

Euro-Norm grease separators from KESSEL

KESSEL-Polyethylene grease separators according to Euro-Norm prEN 1825



No pipe blockages



No corrosion



No negative effects on wastewater treatment plants



- ▶ Easy transport/installation due to compactness/light weight
- ▶ Low disposals costs due to minimal chamber size
- ▶ Optimized disposal with no-stick polyethylene surfaces

Where grease is present ... **KESSEL is there!**

Operations from small restaurants to large scale food processing plants disposing grease, oils and fats into public wastewater drainage systems are becoming an increasing concern to industry, government and environmental agencies. The solution is here - The KESSEL Euro-Separator.

KESSEL's new design based on prEN 1825-1 and state of the art manufacturing provide grease separation systems surpassing all needs of the industry. The separators are available in a wide range of sizes and disposal methods to suit every business' needs.

For more information on KESSEL's market leading Euro-Separators, please contact your KESSEL representative.



► Butchers, meat and sausage factories



► Restaurants and fast food shops



► Cafeterias in commercial buildings, hospitals, universities, military bases and government agencies





KESSEL Grease separators according to Euro-Norm prEN 1825-1

KESSEL version „G“ underground grease separator pages 4 - 5



The KESSEL version „**G**“ **underground** separator meets the requirements of prEN 1825-1. This separator is available in sizes NG 1, 2, 4, 7, 10, 15 and 20. The cover is available in load classes A (1.5 ton), B (12.5 ton) and D (40.0 ton).

KESSEL version „G“ free standing grease separator page 6



The KESSEL version „**G**“ **free standing** grease separator meets the requirements of prEN 1825-1. This separator is available in sizes NG 2, 4, 7 and 10 (NG represents the separator's max through flow capability in liters/second). Accessories may be added after installation.

KESSEL version „D“ free standing grease separator page 7



The KESSEL version „**D**“ **free standing** grease separator meets the requirements of prEN 1825-1. This separator is available in sizes NG 2, 4, 7 and 10. This separator is emptied through a permanently installed disposal line which runs to an exterior wall of the building. Accessories may be added after installation.

KESSEL version „R“ free standing grease separator page 8



The KESSEL version „**R**“ **free standing** grease separator meets the requirements of prEN 1825-1. This separator is available in sizes NG 2, 4, 7 and 10. This separator is equipped with an automated cleaning system and is emptied through a permanently installed disposal line.

KESSEL version „E+S“ M free standing grease separator page 9



The KESSEL version „**E+S**“ **M free standing** grease separator meets the requirements of prEN 1825-1. This separator is available in sizes NG 2, 4, 7 and 10. This separator is equipped with an automated cleaning system and disposal pump system (manual cleaning to disposal switch-over) and is emptied through a permanently installed disposal line.

KESSEL version „E+S“ PV free standing grease separator page 10



The KESSEL version „**E+S**“ **PV free standing** grease separator meets the requirements of prEN 1825-1. This separator is available in sizes NG 2, 4, 7, 10 and 15. This separator is equipped with an automated cleaning system and disposal pump system (fully automated switch-over) and is emptied through a permanently installed disposal line.



Grease separator accessories pages 11 - 13



Useful product information about KESSEL Euro-Norm prEN 1825-1 grease separators pages 14 - 21



Technical information concerning KESSEL EURO-Separators pages 22 - 26

- ▶ Pre-prepared meal production
- ▶ Slaughterhouses and meat preparation facilities
- ▶ Soap/stearin production plants
- ▶ Fish production facilities
- ▶ Cooking oil refineries, butter/margarine production
- ▶ Frying facilities/nut roasting factories

KESSEL Euro „G“ Grease Separator, based on prEN 1825-1 for underground installation below frost zone. Sizes NG 1, 2 and 4 (NG = flow in liters/second).

Illustration



Article # 93 004/120 B

Description

KESSEL Euro „G“ Grease Separator NG...
based on Euro-Norm prEN 1825-1.
Manufactured from Polyethylene.

For underground installation below the frost zone, with integrated sludge trap, polyethylene upper section which is vertically adjustable, rotatable and tiltable up to 5°, cast iron cover in load class A 1.5 ton, B 12.5 ton or D 40.0 ton based on EN 124, odor tight, removal key included.

Sludge trap capacity: Liter Manufacturer: KESSEL
Separator capacity: Liter Article #:
Weight: kg

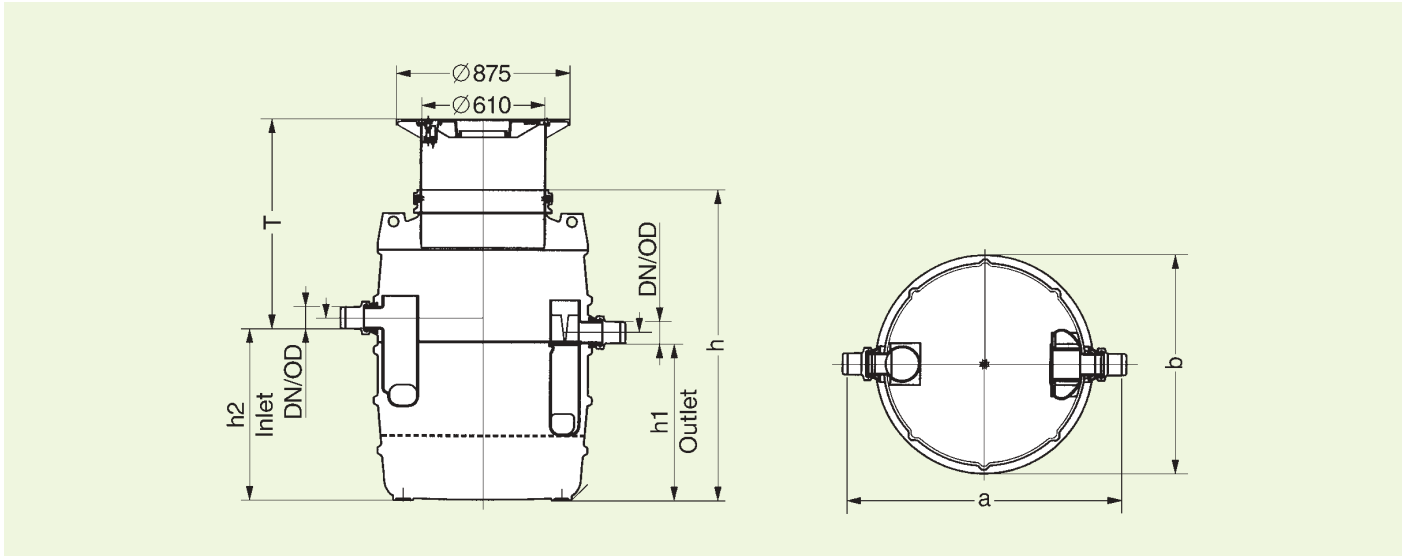
Accessories:

- Sampling chamber for underground installationpage 11
- Underground extension piecepage 12
- Pumps/lifting stations page 13

Delivered:
Completely assembled.

