
- 7 Calmed inlet (min. 1000 mm)
- 8 Grease separator
- 9 Sampling chamber



	Art. no.	Flow rate	Pump capacity	Connection	Suitable up to NS
Duo-Progressive cavity pump	Sonder-Hebe 65 S2	6 m³/h	1.1 kW	DN65/DN80	NS 4
Duo-Progressive cavity pump	Sonder-Hebe 65 S3	12 m³/h	2.2 kW	DN80/DN100	NS 7
Duo-Progressive cavity pump	Sonder-Hebe 65S	20 m³/h	3.0 kW	DN80/DN100	NS 15
Duo-Progressive pump	Sonder-Hebe 65 S4	44 m³/h	7.5 kW	DN 125	NS 30

Accessories

Gate valve DN 65-DN 100	28 041	-	-	-	-
Non-return flap DN 65-DN 100	(included)	-	-	-	-
Mono-pump system	on request	-	-	-	-

Grease separators

EasyClean ground

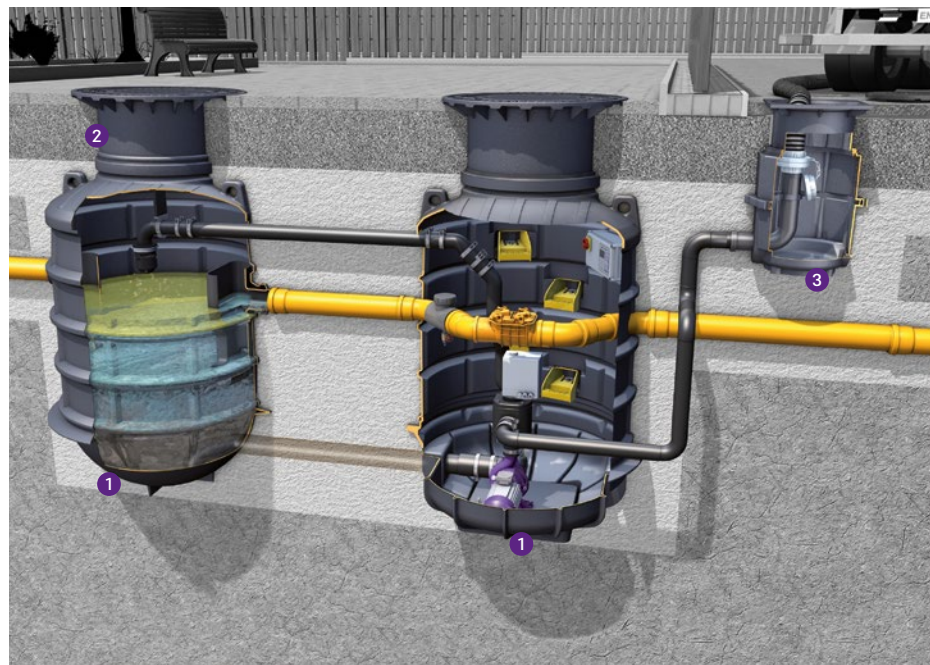
The space-saving solution for underground installation.

Underground installation outside the building is a space saving alternative to indoor installed separators. Here, we offer a wide range of grease separators with the *EasyClean* ground that combines the advantages of the *EasyClean* free with more usable operating space.

Always the right choice:
kessel.com/smartselect

Different disposal options

Auto Mix & Pump	↗ Page 41
Auto Mix	↗ Page 42
Direct	↗ Page 43
Standard	↗ Page 44



1 Grease separator 2 Height adjustable upper section 3 Disposal chamber

Grease separator *EasyClean* ground Auto Mix & Pump NS 1 – 10

for underground installation



EN 1825 DIN 4040-100

Made of polyethylene

Installation

In combination with engineering system chamber

- Grease Separator NS 1 – 4: Resistant when installed in the groundwater up to 500 mm
- Grease Separator NS 7, 10: Resistant when installed in the groundwater up to 500 mm
- A load distribution plate must be planned for class D

Consisting of: With program-controlled disposal system and Shredder-Mix system, upper section made of polymer material, continuous height and level adjustment, 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, integrated sampling chamber *Type NBG*, control unit and remote control, mains water supply rinse function, refill inlet, pump

Pumping capacity: 3.0 kW

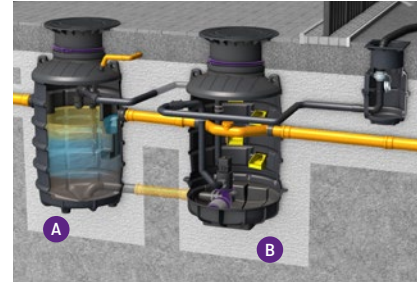
Cable length: 5 m

Delivery: System completely assembled

Note: Further nominal sizes on request

➤ **Accessories:** Jointing / connection set, disposal chamber Ø 400, sampling chamber, intermediate section, *SonicControl* page 47 – 50, pumping stations see chapter "3"

➤ **Technical note:** page 46



Underground installation frost-free depth 800 mm

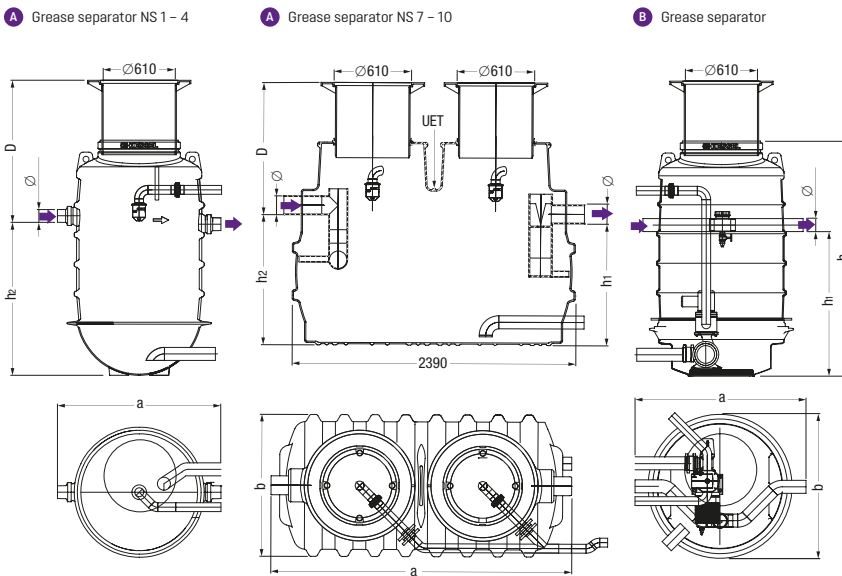
NS	Installation depth D in mm	Art. no.
Cover class A/B		
NS 1	550 - 950	93 001/80B-K-P1
NS 2	550 - 950	93 002/80B-K-P1
NS 4	550 - 950	93 004/80B-K-P1

Cover class D		
NS	Installation depth D in mm	Art. no.
NS 1	810 - 950	93 001/80D-K-P1
NS 2	810 - 950	93 002/80D-K-P1
NS 4	810 - 950	93 004/80D-K-P1

Underground installation frost-free depth 1200 mm

NS	Installation depth D in mm	Art. no.
Cover class A/B		
NS 1	800 - 1200	93 001/120B-K-P1
NS 2	800 - 1200	93 002/120B-K-P1
NS 4	800 - 1200	93 004/120B-K-P1
NS 7	715 - 1165	93 007/120B-K-P1
NS 10	715 - 1165	93 010/120B-K-P1

Cover class D		
NS	Installation depth D in mm	Art. no.
NS 1	1060 - 1200	93 001/120D-K-P1
NS 2	1060 - 1200	93 002/120D-K-P1
NS 4	1060 - 1200	93 004/120D-K-P1
NS 7	975 - 1165	93 007/120D-K-P1
NS 10	975 - 1165	93 010/120D-K-P1



NS	Ø (mm)	a (mm)	b (mm)	h (mm)	h1 (mm)	h2 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
1	110	1380	1220	1500	690	795	270	140	230	70	370
2	110	1380	1220	1750	940	1045	300	200	370	120	570
4	110	1380	1220	2000	1210	1295	325	400	370	160	770
7	160	2539	1200	1715	1030	1100	525	700	1100	280	1800
10	160	3062	1200	1715	1030	1100	550	1000	1600	400	2600

Ø = Outer diameter D = Installation depth

Grease separator *EasyClean* ground Auto Mix NS 1 – 10 for underground installation



EN 1825 DIN 4040-100

Made of polyethylene

Installation

In combination with engineering system chamber

- Grease Separator NS 1 – 4: Resistant when installed in the groundwater up to 500 mm
- Grease Separator NS 7, 10: Resistant when installed in the groundwater up to 500 mm
- A load distribution plate must be planned for class D

Consisting of: With program-controlled Shredder-Mix system, upper section made of polymer material, continuous height and level adjustment, 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, integrated sampling chamber *Type NBG*, control unit and remote control, mains water supply rinse function, refill inlet, pump

Pumping capacity: 3.0 kW

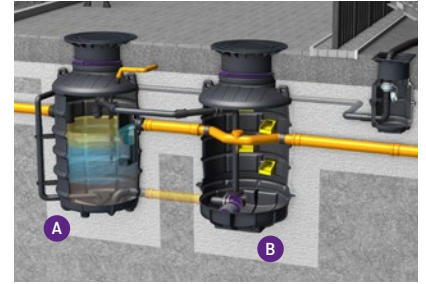
Cable length: 5 m

Delivery: System completely assembled

Note: Further nominal sizes on request

➤ **Accessories:** Jointing / connection set, disposal chamber Ø 400, sampling chamber, intermediate section, *SonicControl* page 47 – 50, pumping stations see chapter "3"