Installation	Size (l/sec)	Weight kg	Installation depth T (mm)	Article # class A/B	Article # class D
for underground installation below frost zone 800 mm	NG 1	111 kg	540 to 840	93 001/80 B	93 001/80 D
	NG 2	120 kg	610 to 910	93 002/80 B	93 002/80 D
	NG 4	130 kg	490 to 800	93 004/80 B	93 004/80 D
for underground installation below frost zone 1200 mm	NG 1	111 kg	800 to 1200	93 001/120 B	93 001/120 D
	NG 2	120 kg	800 to 1200	93 002/120 B	93 002/120 D
	NG 4	130 kg	800 to 1200	93 004/120 B	93 004/120 D

Dimensioned Drawings (dimensions in mm)



T = Installation depth OD = Outside diameter

NG	DN	OD	a	b	h	h1	h2	Storage volumes			Weight kg (approx)
								Sludge trap	Grease trap	Fat storage	
1	100	110	1470	1300	1300	540	610	140 l	230 l	70 l	111 kg
2	100	110	1470	1300	1550	790	860	200 l	370 l	120 l	120 kg
4	100	110	1470	1300	1800	1040	1110	400 l	370 l	160 l	130 kg

KESSEL Advantages:





Adjustable upper section:

- tiltable
- vertically adjustable



Smooth wax-like surfaces for easy cleaning

Accessories



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„G“ = Standard version

KESSEL Euro „G“ Grease Separator, based on prEN 1825-1 for underground installation below frost zone. Sizes NG 7, 10, 15 and 20 (NG = flow in liters/second).

Illustration



Article # 93 020/120B

Description

KESSEL Euro „G“ Grease Separator NG ...

based on Euro-Norm prEN 1825-1.

Manufactured from Polyethylene

For underground installation below the frost zone, with integrated sludge trap, polyethylene upper section which is vertically adjustable, rotatable and tiltable up to 5°, cast iron covers in load class A 1.5 ton, B 12.5 ton or D 40.0 ton based on EN 124, odor tight, removal key included.

Sludge trap capacity: Liter Manufacturer: KESSEL

Separator capacity: Liter Article #:

Weight: kg

Accessories:

• Sampling chamber for underground installation page 11

• Underground extension piece page 12

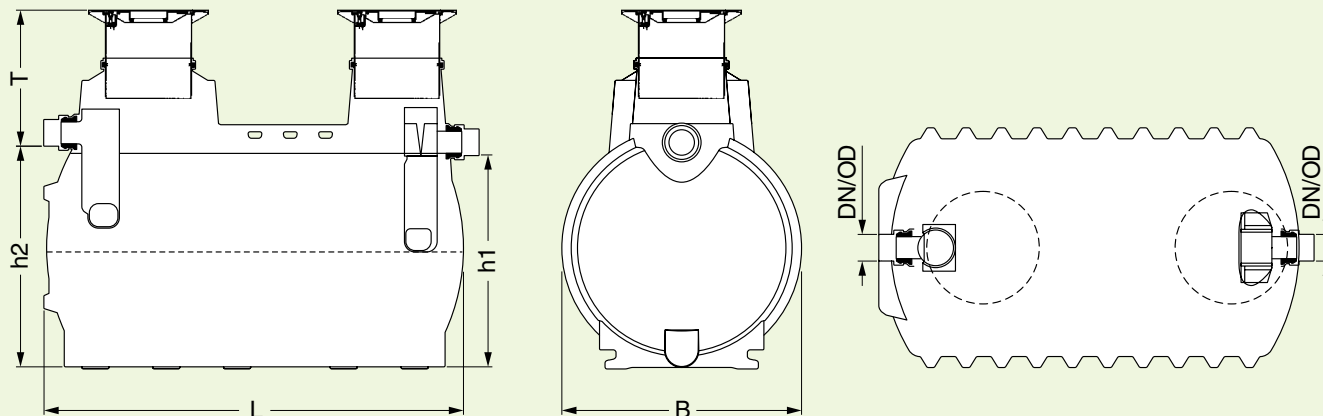
Delivered:

Completely assembled.

Larger sizes available upon request.

Installation	Size (l/sec)	Weight kg	Installation depth T (mm)	Article # class A/B	Article # class D
for underground installation below frost zone 1260 mm	NG 7	331 kg	760 to 1260	93 007/120B	93 007/120D
For shallow installations - shorten upper section	NG 10	403 kg	760 to 1260	93 010/120B	93 010/120D
	NG 15	401 kg	760 to 1260	93 015/120B	93 015/120D
	NG 20	473 kg	760 to 1260	93 020/120B	93 020/120D

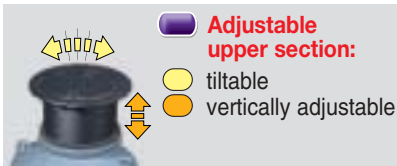
Dimensioned Drawings (dimensions in mm)



T = Installation depth OD = Outside diameter

NG	DN	OD	L	B	h1	h2	Storage volumes			Weight kg (approx)
							Sludge trap	Grease trap	Fat storage	
7	150	160	2080	1200	1030	1100	700 l	1100 l	280 l	331 kg
10	150	160	2860	1200	1030	1100	1000 l	1500 l	400 l	403 kg
15	200	210	2300	1760	1560	1630	1500 l	3300 l	600 l	401 kg
20	200	210	3060	1760	1560	1630	2000 l	3700 l	800 l	473 kg

KESSEL Advantages:



Adjustable upper section:

- tiltable
- vertically adjustable



Smooth wax-like surfaces for easy cleaning

Accessories



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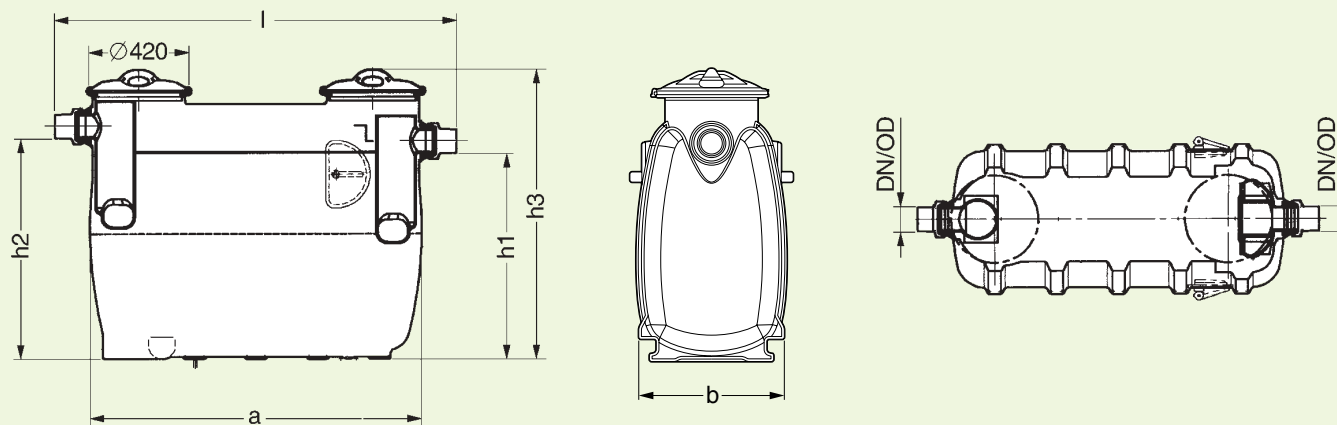
„G“ = Standard version

KESSEL Euro „G“ Grease Separator, based on prEN 1825-1.
Sizes NG 2, 4, 7 and 10 (NG = flow in liters/second)
for free standing installation in frost free areas.

Illustration	Description
 Article # 93 002	KESSEL Euro „G“ Grease Separator NG... based on Euro-Norm prEN 1825-1. Manufactured from Polyethylene. For free standing installation in frost free areas, with integrated sludge trap, polyethylene quick release odor tight covers, inlet/outlet fits SML pipe (DIN 19522) and plastic pipe (DIN 19560). Sludge trap capacity: Liter Test mark: certification pending Separator capacity: Liter Manufacturer: KESSEL Weight: kg Article #: Accessories: • Inspection window in flow direction left or right page 13 • Refill equipment left or right page 12 • Inspection chamber with horizontal or vertical outlet page 11 • Pumps/lifting stations page 13 Delivered: Completely assembled.

Installation	Size (l/sec)	Weight kg	Article #	Delivery contents
free standing in frost free areas	NG 2 NG 4 NG 7 NG 10	50 kg 65 kg 100 kg 125 kg	93 002 93 004 93 007 93 010	Separator with quick release covers

Dimensioned Drawings (dimensions in mm)



OD = Outside diameter

NG	DN	OD	a	Access opening		h1	h2	h3	Storage Volumes			Weight kg (approx)
				l	b				Sludge trap	Grease trap	Fat storage	
2	100	110	940	1250	650	930	1000	1310	200 l	212 l	106 l	50 kg
4	100	110	1500	1810	650	930	1000	1310	400 l	354 l	177 l	65 kg
7	150	160	1600	1850	920	1130	1200	1560	700 l	567 l	302 l	100 kg
10	150	160	2430	2700	920	1130	1200	1560	1000 l	794 l	423 l	125 kg

KESSEL Advantages: 	 Light weight, compact, transport friendly	 Smooth wax-like surfaces for easy cleaning	Accessories  pages: 11 - 13	Product information  pages: 14 - 21	Technical information  pages: 22 - 26
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„G“ = Standard version

KESSEL Euro „D“ Direct Disposal Grease Separator, based on prEN 1825-1.

Sizes NG 2, 4, 7 and 10 (NG = flow in liters/second)

for free standing installation in frost free areas.

Illustration



Article # 93 002.00/D1 Version in flow direction right

Description

KESSEL Euro „D“ Direct Disposal Grease Separator NG...
based on Euro-Norm prEN 1825-1.
Manufactured from Polyethylene.

For free standing installation in frost free areas, with integrated sludge trap, polyethylene quick release odor tight covers, with direct disposal hook up pipe on left or right side for sludge and grease trap disposal, with disposal flange DN 65, PN 10 (DIN 2501), Storz-B-coupling 2.5 inch for disposal truck connection, inlet/outlet fits SML pipe (DIN 19522) and plastic pipe (DIN 19560).

Sludge trap capacity: Liter Test mark: certification pending
Separator capacity: Liter Manufacturer: KESSEL
Weight: kg Article #:

Accessories:

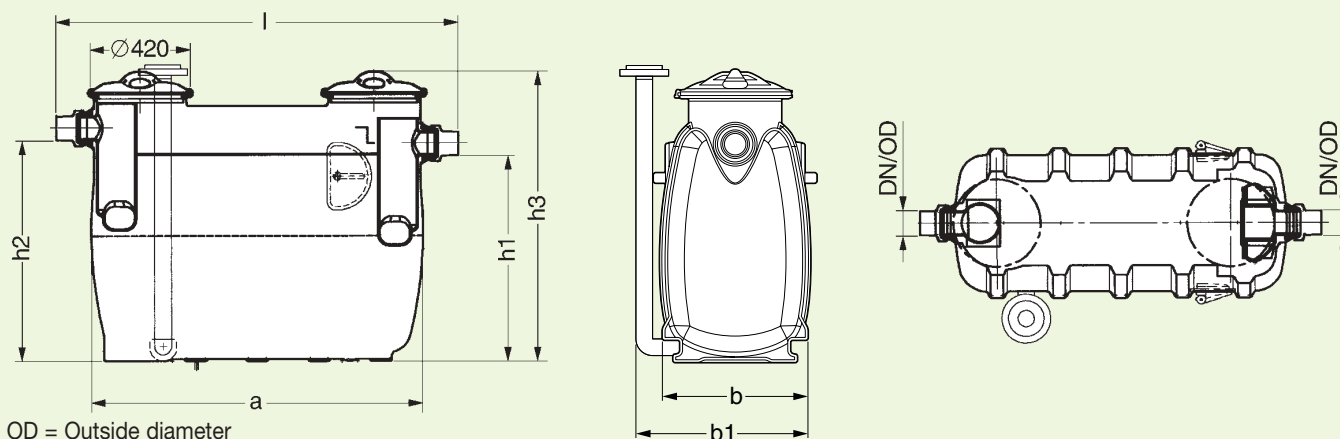
- Inspection window in flow direction left or right page 13
- Refill equipment left or right page 12
- Inspection chamber with horizontal or vertical outlet page 11
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Delivered:

Completely assembled.

Installation	Size (l/sec)	Weight kg	Article #	Delivery contents
free standing in frost free areas	NG 2	54 kg	Disposal pipe connection right	Separator with quick release covers, direct disposal pipe connection
	NG 4	69 kg	93 002.00/D1	
	NG 7	104 kg	93 004.00/D1	
	NG 10	129 kg	93 007.00/D1	
			93 010.00/D1	

Dimensioned Drawings (dimensions in mm)



NG	DN	OD	a	Access opening			b1	h1	h2	h3	Storage volumes			Weight kg (approx)
				l	x	b					Sludge trap	Grease trap	Fat storage	
2	100	110	920	1250	650	840	840	930	1000	1310	200 l	212 l	106 l	54 kg
4	100	110	1500	1810	650	840	840	930	1000	1310	400 l	354 l	177 l	69 kg
7	150	160	1600	1850	920	1080	1080	1130	1200	1560	700 l	567 l	302 l	104 kg
10	150	160	2430	2700	920	1080	1080	1130	1200	1560	1000 l	794 l	423 l	129 kg

KESSEL Advantages:



Light weight,
compact,
transport friendly



Smooth wax-like
surfaces for easy
cleaning

Accessories



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„D“ = Direct disposal

KESSEL Euro „R“ Direct Disposal Grease Separator with automated cleaning system, based on prEN 1825-1. Sizes NG 2, 4, 7 and 10 (NG = flow in liters/second) for free standing installation in frost free areas.

Illustration



Description

KESSEL Euro „R“ Direct Disposal Grease Separator NG ...
based on Euro-Norm prEN 1825-1.
Manufactured from Polyethylene.