➤ **Technical note:** page 46

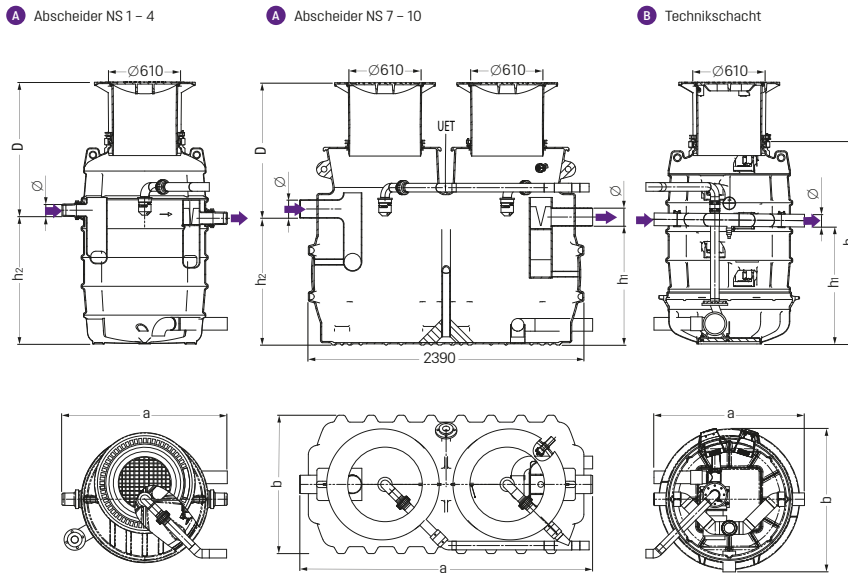


Underground installation frost-free depth 800 mm

NS	Installation depth D in mm	Art. no.
Cover class A / B		
NS 1	550 – 950	93 001/80B-K-DS-P1
NS 2	550 – 950	93 002/80B-K-DS-P1
NS 4	550 – 950	93 004/80B-K-DS-P1
Cover class D		
NS 1	810 – 950	93 001/80D-K-DS-P1
NS 2	810 – 950	93 002/80D-K-DS-P1
NS 4	810 – 950	93 004/80D-K-DS-P1

Underground installation frost-free depth 1200 mm

NS	Installation depth D in mm	Art. no.
Cover class A / B		
NS 1	800 – 1200	93 001/120B-K-DS-P1
NS 2	800 – 1200	93 002/120B-K-DS-P1
NS 4	800 – 1200	93 004/120B-K-DS-P1
NS 7	715 – 1165	93 007/120B-K-DS-P1
NS 10	715 – 1165	93 010/120B-K-DS-P1
Cover class D		
NS 1	1060 – 1200	93 001/120D-K-DS-P1
NS 2	1060 – 1200	93 002/120D-K-DS-P1
NS 4	1060 – 1200	93 004/120D-K-DS-P1
NS 7	975 – 1165	93 007/120D-K-DS-P1
NS 10	975 – 1165	93 010/120D-K-DS-P1



NS	Ø (mm)	a (mm)	b (mm)	h (mm)	h1 (mm)	h2 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
1	110	1380	1220	1500	690	795	270	140	230	70	370
2	110	1380	1220	1750	940	1045	300	200	370	120	570
4	110	1380	1220	2000	1210	1295	325	400	370	160	770
7	160	2539	1200	1715	1030	1100	525	700	1100	280	1800
10	160	3062	1200	1715	1030	1100	550	1000	1600	400	2600

Ø = Outer diameter D = Installation depth

Grease separator *EasyClean* ground Direct NS 2 – 4 for underground installation



EN 1825 DIN 4040-100

Made of polyethylene

Installation

in frost-free depth

- Resistant when installed in the groundwater up to 500 mm
- A load distribution plate must be provided for class D

Consisting of:

Upper section made of polymer, continuous 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

Delivery: System completely assembled

➤ **Accessories:** Sampling chamber, extension section, *SonicControl* (NS 2 and NS 4) page 47 – 50, pumping stations see chapter "3"

➤ **Technical note:** page 46

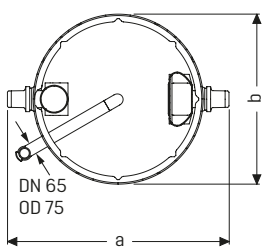
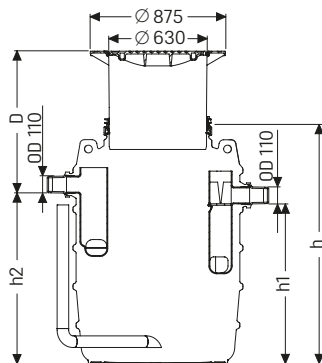


Underground installation frost-free depth 800 mm

NS	Installation depth D in mm	Art. no.
Cover class A / B, direction of flow left		
NS 2	550 – 950	93002.80B-DL
NS 4	550 – 950	93004.80B-DL
Cover class A / B, direction of flow right		
NS 2	550 – 950	93002.80B-DR
NS 4	550 – 950	93004.80B-DR
Cover class D, direction of flow left		
NS 2	550 – 950	93002.80D-DL
NS 4	550 – 950	93004.80D-DL
Cover class D, direction of flow right		
NS 2	550 – 950	93002.80D-DR
NS 4	550 – 950	93004.80D-DR

Underground installation frost-free depth 1200 mm

NS	Installation depth D in mm	Art. no.
Cover class A / B, direction of flow left		
NS 2	800 – 1200	93002.120B-DL
NS 4	800 – 1200	93004.120B-DL
Cover class A / B, direction of flow right		
NS 2	800 – 1200	93002.120B-DR
NS 4	800 – 1200	93004.120B-DR
Cover class D, direction of flow left		
NS 2	800 – 1200	93002.120D-DL
NS 4	800 – 1200	93004.120D-DL
Cover class D, direction of flow right		
NS 2	800 – 1200	93002.120D-DR
NS 4	800 – 1200	93004.120D-DR



NS	Ø (mm)	a (mm)	b (mm)	h ¹⁾ (mm)	h1 (mm)	h2 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
2	110	1380	1106	1300	790	860	120 kg	200 l	370 l	120 l	570
4	110	1380	1106	1550	1040	1110	130 kg	400 l	370 l	160 l	770

¹⁾ Valued for Type 80 separators. For Type 120 h* = h + 250 mm.

Ø = Outer diameter D = Installation depth

Grease separator *EasyClean* ground Standard NS 1 – 4 for underground installation



EN 1825 DIN 4040-100

Made of polyethylene

Installation

- Resistant when installed in the groundwater up to 500 mm
- A load distribution plate must be provided for class D

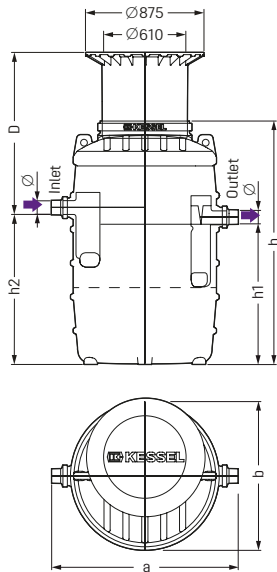
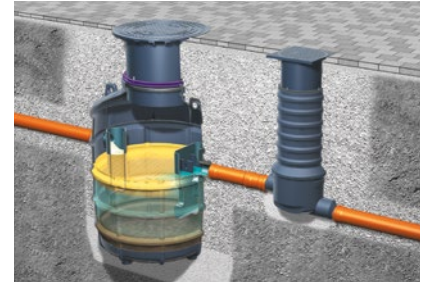
Consisting of:

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

Delivery: System completely assembled

Note: Further nominal sizes on request

- **Accessories:** Sampling chamber, extension section, direct disposal, *SonicControl* (NS 2 and NS 4) page 47 – 50, pumping stations see chapter "3"
- **Technical note:** page 46



Underground installation frost-free depth 800 mm

NS	Installation depth D in mm	Art. no.
Cover class A / B		
NS 1	550 - 950	93 001/80B
NS 2	550 - 950	93 002/80B
NS 4	550 - 950	93 004/80B
Cover class D		
NS 1	550 - 950	93 001/80D
NS 2	550 - 950	93 002/80D
NS 4	550 - 950	93 004/80D

Underground installation frost-free depth 1200 mm

NS	Installation depth D in mm	Art. no.
Cover class A / B		
NS 1	800 - 1200	93 001/120B
NS 2	800 - 1200	93 002/120B
NS 4	800 - 1200	93 004/120B
Cover class D		
NS 1	800 - 1200	93 001/120D
NS 2	800 - 1200	93 002/120D
NS 4	800 - 1200	93 004/120D

NS	Ø (mm)	a (mm)	b (mm)	h ¹⁾ (mm)	h1 (mm)	h2 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
1	110	1380	1106	1050	540	610	111	140	230	70	370
2	110	1380	1106	1300	790	860	120	200	370	120	570
4	110	1380	1106	1550	1040	1110	130	400	370	160	770