For free standing installation in frost free areas, with integrated sludge trap, polyethylene quick release odor tight covers, with direct disposal hook up pipe on left or right side for sludge and grease trap disposal, with disposal flange DN 65, PN 10 (DIN 2501), Storz-B-coupling 2.5 inch for disposal truck connection, with high pressure cleaning/rinsing system with rotating spray jets, 3/4 inch cold/hot water connection and 3 meter flexible hose to control unit, inlet/outlet fits SML pipe (DIN 19522) and plastic pipe (DIN 19560).

Sludge trap capacity: Liter Manufacturer: KESSEL
Separator capacity: Liter Article #:
Weight: kg

Accessories:

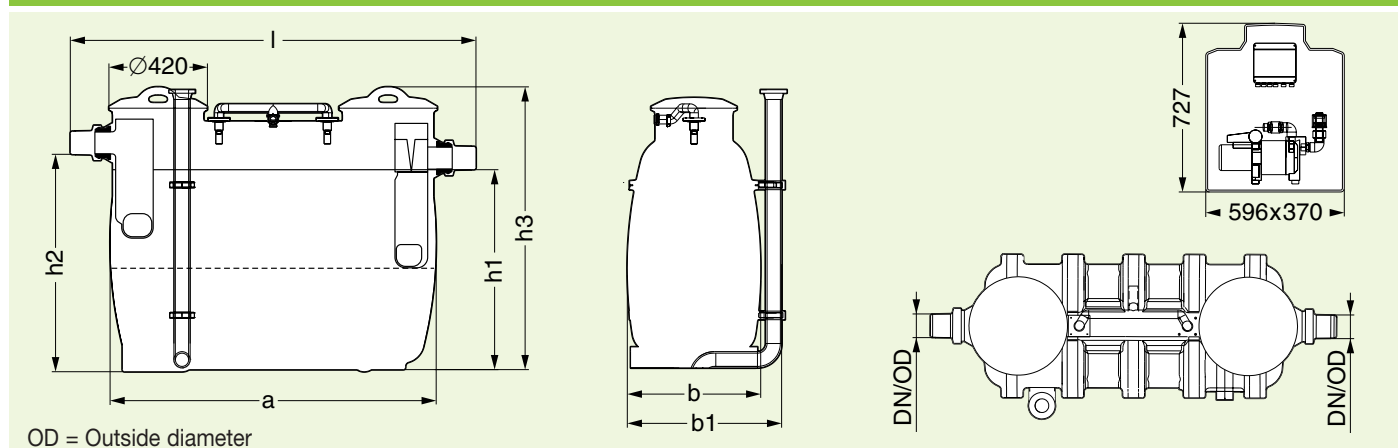
- Inspection window in flow direction left or right page 13
- Refill equipment left or right page 12
- Inspection chamber with horizontal or vertical outlet page 11
- Pumps/lifting stations page 13

Delivered: Completely assembled.

Article # 93 004.00/R1 Version in flow direction right

Installation	Size (l/sec)	Weight kg	Article #		Delivery contents
free standing in frost free areas	NG 2	84 kg	Disposal pipe connection left right		Separator with quick release covers, interior and exterior piping with direct disposal pipe connection, automated cleaning/rinsing system with control unit.
	NG 4	99 kg	93 002.50/R1	93 002.00/R1	
	NG 7	134 kg	93 004.50/R1	93 004.00/R1	
	NG 10	159 kg	93 007.50/R1	93 007.00/R1	
			93 010.50/R1	93 010.00/R1	

Dimensioned Drawings (dimensions in mm)



OD = Outside diameter

NG	DN	OD	a	Access opening			b1	h1	h2	h3	Storage Volumes			Weight kg (approx)
				l	x	b					Sludge trap	Grease trap	Fat storage	
2	100	110	920	1250	650	840	840	930	1000	1310	200 l	212 l	106 l	84 kg
4	100	110	1500	1810	650	840	840	930	1000	1310	400 l	354 l	177 l	99 kg
7	150	160	1600	1850	920	1080	1080	1130	1200	1560	700 l	567 l	302 l	134 kg
10	150	160	2430	2700	920	1080	1080	1130	1200	1560	1000 l	794 l	423 l	159 kg

KESSEL Advantages:



Light weight, compact, transport friendly



Smooth wax-like surfaces for easy cleaning

Accessories



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„R“ = Automated cleaning

KESSEL Euro „E+S“ M Direct Disposal Grease Separator with automated cleaning and disposal system, based on prEN 1825-1. Sizes NG 2, 4, 7 and 10 (NG = flow in liters/second) for free standing installation in frost free areas.

Illustration



Article # 93 004.00/M1 Pumping equipment on right side

Description

KESSEL Euro „E+S“ M Grease Separator NG ...
based on Euro-Norm prEN 1825-1.

Manufactured from Polyethylene.

For free standing installation in frost free areas, with integrated sludge trap, polyethylene quick release odor tight covers, with inspection window, with direct disposal hook up pipe on left or right side for sludge and grease trap disposal, with disposal flange DN 65, PN 10 (DIN 2501), Storz-B-coupling 2.5 inch for disposal truck connection, **manual** switch over from cleaning to disposal, with high pressure cleaning/rinsing system with spray jets and flood jets, exterior (left or right) mounted submersible (IP 68) cutting pump (400 V, 50 Hz, with 2.6 kW > 25 m³/h at 0.7 Bar at standard pumping heights or 4.0 kW > 30 m³/h at 1.0 Bar at standard pumping heights), with control unit, with refill equipment, inlet/outlet fits SML pipe (DIN 19522) and plastic pipe (DIN 19560).

Sludge trap capacity: Liter Manufacturer: KESSEL

Separator capacity: Liter Article #:

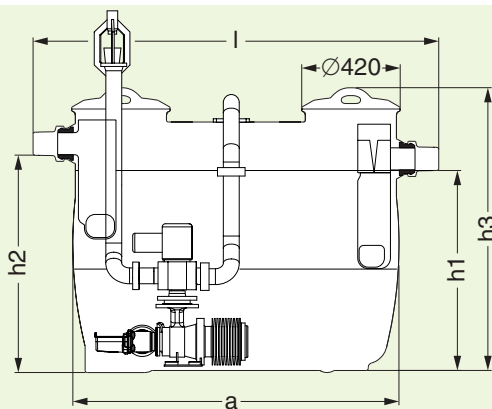
Weight: kg

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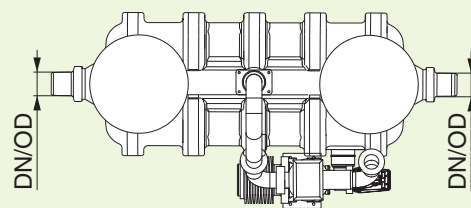
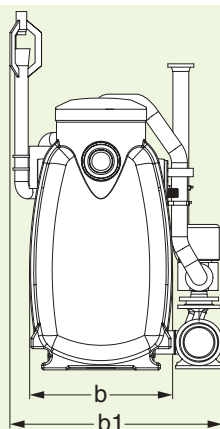
Completely assembled.

Installation	Size (l/sec)	Weight kg	Article #		Pump size
free standing in frost free areas			Pump		
			left	right	
	NG 2	140 kg	93 002.50/M1	93 002.00/M1	2,6 kW
	NG 4	155 kg	93 004.50/M1	93 004.00/M1	2,6 kW
	NG 7	190 kg	93 007.50/M1	93 007.00/M1	2,6 kW
	NG 10	215 kg	93 010.50/M1	93 010.00/M1	4,0 kW

Dimensioned Drawings (dimensions in mm)



OD = Outside diameter



NG	DN	OD	a	Access opening			b1	h1	h2	h3	Storage Volumes		
				l	x	b					Sludge trap	Grease trap	Fat storage
2	100	110	940	1250	650	950	950	930	1000	1310	200 l	212 l	106 l
4	100	110	1500	1810	650	950	950	930	1000	1310	400 l	354 l	177 l
7	150	160	1600	1850	920	1220	1130	1130	1200	1560	700 l	567 l	302 l
10	150	160	2430	2700	920	1220	1130	1130	1200	1560	1000 l	794 l	423 l

KESSEL Advantages:



Light weight, compact, transport friendly



Smooth wax-like surfaces for easy cleaning

Accessories



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„E+S“ M = Automated cleaning and disposal system

KESSEL Euro „E+S“ PV Direct Disposal Grease Separator with automated cleaning and disposal system, based on prEN 1825-1. Sizes NG 2, 4, 7, 10 and 15 (NG = flow in liters/second) for free standing installation in frost free areas.

Illustration

Description

KESSEL Euro „E+S“ PV Grease Separator NG ...
based on Euro-Norm prEN 1825-1.
Manufactured from Polyethylene.

For free standing installation in frost free areas, with integrated sludge trap, polyethylene quick release odor tight covers, with inspection window, with direct disposal hook up pipe on left or right side for sludge and grease trap disposal, with disposal flange DN 65, PN 10 (DIN 2501), Storz-B-coupling 2.5 inch for disposal truck connection, **automated** switch over from cleaning to disposal, control unit, twin 1 inch solenoid valves, rinse/refill inlet according to DIN 1988, high pressure cleaning/rinsing system with spray jets and flood jets, exterior (left or right) mounted submersible (IP 68) cutting pump (400 V, 50 Hz, with 2.6 kW > 25 m³/h at 0.7 Bar at standard pumping heights or 4.0 kW > 30 m³/h at 1.0 Bar at standard pumping heights), with control unit, with refill equipment, inlet/outlet fits SML pipe (DIN 19522) and plastic pipe (DIN 19560).

Sludge trap capacity: Liter Manufacturer: KESSEL
Separator capacity: Liter Article #:
Weight: kg

Delivered:
Completely assembled.

Article # 93 004.00/P1 Pumping equipment on right side

Installation	Size (l/sec)	Weight kg	Article #		Pump size
free standing in frost free areas	NG 2	150 kg	Pump left	Pump right	
	NG 4	165 kg	93 002.50/P1	93 002.00/P1	2,6 kW
	NG 7	200 kg	93 004.50/P1	93 004.00/P1	2,6 kW
	NG 10	225 kg	93 007.50/P1	93 007.00/P1	2,6 kW
	NG 15	420 kg	93 010.50/P1	93 010.00/P1	4,0 kW
			93 015.50/P1	93 015.00/P1	4,0 kW

Dimensioned Drawings (dimensions in mm)

OD = Outside diameter

NG	DN	OD	a	Access opening			b1	h1	h2	h3	Storage Volumes		
				l	x	b					Sludge trap	Grease trap	Fat storage
2	100	110	940	1250	650	950	950	930	1000	1310	200 l	212 l	106 l
4	100	110	1500	1810	650	950	950	930	1000	1310	400 l	354 l	177 l
7	150	160	1600	1850	920	1220	1130	1130	1200	1560	700 l	567 l	302 l
10	150	160	2430	2700	920	1220	1130	1130	1200	1560	1000 l	794 l	423 l
15	150	160	3180	3450	1350	1750	1100	1100	1030	1455	1500 l	1620 l	600 l

KESSEL Advantages:

Light weight, compact, transport friendly

Smooth wax-like surfaces for easy cleaning

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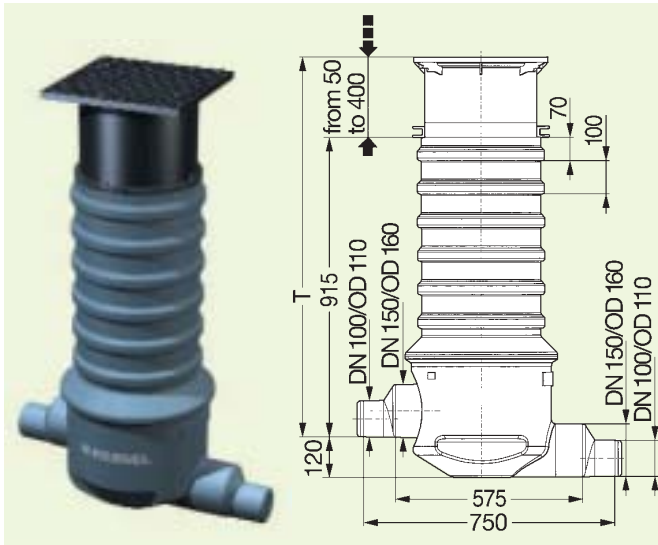
„E+S“ PV = Automated cleaning and disposal system (fully automated program)

Page 10

SEPARATION UNITS



Illustration



Description

KESSEL-Polyethylene Sampling Chamber Ø 400

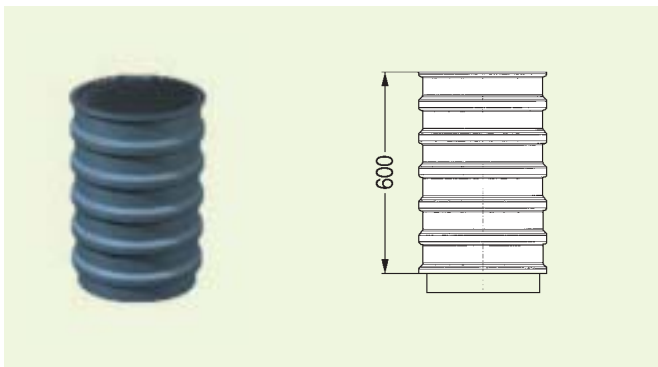
For underground installation. For connection after grease/starch separators for taking effluent samples.

Inlet and outlet are both DN 100 and DN 150 sizes and connect to polymer piping according to DIN 19534, 400 mm interior diameter, vertically adjustable cover with clamp ring, odor tight, 120 mm inlet to outlet elevation drop, covers available in Class A (1.5 ton), Class B (12.5 ton) and Class D (40.0 ton) load classes.