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

Ø = Outer diameter D = Installation depth

Grease separator *EasyClean* ground Standard NS 7 – 35

for underground installation



EN 1825 DIN 4040-100

Made of polyethylene

Installation

in frost-free depth

- Installation is possible with groundwater up to the upper edge of the tank (UET)
- A load distribution plate must be provided for class D
- Class D = 700 mm ≤ DEC ≤ 1500 mm
Class A/ B = 700 mm ≤ DEC ≤ 1800 mm
- Minimum installation depth achieved by sawing the upper section as required

Consisting of:

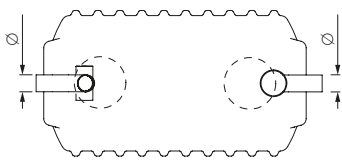
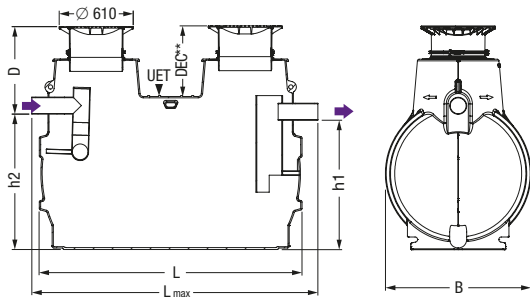
Upper section made of polymer, height and level adjustment, with cover class A/B, D in accordance with EN 124, made of cast iron (can be driven over by cars and trucks), sealed odour-tight, incl. lift-out key

Delivery: System completely assembled

Note: Further nominal sizes on request

➤ **Accessories:** Sampling chamber, extension section, direct disposal, *SonicControl* page 47 – 50, pumping stations see chapter "3"

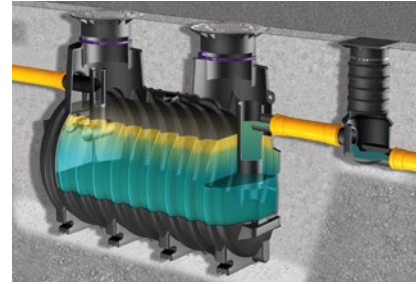
➤ **Technical note:** page 46



**DEC = Depth of earth coverage

NS	Ø (mm)	L (mm)	B (mm)	h1 (mm)	h2 (mm)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)	D-DEC	Lmax
7	160	2390	1200	1030	1100	700	1100	280	1800	220	2540
10	160	2910	1200	1030	1100	1000	1600	400	2600	220	3060
15	200	2590	1760	1550	1620	1500	2800	600	4300	185	2780
20	200	3110	1760	1550	1620	2000	3800	800	5800	185	3300
25	200	3470	2010	1550	1650	2500	5300	2000	7800	480	3760
30	250	3470	2010	1550	1650	3000	4800	2000	7800	480	3760
35	250	3470	2010	1700	1800	3500	4800	2000	8300	330	3760

Ø = Outer diameter D = Installation depth



NS	Installation depth D in mm	Weight in kg	Art. no.
Cover class A / B			
NS 7	715 - 1165	315	93 007/120B
NS 10	715 - 1165	340	93 010/120B
NS 15	765 - 1200	435	93 015/120B
NS 20	765 - 1200	490	93 020/120B
NS 25	800 - 1235	665	93 925/120B
NS 30	800 - 1235	665	93 930/120B
NS 35	650 - 1085	665	93 935/120B

NS	Installation depth D in mm	Weight in kg	Art. no.
Cover class D			
NS 7	715 - 1165	450	93 007/120D
NS 10	715 - 1165	480	93 010/120D
NS 15	765 - 1200	630	93 015/120D
NS 20	765 - 1200	670	93 020/120D
NS 25	800 - 1235	765	93 925/120D
NS 30	800 - 1235	765	93 930/120D
NS 35	650 - 1085	765	93 935/120D

Extended version for deeper installation with extension section Ø 800 mm

NS	Installation depth D in mm	Weight in kg	Art. no.
Cover class A / B			
NS 7	1120 - 1740	345	93 007/170B
NS 10	1120 - 1740	370	93 010/170B
NS 15	1130 - 1755	465	93 015/170B
NS 20	1130 - 1755	520	93 020/170B
NS 25	1155 - 1775	695	93 925/170B
NS 30	1155 - 1775	695	93 930/170B
NS 35	1005 - 1625	695	93 935/170B

NS	Installation depth D in mm	Weight in kg	Art. no.
Cover class D			
NS 7	1120 - 1740	480	93 007/170D
NS 10	1120 - 1740	510	93 010/170D
NS 15	1130 - 1755	660	93 015/170D
NS 20	1130 - 1755	700	93 020/170D
NS 25	1155 - 1775	795	93 925/170D
NS 30	1155 - 1775	795	93 930/170D
NS 35	1005 - 1625	795	93 935/170D

Grease separator *EasyClean Modular Standard NS 1 – 4*

for underground installation in frost-free depth, with separate sludge trap



DIN 4040-100

Made of polyethylene

Installation

in frost-free depth

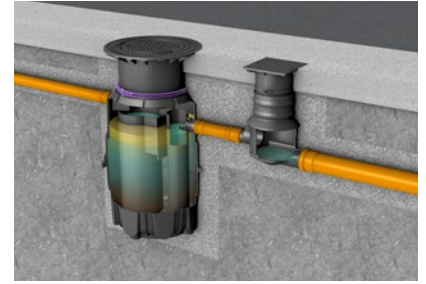
- Resistant when installed in the groundwater up to 500 mm
- A load distribution plate must be provided for class D

Consisting of:

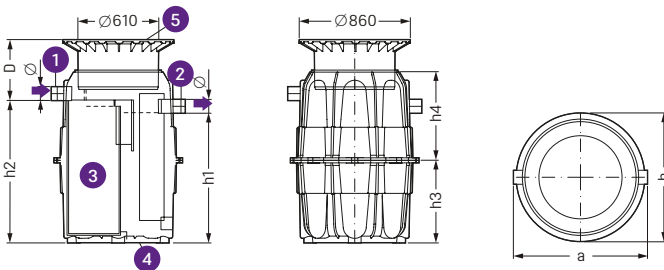
Upper section made of polymer, height and level adjustment, with cover class A / B, D in accordance with EN 124, made of cast iron (can be driven over by cars and trucks), sealed odour-tight, incl. lift-out key

Delivery: System completely assembled

➤ **Accessories:** Sampling chamber, extension section, direct disposal, *SonicControl* (NS 2 and NS 4) page 47 – 50, lifting stations see chapter "3"



NS	Installation depth D in mm	Art. no.
Cover class A / B		
NS 1	330 – 480	98 201/00B
NS 2	330 – 480	98 202/00B
NS 4	330 – 480	98 204/00B
Cover class D		
NS 1	330 – 480	98 201/00D
NS 2	330 – 480	98 202/00D
NS 4	330 – 480	98 204/00D



- 1 Inlet
- 2 Outlet
- 3 Sludge trap
- 4 Separation chamber
- 5 Upper section with cover class A / B, D

Technical note
for pages 41 – 46

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.

NS	Ø (mm)	a (mm)	b (mm)	h1 (mm)	h2 (mm)	h3 (mm)	h4 (mm)	Weight (kg)	Sludge trap (l)	Water and grease (l)	Grease storage (l)	Total (l)
1	110	1055	1020	1020	1120	650	720	140	105	415	40	420
2	110	1355	1300	1136	1236	750	750	190	200	945	80	1145
4*	110	2635	1300	1136	1236	750	750	330	600	1150	160	1750

*NS 4 separator consist of two chambers

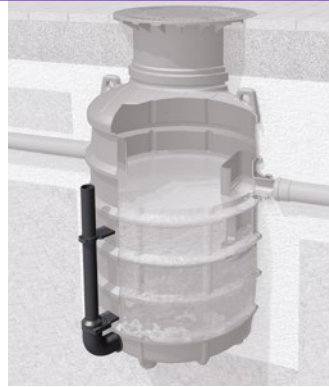
Ø = Outer diameter D = Installation depth

Accessories

Grease separators for underground installation

Direct disposal, without disposal chamber

		Disposal connection	Art. no.
Disposal connection right or left	<p>Compatibility: Installed in the ground with direct disposal connection; for grease separators for underground installation according to EN 1825</p> <p>Inclusive: Flange connection Ø 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>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.</p> <p>Note: Further installation depths, sizes and connections on request</p>	right	917 419.00
		left	917 419.50



Disposal chamber Ø 400

		Cover	Art. no.
Disposal chamber	<p>Compatibility: For separator systems Auto Mix & Pump, Auto Mix and Mix for installation in the ground</p> <p>Material: Polyethylene, watertight</p> <p>Installation depth: 630 - 980 mm</p> <p>Inclusive: With telescopic, height-adjustable upper section made of polymer with clamping ring, 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. Pressure pipe connection between separator and disposal chamber provided on-site.</p>	Class A/B	917 422B
		Class D	917 422D



Joint and connection set

		Art. no.
Joint and connection set	<p>Material: Polyethylene</p> <p>Compatibility: For connection of the grease separator (NS 1 - NS 4) to the technical chamber for the versions grease separators Auto Mix & Pump, Auto Mix and Mix in ground installation</p> <p>Inclusive: Storz-B coupling, pipe clamps</p>	917 421

Direct disposal, including disposal chamber Ø 400

		Disposal connection	Art. no.
Disposal connection right or left	<p>Compatibility: Installed in the ground with direct disposal connection for nominal sizes NS 1 - NS 35; for grease separators for underground installation according to EN 1825</p> <p>Installation depth: 630 - 980 mm</p> <p>Inclusive: Flange connection Ø 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 Ø = 400 mm, incl. cover class A/B/D, sealed</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.</p> <p>Note: Further installation depths, sizes and connections on request</p>	right	917 420.00
		left	917 420.50



Direct disposal

Disposal chamber Ø 400

Accessories

Grease separators for underground installation

SonicControl level sensing system

Art. no.

Level sensing system

Compatibility: For grease separators for underground installation

Inclusive: Ultra sonic sensor for electronic measurement, display and control of the grease layer thickness and the water temperature; power connection, battery back up, connection for remote speaker; installation set with easy assembly and maintenance; 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 type: IP 54

Plug: Schuko 1,5 m

Cable length: 10 m (extendable on-site to 60 meters)

917 821



Cable access conduit

Art. no.

Cable access conduit

Compatibility: For grease separators for underground installation according to EN 1825 and DIN 4040; for watertight connection of *SonicControl* cable into separator chamber

Inclusive: Gasket, cable connection

Note: Conduit pipe with chase wire should be planned; requires 50 mm OD conduit pipe (PE-HD) -sourced on-site. Max. distance between separator and control unit 30 m

917 823



Cable extension set for *SonicControl FA*

Art. no.

10 m extension

917 871

20 m extension

917 872

30 m extension

917 873

extendable on-site to 60 meters



Accessories

Grease separators for underground installation

Sampling chamber Ø 1000

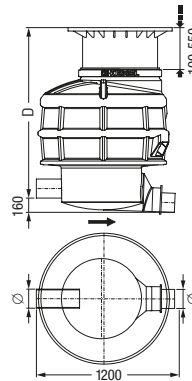
Cover class A/B

Compatibility: For separation systems NS 1 – NS 20 and special models; for underground installation
Installation depth (D): 1180 – 1630 mm
 (Other installation depths available on request)

Drop height: 160 mm

Cover class D

Inclusive: Inlet and outlet Ø ... 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 vertically 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.



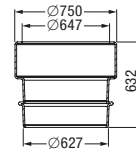
Outer dia-meter Ø (mm)	Suitable for separator	Art. no.
Ø 110	NS 1, NS 2, NS 4	915 10 10B
Ø 160	NS 7, NS 10	915 10 15B
Ø 200	NS 15, NS 20*	915 10 20B
Ø 110	NS 1, NS 2, NS 4	915 10 10D
Ø 160	NS 7, NS 10	915 10 15D
Ø 200	NS 15, NS 20*	915 10 20D

*Suitable for individual solutions

Extension section

Extension section

Compatibility: For underground grease separators with 600 mm access cover
Height increase: 500 mm



Art. no.

917 460

Sampling chamber Ø 400

Cover class A

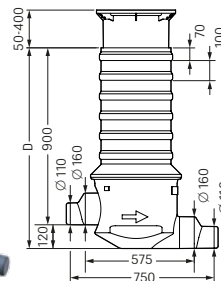
Compatibility: For connection to outlet pipe of separator for underground installation

Cover class B

Installation depth (D): 400 – 1300 mm
 (minimum installation depth can be achieved by cutting off)

Cover class D

Drop height: 120 mm (160 mm on request)
Inclusive: Telescopic upper section with clamping ring, cover class A / B / D, sealed odour-tight
Extension: 600 mm with extension section Art. no. 915 402



In-/Outlet

Art. no.

Ø 110/160	915 880A
Ø 110/160	915 880B
Ø 110/160	915 880D

Accessories

Grease separators for underground installation

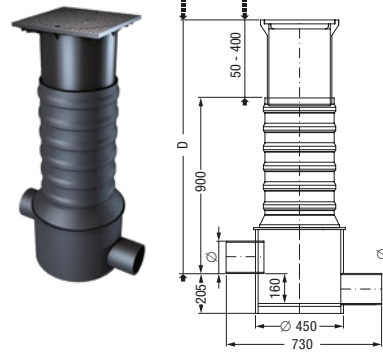
Sampling chamber Ø 450

Cover class A

Compatibility: For connection to outlet pipe of separators for underground installation
Installation depth (D): 950 - 1300 mm
Drop height: 160 mm

Inclusive: Telescopic upper section with clamping ring, cover class A/B/D, sealed odour-tight

Extension: 600 mm with extension section Art. no. 915 402



In-/Outlet	Art. no.
Ø 110	915 881A
Ø 160	915 882A
Ø 200	915 883A
Ø 260	915 884A
Ø 110	915 881B
Ø 160	915 882B
Ø 200	915 883B
Ø 260	915 884B
Ø 110	915 881D
Ø 160	915 882D
Ø 200	915 883D
Ø 260	915 884D

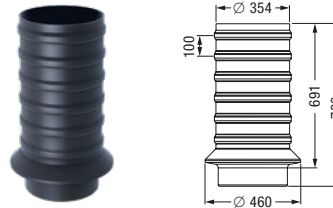
Cover class B

Cover class D

Extension section

Extension section

Compatibility: For sampling chamber Ø 400 and Ø 450
Extension height: max. 600 mm (can be shortened on-site)
Check maintenance accessibility!

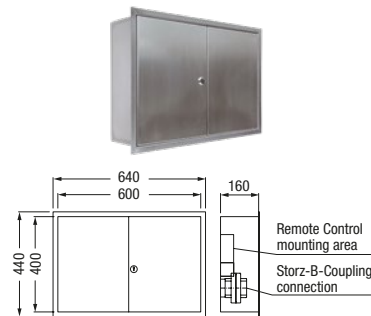


Art. no.
915 402

Access panel

Recessed wall installation

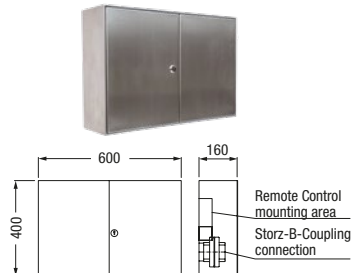
Material: Stainless steel
Compatibility: For Storz-B disposal pipe hook up connection and remote control connection for use with fully automated grease separators. Remote control not included
Inclusive: 2 doors, lockable



Width × Height × Depth
in mm
640 × 440 × 160
Art. no.
917 414

Wall installation

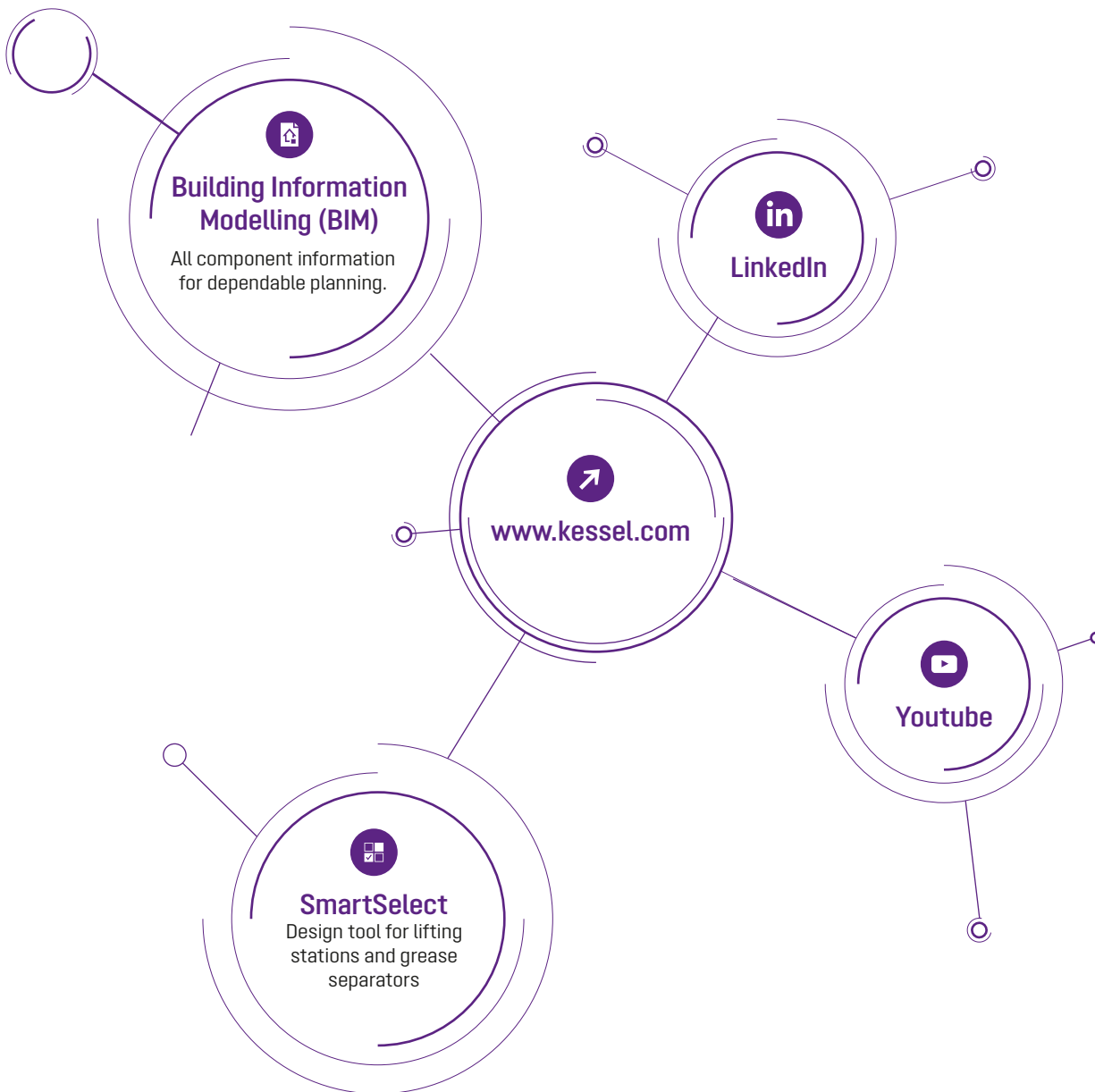
Material: Stainless steel
Compatibility: For Storz-B disposal pipe hook up connection and remote control connection for use with fully automated grease separators. Remote control not included
Inclusive: 2 doors, lockable



600 × 400 × 160
Art. no.
917 413

Our digital services offer

With KESSEL SmartServices the future has already arrived for each of our drainage products. For you as a customer, this not only means extensive digital support for design, installation and operation – but also the certainty that we continue to develop our services for your benefit.