Manufacturer: KESSEL

Inlet depth T (mm)	Inlet - Outlet sizes		Article #		
	DN	OD	class A	class B	class D
* 400-1300	100/150	110/160	915 880 A	915 880 B	915 880 D
1330-1660	100	110	915 813 A	915 813 B	915 813 D
1330-1660	150	160	915 823 A	915 823 B	915 823 D

* Can be sawed off for shallower installation depths



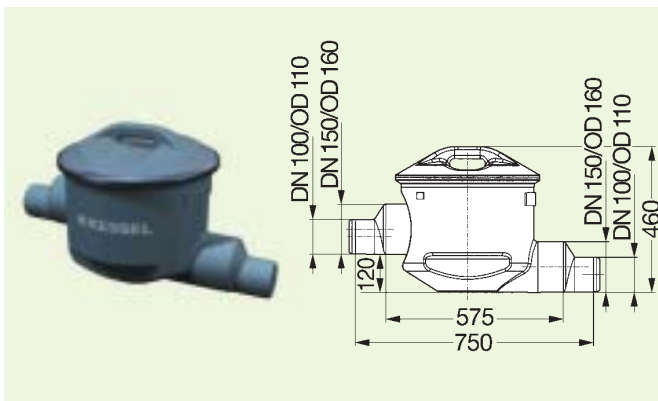
KESSEL-Extension section

For deep installations

Extension height 600 mm (reducible)

Manufacturer: KESSEL

Type	Article #
	915 402



KESSEL-Polyethylene Sampling Chamber Ø 400 with horizontal outlet

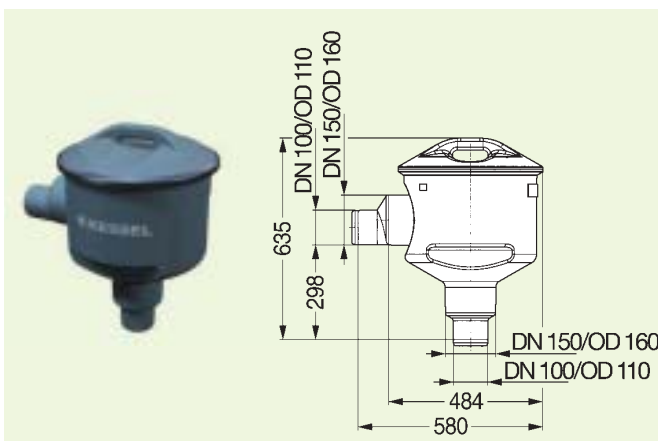
For connection after grease/starch separators for taking effluent samples.

Inlet and outlet are both DN 100 and DN 150 sizes, based on DIN 19522 and connect to SML piping according to DIN 19560, 120 mm inlet to outlet elevation drop.

Cover has quick release clamping device and is odor tight.

Manufacturer: KESSEL

Type	Article #
horizontal outlet	915 871



KESSEL-Polyethylene Sampling Chamber Ø 400 with vertical outlet

For connection after grease/starch separators for taking effluent samples.

Inlet and outlet are both DN 100 and DN 150 sizes, based on DIN 19522 and connect to SML piping according to DIN 19560.

Cover has quick release clamping device and is odor tight.

Manufacturer: KESSEL

Type	Article #
vertical outlet	915 870



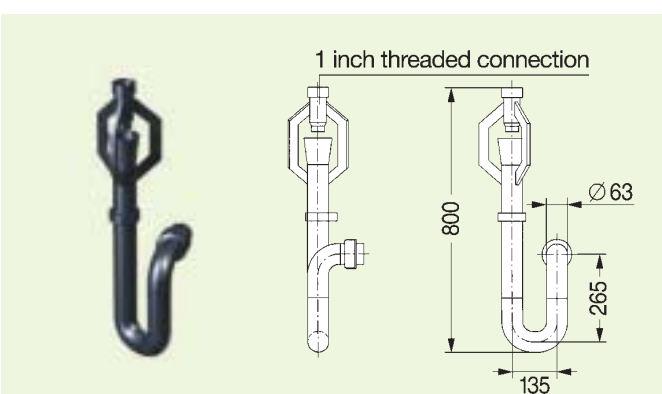
Illustration

Description

KESSEL-refill equipment (polyethylene)

According to DIN 1988, for connection to grease/starch separators for rinsing and refilling. Double connection fasteners and DN 70 sealing gasket.

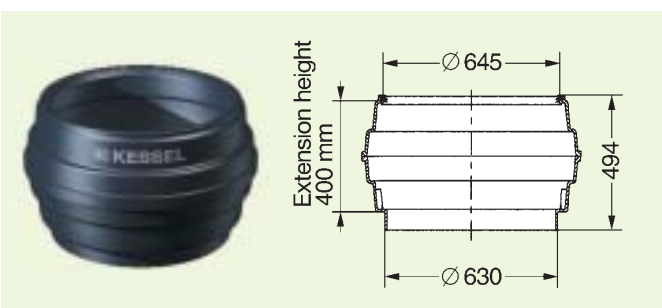
Type	Article #
direction of flow - left	915 800
direction of flow - right	915 801



KESSEL-Extension section

Fits all KESSEL underground grease and starch separators. Increases height by 400 mm. Complete with sealing gasket.

Type	Article #
Extension section H=400 mm	917 402



KESSEL-Cast iron manhole cover for Euro-Norm 124 underground grease separator.

Includes gasket and screws.