Stay up to date:
get always the newest information
about KESSEL and our products



BIM



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SmartSelect



Youtube

Grease separator *EasyClean* free SkimTech

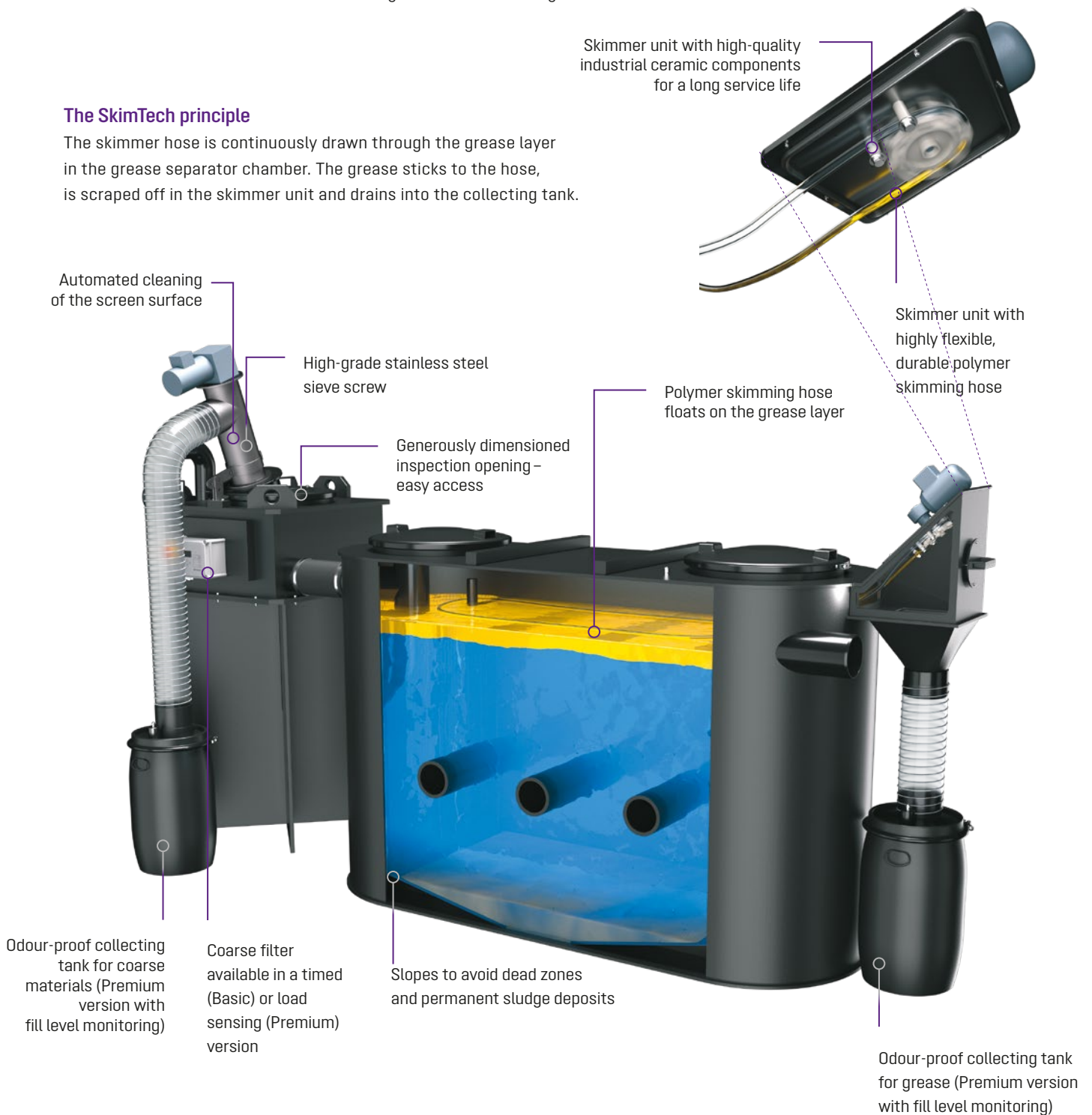


Self disposal grease separators.

The *EasyClean* free SkimTech grease separator is based on the interaction between three systems: a coarse filter, which clears inflowing wastewater from coarse waste by means of a sieve screw, the grease separator chamber and a so-called skimmer unit which transfers grease to the collecting tank.

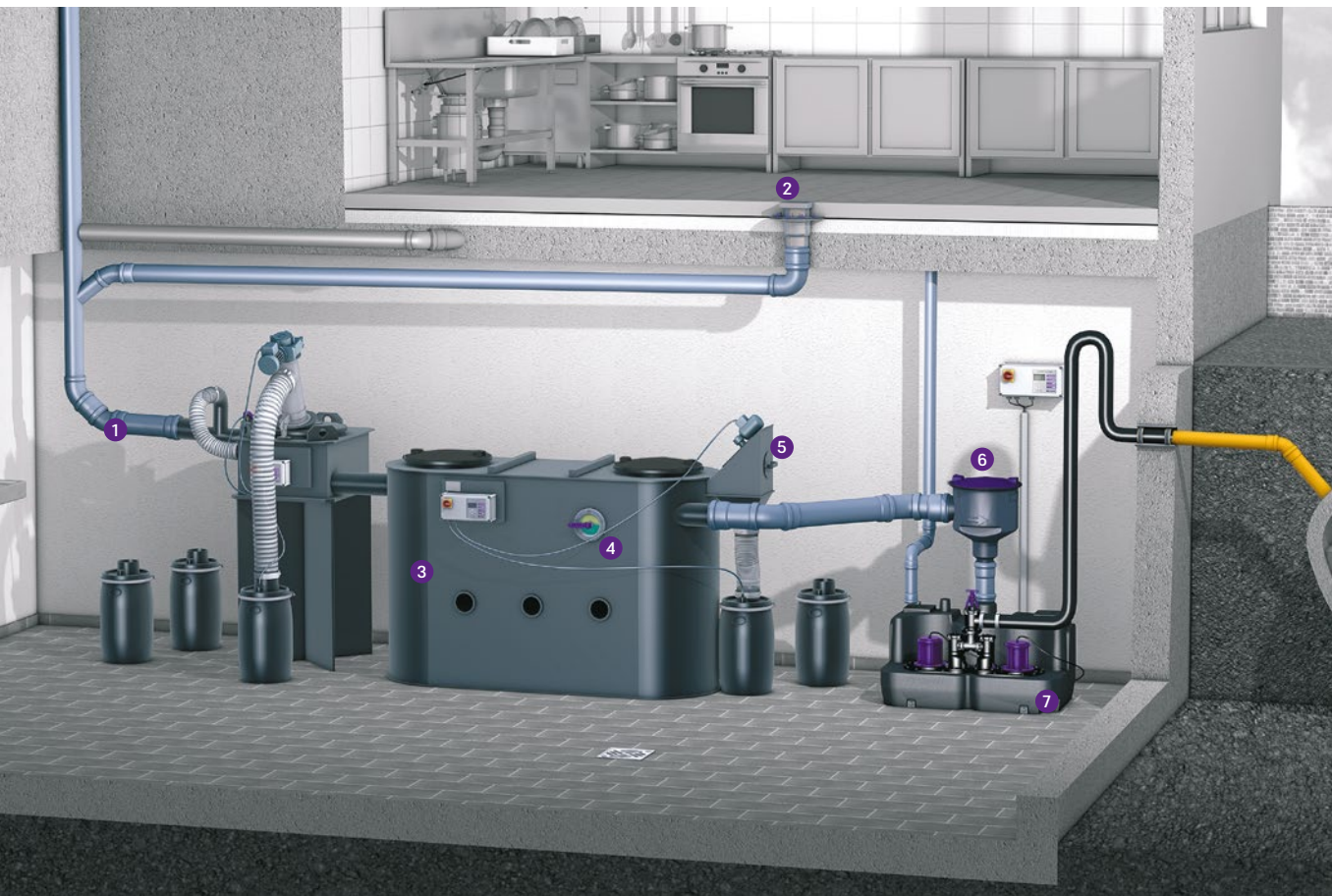
The SkimTech principle

The skimmer hose is continuously drawn through the grease layer in the grease separator chamber. The grease sticks to the hose, is scraped off in the skimmer unit and drains into the collecting tank.



Free-standing set-up

The *EasyClean* free SkimTech grease separator is installed freely accessible in the building, typically in the basement. Quite often, the space available is not ideal for large separator systems. For this reason, the grease separator is particularly slim and can be set up compactly next to the wall. Once the *EasyClean* free SkimTech has been set up, the compact collecting tanks can simply be removed by hand when full. This makes the SkimTech grease separator the ideal solution wherever disposal vehicles cannot access the separator.



Grease separator for free-standing installation inside the building

- ❶ Inlet/ventilation pipe ❷ *Ferrofix* stainless steel drains and channels ❸ Grease separator *EasyClean* free SkimTech
 ❹ Inspection window ❺ Coarse filter with sieve screw ❻ Sampling chamber ❼ *Aqualift F XL* lifting station



Grease separator *EasyClean* free SkimTech Premium NS 2 – 20 for free-standing installation

EN 1825

The grease separator made of PE-HD polymer for free-standing installation in frost-protected rooms is equipped with one disposal tank for sinking sludge and one for grease with replacement tank. Upstream from the grease separator is a coarse filter with sieve screw for separating sinking sludge materials. These are transported through the sieve screw into the designated disposal tank and thus do not get into the inside of the grease separator. There is a motor-driven skimmer integrated in the grease separator for the constant disposal of the separated grease from the grease separator into the designated disposal tank.

The control can be custom set to for optimum site operation.

The sieve screw is monitored by pneumatic level measurement.

The fill levels of both collecting and disposal tanks are also monitored by sensors and notify the operator of a pending disposal.

Operator side: In the direction of flow right

Standard: EN 1825

Inlet and outlet: DN ...

Protection class overall system: IP 54

Inclusive: Self-diagnosis system, logbook function, USB interface, GSM interface, potential-free contact, motor protection switch

Connection type: Direct connection

Operating voltage: 400 V

Mains frequency: 50 Hz

Standby power: 4 W

Max. power: 440 W

Protection class control unit: IP 54

Fuse protection required (cable protection): B 6 A

Fuse protection required (RCD): 30 mA

Nominal current: 0.4 – 0.63 A

Application temperature: 0 – 40 °C

Electrical connections for the sieve screw motor:

- Power (P2): 180 W
- Operating voltage: 400 V, 50 Hz
- Nominal current: 0.58 A
- Start-up circuit: Star

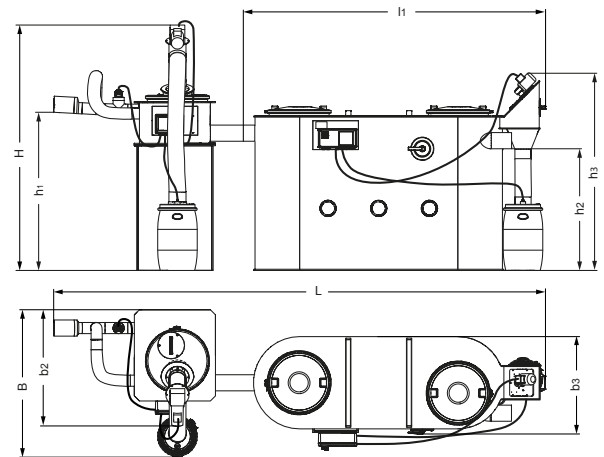
Electrical connections for the skimmer motor:

- Power (P2): 90 W
- Operating voltage: 400 V, 50 Hz
- Nominal current: 0.42 A
- Start-up circuit: Star



Direction of flow right

NS	Art. no.
NS 2	99 002.01 P
NS 4	99 004.01 P
NS 7	99 007.01 P
NS 10	99 010.01 P
NS 15	99 015.01 P
NS 20	99 020.01 P



NS	Ø (mm)	L (mm)	B (mm)	H (mm)	Weight (kg)	l1 (mm)	b3 (mm)	h3 (mm)	b2 (mm)	H (mm)	h1 (mm)	h2 (mm)	Total (l)
2	110	3850	1450	2420	440	2300	960	1950	1150	2420	1545	1200	1470
4	110	3850	1450	2420	440	2300	960	1950	1150	2420	1545	1200	1470
7	160	4570	1450	2420	460	2745	960	1950	1150	2420	1560	1200	1730
10	160	4840	1450	2420	480	3015	960	1950	1150	2420	1560	1200	1930
15	200	5460	1450	2420	645	3550	1160	1950	1150	2420	1495	1130	2770
20	200	6460	1450	2420	750	4550	1160	1950	1150	2420	1495	1130	3610

Accessories

Grease separators *EasyClean* free SkimTech

Disposal / Backwater signal

		Art. no.
Emptying connection	Compatibility: For emptying the separator; for grease separator <i>EasyClean</i> free SkimTech	99000.EL
Fine sludge disposal	Compatibility: For disposing of the settled sludge; for grease separator <i>EasyClean</i> free SkimTech	99000.FS
Backwater signal	Compatibility: For grease separator <i>EasyClean</i> free SkimTech Function: Warning in the event of backwater in the separator	99000.AS

Sieve screw

		DN	Art. no.
Coarse filter with sieve screw Basic	Compatibility: For grease separator <i>EasyClean</i> free SkimTech Function: For separating sinking sludge materials Note: Also without separator applicable	100	99100.B
		150	99150.B
		200	99200.B
Coarse filter with sieve screw Premium	Compatibility: For grease separator <i>EasyClean</i> free SkimTech Function: For separating sinking sludge materials Note: Also without separator applicable	100	99100.P
		150	99150.P
		200	99200.P



EasyClean SkimTech grease separator:

- ✓ Fill level monitoring for coarse filter collecting tank
- ✓ Fill level monitoring for grease collecting tank
- ✓ Acoustic warning signal when disposal is necessary

Secondary wastewater treatment

Bifena



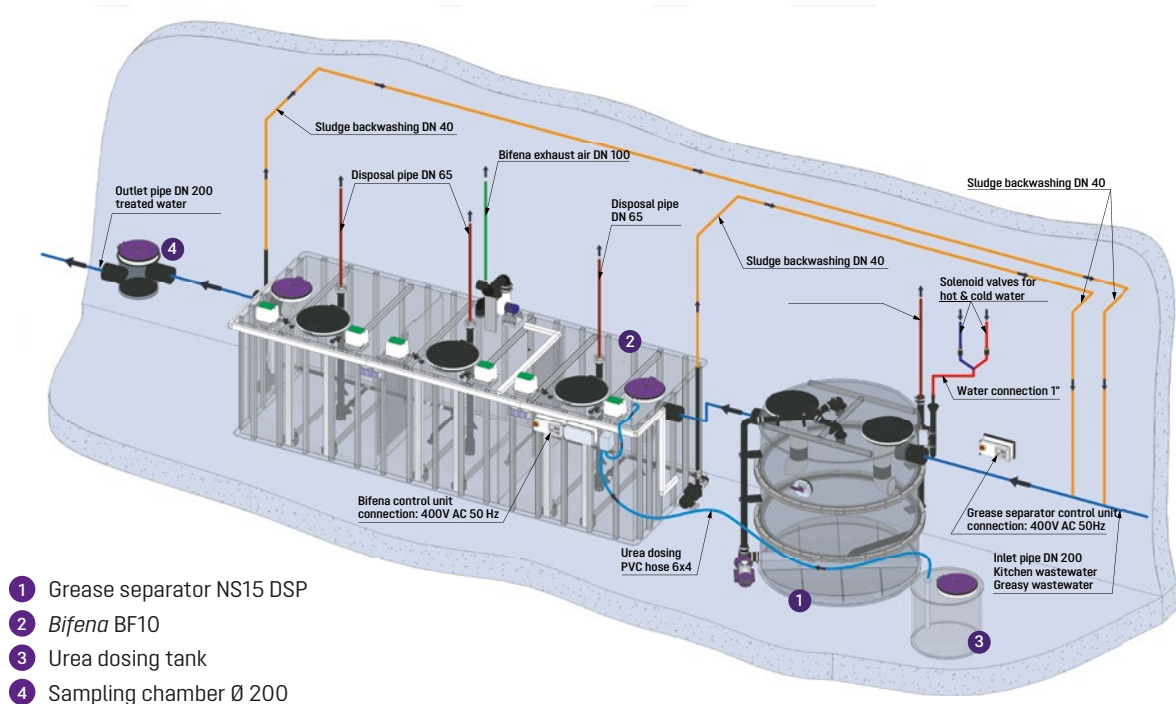
When a grease separator alone is not enough: after treatment, wastewater draining out of a properly sized and certified EN 1825 grease separator normally has a residual value of lipophilic substances of approx. 300 mg/l. If the municipalities require a limit value of below 300 mg/l, biological grease treatment with a Bifena unit is needed. It removes residual grease from the wastewater with the help of bacteria.

Bifena units are available for free-standing or underground installation. The individual dimensioning is based on a wastewater sample analysis to determine what additional treatment measures need to be taken to meet local wastewater limits. Contact us – we will be happy to advise you and develop an individual solution for your specific requirements.

On the other hand, it may be necessary for chemical substances to be added. In this case a dosing station is advisable, with which the correct quantity of chemicals can be added to the separator. The unit consists of a mixing and a dosing station and can be installed near the separator.