Load Class	Article #
class A	916 801
class B	916 802
class D	916 803

KESSEL-Replacement gasket

for manhole cover

Article #
917 101

KESSEL-Removal tool for grease separator

for manhole cover

Article #
915 595

KESSEL-Cover

Ø 420

Article #
916 904

KESSEL-Replacement gasket

for cover Ø 420

Article #
917 204

KESSEL-Quick release clamp

for cover Ø 420

Article #
917 004

For KESSEL above ground/free standing grease separators according to prEN 1825

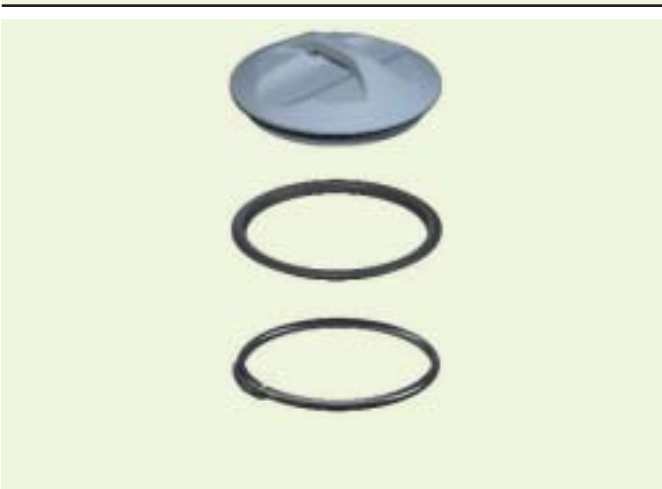
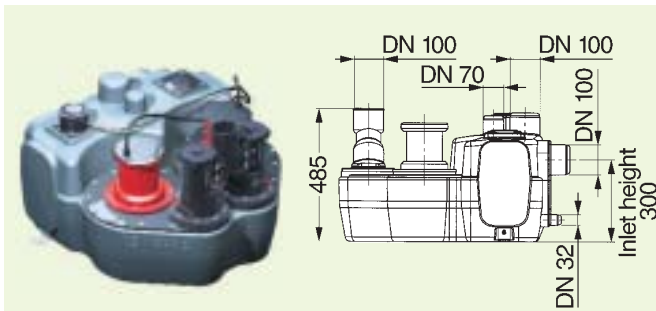
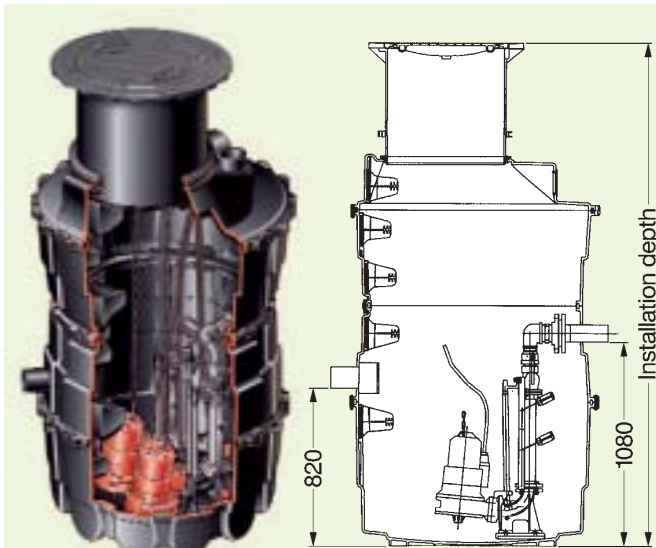



Illustration

Description
**KESSEL-Aqualift® F Duo lifting station
for wastewater with or without sewage**

For free standing installation

Output	Current	Outlet size	Article #
1.1 kW	400 V 3 phase	DN 100	28 652
2.2 kW	400 V 3 phase	DN 100	28 634

Additional information found in KESSEL catalog
Version 2.0, Page HP 16 - HP 19.

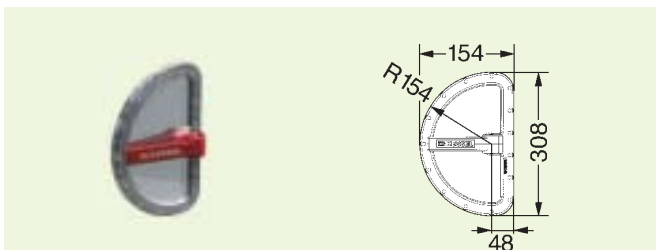

**KESSEL-Pumpstation Aqualift® F (twin pumps)
for wastewater with or without sewage.**

For underground installation

Class A/B or D cast iron covers based on EN 124,
removal key included, odor tight, DN 100 inlet.

Installation depths from 1.5 to 5 meters.

Additional information found in KESSEL catalog
Version 2.0, Page HP 22/HP 23 and HP 26/HP 27.


KESSEL-Inspection window

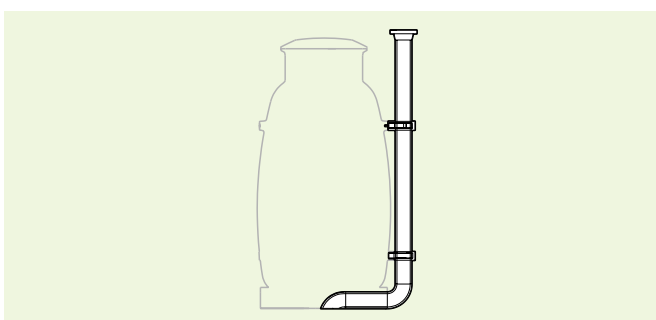
Fits all KESSEL free standing grease separators. Can be placed on left
or right side of separator (based on direction of flow). Complete with
window cleaning lever.

Type	Article #
direction of flow - left	917 770
direction of flow - right	917 771


KESSEL-Remote control

For KESSEL above ground model „E+S“ grease separators
according to DIN 4040 or prEN 1825.
Length of cable 10 m.

Type	Article #
	916 601


KESSEL-Direct disposal upgrade package

For KESSEL above ground model „G“ grease separators according
to prEN 1825-1, sizes NG 2, 4, 7 and 10.

Package includes:

PN 10 piping for interior and exterior of separator, securing clamps,
DN 100 inlet gasket and DN 65 connection flange.

Type	Article #
	915 890

Tip: Hole in separator for direct disposal pipe can be drilled out
with KESSEL Article # 50 101 drill attachment.



► Separator function based on prEN 1825

The KESSEL Euro separator based on Euro-Norm prEN 1825 (as seen in the illustration below) consists of a grease separation chamber with an integrated sludge trap located at the bottom. Following the separator is a sampling chamber.

Wastewater containing oils and grease is guided into the separator by a pacifying pipe which allows the wastewater to be slowly and evenly distributed into the separator preventing fast flowing wastewater from disturbing the separation process inside the chamber. The separation of the light material (grease and fats) and the heavier material (sludge) from the wastewater is all accomplished by the force of gravity. Heavily emulsified greases and oils may not be completely separable with the gravity method.

What can enter the separator?

Only wastewater containing organic greases and oils, which are required to be separated from the water, should be allowed into the separator. Under no circumstances should sewage, rainwater or wastewater containing mineral oils (hydrocarbon based) be allowed to enter the separator.