Individual solutions

info@kessel.com



Bifena units for biological grease treatment

for free-standing installation / for underground installation



Material: Polymer

Version:

- Bifena modules for connection after grease separators NS 2 / 4 / 7 / 10 / 15 and 20

Bifena BF 2 and Bifena BF 4

Delivery: Completely assembled system or on-site welding

Bifena with larger dimensions

Delivery: on-site welding

Dimensioning: Following a wastewater sample analysis to determine what additional treatment measures need to be taken to meet local wastewater limits

Accessories: Lifting stations, sampling devices, etc. from the KESSEL range are matched to the respective project-dependent system

Customised solution: e-Mail: info@kessel.com



Unit for chemical treatment

for free-standing installation



Material: Polymer

Version:

- Dosing station for combination with grease separators in nominal sizes NS 2 – NS 30

Delivery: Mixing and dosing station for preliminary or secondary treatment

Accessories: Lifting stations, sampling devices, etc.

Customised solution: e-Mail: info@kessel.com



KESSEL-Calculator

For grease separators

The KESSEL calculations sheets listed below serve to properly size the separator to its facility and also to help choose the proper model.

1. General Information

1.1. Project / Location

Project / Site Location: _____

Planner: _____

Builder: _____

Version: _____

1.2. Facility

- | | | |
|--|---|--|
| <input type="checkbox"/> Care facility (retirement home) | <input type="checkbox"/> Slaughter / Meat processing plants | <input type="checkbox"/> Oil / grease processing plants |
| <input type="checkbox"/> Hotel kitchen | <input type="checkbox"/> Meat processing plant (with slaughtering) | <input type="checkbox"/> Butter / margarine manufacturer |
| <input type="checkbox"/> Fine cuisine kitchen | <input type="checkbox"/> Meat processing plant (without slaughtering) | <input type="checkbox"/> Cooking oil refinery |
| <input type="checkbox"/> Business kitchen / cafeteria | <input type="checkbox"/> Butcher with slaughtering | <input type="checkbox"/> Oil manufacturer |
| <input type="checkbox"/> Hospital / University kitchen | <input type="checkbox"/> Butcher without slaughtering | <input type="checkbox"/> Prepared meal manufacturer |
| <input type="checkbox"/> All day service kitchen | <input type="checkbox"/> Supermarket with meat processing | <input type="checkbox"/> Fish processing plant |
| <input type="checkbox"/> Standard restaurant | <input type="checkbox"/> Poultry slaughterhouse | <input type="checkbox"/> |

1.3. Times of operation

Daily operation:

_____ hours / day

Weekly operation:

_____ days / week

Wastewater discharge:

continuous

discontinuous

1.4. Legal limits for wastewater entering public / private sewage systems

(Consult local statutes or local water authority for legal limits / concentrations)

Values to be identified at the wastewater's point of entry into the (public) sewage system

Wastewater temperature: _____ °C

Allowable pH-value: _____ pH-value

Saponifiable oils and greases (lipophilic substance): Max. _____ mg/l

2. Sizing the grease separator (NS - liters / second)

2.1. Calculating the maximum wastewater flow Q_s

Method 1: Q_s -Calculation based on maximum wastewater flow during peak kitchen operation measured with a flow metering device

Measured flow Q_s : _____

l/s: _____

$Q_s =$ _____ l/s

Method 2: Q_s -Calculation based on types of kitchens

The maximum wastewater flow is calculated for either a) commercial kitchens or b) meat processing plants based on volume and type of wastewater.

a) Commercial kitchen → calculating maximum wastewater flow Q_s

$Q_s =$ _____ l/s

Equation $Q_s = \frac{V_M \times F \times M_M}{t \times 3600}$

V_M : wastewater volume per warm meal in liters (l) (See Table 1)

F: Surge factor relevant to operational conditions (See Table 1)

M_M : Monthly average of the daily prepared warm meals (avg. meals per day)

Inputs $Q_s = \frac{\quad \times \quad}{\quad \times 3600}$

t: Average hours of operation when the separator will be receiving fat laden wastewater

Table 1 (Types of facilities)

Types of commercial kitchens	V_M (liters)	F	M_M (kg)	t (hours)
Hotel restaurant kitchen	100	5		
Speciality restaurant	50	8.5		
Hospital / Retirement facility kitchen	20	13		
Large-scale catering establishment	10	22		
Company kitchen / Canteen	5	20		

b) Meat processing plants → calculating maximum wastewater flow Q_s

$Q_s =$ _____ l/s

Equation $Q_s = \frac{V_P \times F \times M_P}{t \times 3600}$

V_P : facility specific wastewater volume per kilogram meat / sausage production in liters (l) (See Table 2)

F: Surge factor relevant to operational conditions (See Table 2)

M_P : Daily average of meat / sausage production (kg)

Inputs $Q_s = \frac{\quad \times \quad}{\quad \times 3600}$

t: Average hours of operation when the separator will be receiving fat laden wastewater

Table 2 (Meat processing facilities)

Meat processing facilities	V_P (liters)	F	M_P (kg)	t (hours)
Small (up to 5 large livestock*)	20	30		
Medium (up to 10 large livestock*)	15	35		
Large (up to 40 large livestock*)	10	40		

*1 large livestock = 1 cow (cattle) = 2.5 pigs

Method 3: Q_s -Calculation based on actual fixtures installed in kitchen

This calculation is based on summing the maximum output (flow) of each fixture (kettles, rinse downs, dishwashing machines, etc.)

→ calculating maximum wastewater flow $Q_{S(K)}$ from kitchen fixtures

$$Q_{S(K)} = \text{ l/s}$$

Table 3 (Wastewater flow ($Q_{S(K)}$ in liters / second) from kitchen fixtures

Total number (n)	cooking kettle (outlet)		tiltable cooking kettle (outlet)		sinks with odor trap		sinks without odor trap		dishwashing machine	tiltable frying pans	frying pans	high pressure floor washer	peeling machine *	vegetable washing machine
	Ø 45	Ø 50	Ø 75	Ø 110	Ø 40	Ø 50	Ø 40	Ø 50						
1	0.45	0.9	0.45	1.35	0.36	0.68	1.13	1.8	1.2	0.45	0.05	0.9	0.68	0.9
2	0.62	1.24	0.62	1.86	0.5	0.93	1.55	2.48	2	0.62	0.06	1.24	0.93	1.24
3	0.75	1.5	0.75	2.25	0.6	1.13	1.88	3	2.4	0.75	0.07	1.5	1.13	1.5
4	0.84	1.68	0.84	2.52	0.67	1.26	2.1	3.36	3.83	0.95	0.09	1.68	1.26	1.68
5	1	2	1	3	0.8	1.5	2.5	4	3	1	0.1	2	1.5	2
6	1.2	2.4	1.2	3.6	0.96	1.8	3	4.8	3.6	1.2	0.12	2.4	1.8	2.4
7	1.4	2.8	1.4	4.2	1.12	2.1	3.5	5.6	4.2	1.4	0.14	2.8	2.1	2.8
8	1.6	3.2	1.6	4.8	1.28	2.4	4	6.4	4.8	1.6	0.16	3.2	2.4	3.2
9	1.8	3.6	1.8	5.4	1.44	2.7	4.5	7.2	5.4	1.8	0.18	3.6	2.7	3.6
10	2	4	2	6	1.6	3	5	8	6	2	0.2	4	3	4
n > 10	n x 0.2	n x 0.4	n x 0.2	n x 0.6	n x 0.16	n x 0.3	n x 0.5	n x 0.8	n x 0.6	n x 0.2	n x 0.02	n x 0.4	n x 0.3	n x 0.4
Total														

*Potato peeling machines are to be connected to an independent starch separator

The calculation below is based on summing the maximum output (flow) of each kitchen faucet. Please note that if a fixture in the above table has already been included for calculation (for example a sink) that the faucet connected to this sink should not be counted. This would result in double counting certain values. Please count one or the other.

→ calculating maximum wastewater flow $Q_{S(A)}$ from kitchen faucets

$$Q_{S(A)} = \text{ l/s}$$

Table 4 (Wastewater flow ($Q_{S(A)}$ in liters / second) from kitchen faucets

Total number (n)	Outlet size (inches)		
	DN 15 R ½	DN 20 R ¾	DN25 R 1
1	0.23	0.45	0.77
2	0.31	0.62	1.05
3	0.38	0.75	1.28
4	0.42	0.84	1.43
5	0.5	1	1.7
6	0.6	1.2	2.04
7	0.7	1.4	2.38
8	0.8	1.6	2.72
9	0.9	1.8	3.06
10	1	2	3.4
n > 10	n > 0.1	n > 0.2	n > 0.34
Total			

QS- Calculation based on actual fixtures installed in kitchen.

Total maximum output from all kitchen faucets and fixtures

in liters per second $Q_S = Q_{S(K)} + Q_{S(A)}$

$$Q_S = \text{ l/s}$$

2.2. Calculation of influential factors

The following three factors (fd, ft, fr) are required to properly size a grease separator.

2.2.1. Calculation of density factor f_d

$f_d =$

Density of oils and fats at 20°C	Density factor f_d
up to 0.94 g/cm ³	1.0
over to 0.94 g/cm ³	1.5*

*for substances such as castor oil, wool fat, resin / rosin oil, beef drippings.

For wastewater from kitchens, restaurants, hospitals, slaughter/meat processing plants as well as fish processing plants a density factor (f_d) value of 1 is generally applicable.

2.2.2. Wastewater temperature factor f_t

$f_t =$

Incoming wastewater temperature	Temperature factor f_t
up to 60°C	1.0
over to 60°C	1.3

2.2.3. Cleaner (detergent) solution factor f_r

$f_r =$

Are standard cleaners used in the kitchen?	Cleaner solution factor f_r
No	1.0
Yes	1.3

In special circumstances (Hospital for example) a cleaner solution factor of $f_r \geq 1.5$ could be required.

2.3. Calculating the separator size (NS) (liters / second) according to DIN V 4040-2, date 02/1999

$$NS = Q_g \times f_d \times f_t \times f_r$$

$$NS = \underline{\quad} \times \underline{\quad} \times \underline{\quad} \times \underline{\quad}$$

Appropriate authority:

Applicant:

location, date _____

location, date _____

signature _____

signature _____

Coalescence and oil / fuel separators

EasyOil free / ground

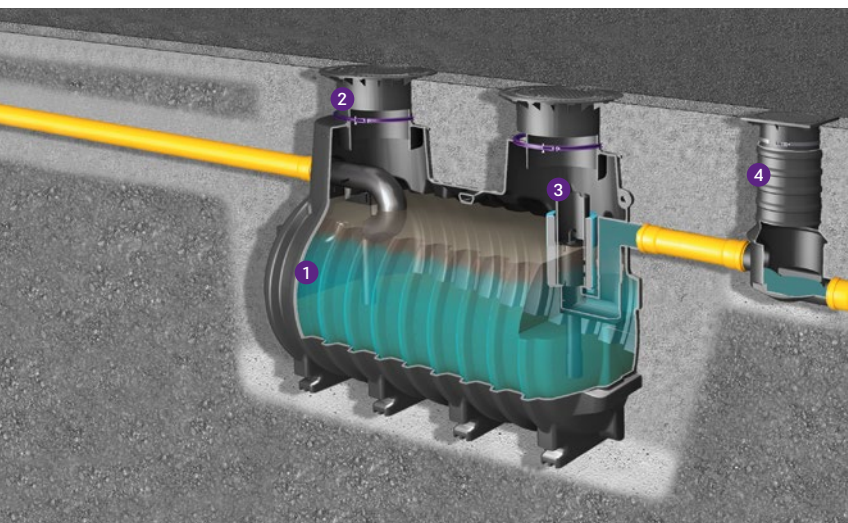
For the treatment of oil / fuel contaminated wastewater

EasyOil separators are available in Class I high efficiency coalescence separators for use in treating wastewater from petrol stations, car washes, vehicle repair garages or any source with oil/fuel contaminated wastewater.

The *EasyOil* separators are available for above-ground and under-ground installation.

Coalescence and oil / fuel separators

For further information about our coalescence and oil / fuel separators have a look in our catalogue chapter 5.2.



- 1 Coalescence separator
- 2 Height adjustable upper section
- 3 Self-actuated closure lock
- 4 Sampling chamber

Emergency float switch

EasyOil is equipped with a self-actuated closure lock. This emergency system prevents the leakage of light liquids into the sewer pipe.

Vertically adjustable upper section

Underground models are equipped with vertically adjustable upper section which are also tiltable up to 5° – for optimum adaptation to the ground level and to compensate for ground settling.

Polymer

EasyOil is the first series of polymer coalescence and oil/fuel separator systems on the German market with national technical approval. The polyethylene material used is resistant to bioethanol (E10) and biodiesel – and therefore particularly durable. In addition to the statutory provision, we provide a 20-year warranty with regard to the leak tightness and structural safety of tanks and upper sections.

SonicControl

The automatic layer thickness measuring device *SonicControl* with ultrasonic sensor takes over the precise monitoring and reporting of the oil layer thickness in coalescence and oil/fuel separators. Operators can therefore monitor the actual volumes of oil and fuel inside the separator to determine the precise disposal date.

Sediment separators

EasySink free / ground

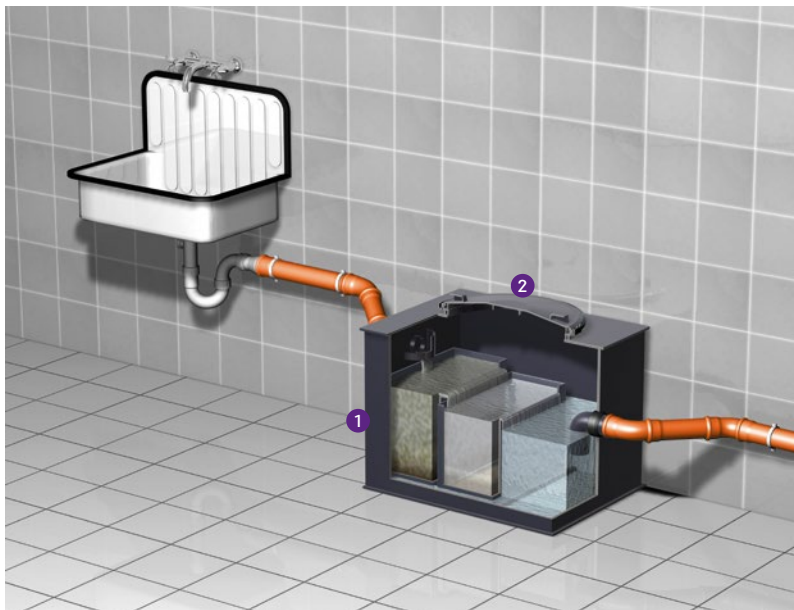
The clean solution for wastewater
with sediment, sand or sludge.

The clean solution for sediments, sand and sludge. The sediment separator *EasySink* prevents residues, such as plaster, scale and clay, from entering the sewer system. It is used wherever a lot of sludge, sand and sediment / debris occurs and can lead to blockages in the sewer system.

We offer sediment separators with the nominal sizes NS 1 and NS 2 for free-standing set-up, for installation in the ground and as individual solutions in all desired sizes.

Sediment separators

For further information
about our sediment separators
have a look in our catalogue
chapter 5.3.



① Sediment separator ② Access cover

Polymer

Polymer sediment separators are an advantageous alternative to metal solutions as they are fully corrosion free. The polyethylene material used is particularly durable. In addition to the statutory provision, we provide a 20-year warranty with regard to the leak tightness, fitness for purpose and structural safety of tanks and upper sections.

Starch separator

EasyStarch free / ground

The strong solution for starchy wastewater.

Strong-acting against starch: *EasyStarch*. Starch occurs during the processing of potatoes, rice and grain. The starch separator *EasyStarch* is used to prevent deposits, encrustations and blockages in the drainage pipes.

The *EasyStarch* is available for free-standing installation and underground installation. Please get in touch with us – we will be happy to advise you and develop an individual solution for your specific requirements.



Starch separator

For further information about our starch separator have a look in our catalogue chapter 5.4.



1 Starch separator 2 Sampling chamber 3 Lifting station

Polymer

Polymer starch separators are an advantageous alternative to metal solutions as they do not need to be refurbished, even after many years.

The polyethylene material used is particularly durable. In addition to the statutory provision, we provide a 20-year warranty with regard to the leak tightness, fitness for purpose and structural safety of tanks and upper sections.



This is KESSEL.

Since 1963, KESSEL has stood like no other company for innovative and reliable drainage technology. We have established ourselves as the impulse generator in the industry and are now a worldwide premium supplier.



Competent partner
since 1963



International player
**60+
countries**



Innovative premium supplier
**3.000+
products**



Safe employer
**550+
employees**



Sustainable company
**100+ mio. €
in sales**

During the production of our products as well as their operation on-site, we keep quality assurance, environmental protection and worker's safety at the top of our list.

We also place great value in the relationship with our customer, providing consultation, installation support, commissioning and after-sales service.

One thing is certain, our innovation, quality, reliability and service is number one in the industry.

KESSEL – Leading in drainage



Made in Germany





KESSEL Headquarters Lenting, Germany

Leading in drainage.

No matter whether the task involves discharging water, wastewater treatment or backwater protection: if the best solution is required, there is no option but KESSEL.



Backwater protection

Backwater valves
Backwater chambers



Pump technology

Backwater pumping station
Hybrid lifting station
Lifting stations
Pumping stations
Submersible pumps,
conversions and control units



Drains & channels

Bathroom drains
Floor drains
Basement drains
Outdoor drains

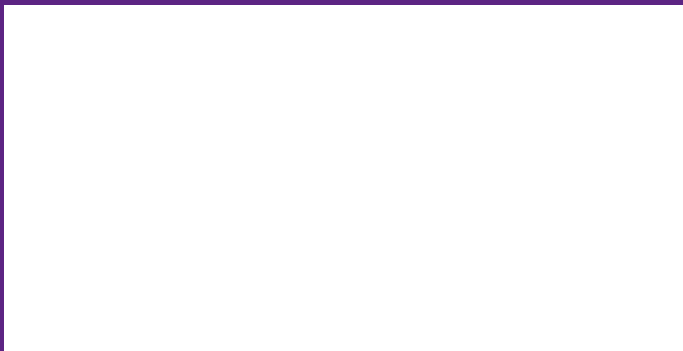


Separators

Grease separators
Coalescence / Oil /
Fuel separators
Sediment separators
Starch separators

BIM

files available at
www.kessel.com



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