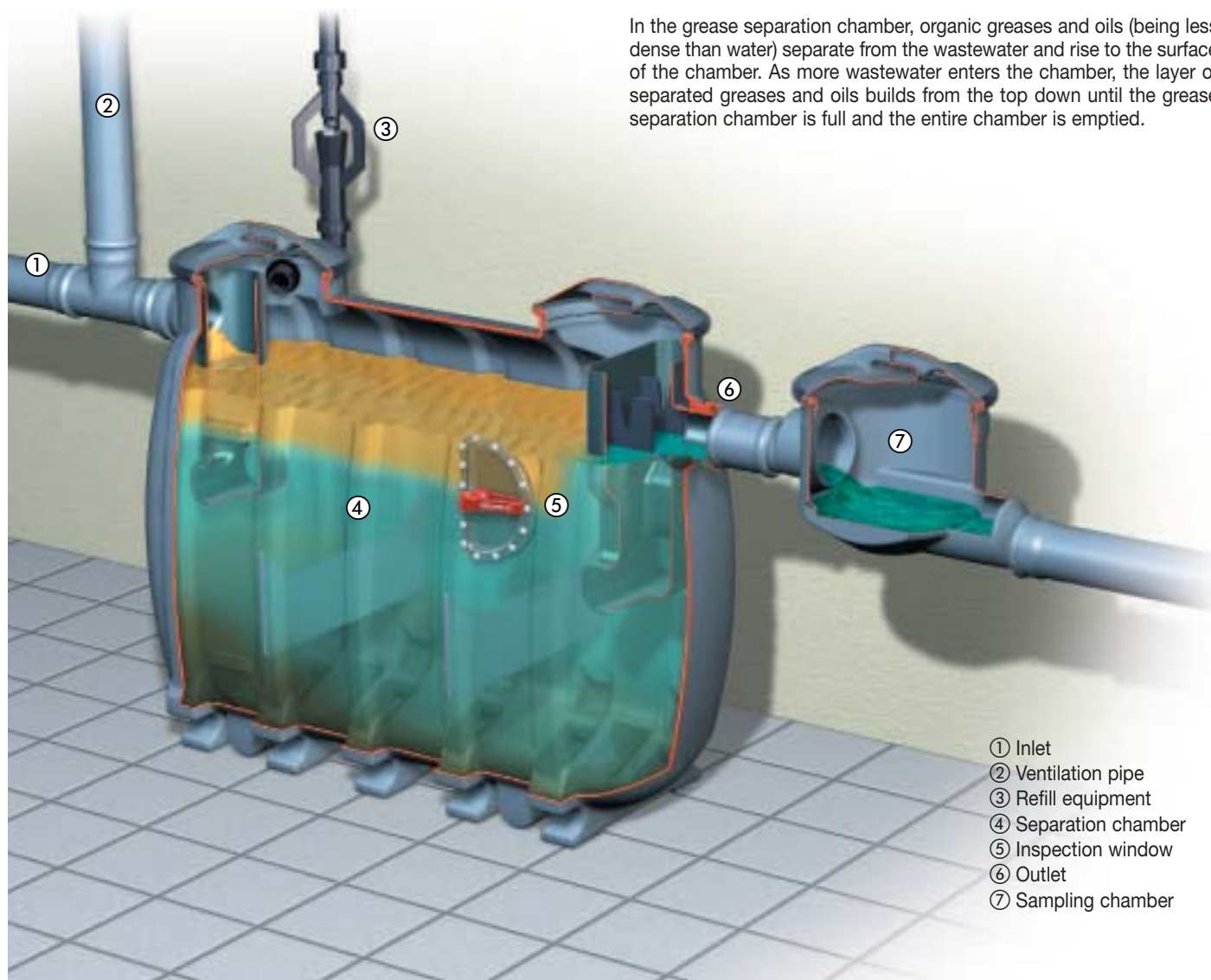
Examples of what should be connected to a separator:
floor drains with odor traps, drainage channels, sinks, dishwashing machines and cooking vats.

Sludge separation chamber

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

Grease separation chamber

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



- ① Inlet
- ② Ventilation pipe
- ③ Refill equipment
- ④ Separation chamber
- ⑤ Inspection window
- ⑥ Outlet
- ⑦ Sampling chamber

► Description of KESSEL Version „G“ underground Euro separators

KESSEL Version „G“ separators are designed according to prEN 1825-1. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

According to DIN V 4040-2, the complete contents of the separators should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of every month. To empty the contents of the separator the cover needs to be removed. The separator is then completely emptied and cleaned by the disposal truck.

The underground separator should be located as close as possible to the fixtures (drains) to which it is connected. In the case where locating the separator in close proximity to the fixtures which it drains is not

possible, heated drainage piping should be used between the fixtures and the separator. It is important to note that the inlet level of the separator must always be located below the frost level. This can be accomplished by the use of the vertically adjustable upper section and by the use of an extension section when necessary. The separator manhole covers for load classes A (1.5 ton), B (12.5 ton) and D (40.0 ton) are odor tight and secured with bolts according to EN 124.



Installation hints

- ◆ The underground separator must be placed on a firm and level base of compacted sand or gravel which will be able to support the predetermined loads.
- ◆ The separator should then be placed in the prepared hole and filled with water to the outlet level.
- ◆ The hole should be then filled and thoroughly compacted at equal increments (approx 0.5 meters) with sand or gravel. For separators needing to withstand heavy tractor trailer loads (up to 40.0 ton), please consult KESSEL for installation instructions.
- ◆ Connect the inlet and outlets of the separator to the drainage piping.
- ◆ Separators for underground installation below the groundwater level are available from KESSEL upon request.

Notice

- ◆ The KESSEL Version "G" underground separator should be installed only in areas where:
 - the release of strong and aggressive odors will not pose a problem
 - accessing the separator with the disposal hose of the disposal truck will not cause problems or inconveniences.



► Description of KESSEL Version „G“ free standing Euro separators

KESSEL Version „G“ separators are designed according to prEN 1825-1. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of every month.

To empty the contents of the separator the odor tight covers need to be removed. The suction hose of the disposal truck is then used to empty and rinse the inside of the separator.



Installation hints

- ◆ Important is that a testing or sampling chamber is installed after the outlet side of the separator (see KESSEL sampling chambers, page 11).
- ◆ The separator is installed completely level on a flat firm surface in a frost free area.
- ◆ The height of the room in which the separator is installed should allow easy removal and access of the two lids.
- ◆ In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to DIN 1986-7. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed (see KESSEL *Aqualift*® F, page 13).

Notice

- ◆ The KESSEL Version „G“ separator can be upgraded to a KESSEL version „D“ separator (with permanently installed disposal lines) at any time.
- ◆ The KESSEL Version „G“ separator should only be installed in areas where:
 - the release of strong and aggressive odors will not pose a problem
 - accessing the separator with the disposal hose of the disposal truck will not cause problems or inconveniences.

► Description of KESSEL Version „D“ free standing Euro separators

KESSEL Version „D“ separators are designed according to prEN 1825-1. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

The advantage of the Version „D“ separator is that disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck can hook up to a connection on an exterior wall of the building and, using its own pump, suction out the entire contents of the separator without any unpleasant odors escaping.

According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of every month.



Installation hints

- ◆ Important is that a testing or sampling chamber is installed after the outlet side of the separator (see KESSEL sampling chambers, page 11).
- ◆ The separator is installed completely level on a flat firm surface in a frost free area.
- ◆ The height of the room in which the separator is installed should allow easy removal and access of the two lids.
- ◆ In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to DIN 1986-7. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed (see KESSEL *Aqualift® F*, page 13).

Notice

- ◆ The KESSEL Version „D“ separator should be inspected and fully cleaned during every third disposal.
- ◆ In all circumstances where the accessibility of the disposal truck's suction hose to the separator is highly limited or impossible, KESSEL recommends the installation of a Version „D“ unit.
- ◆ With the installation of the refill equipment, the KESSEL Version „D“ separator can be refilled after disposal without the need of opening any of the covers and releasing strong and aggressive odors.
- ◆ The KESSEL Version „D“ separator is not intended for use in meat processing plants.



► Description of KESSEL Version „R“ free standing Euro separators

KESSEL Version „R“ grease separators are designed according to prEN 1825-1 and are equipped with an automated self-cleaning system. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

The advantage of the Version „R“ separators is that disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck can hook up to a connection on an exterior wall of the building

and, using its own pump, suction out the entire contents of the separator without any unpleasant odors escaping. After the contents of the separator have been emptied, the interior of the separator is automatically rinsed and cleaned with warm water. As an option, the entire automated system can be controlled by remote control.

According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.



Installation hints

- ◆ Important is that a testing or sampling chamber is installed after the outlet side of the separator (see KESSEL sampling chambers, page 11).
- ◆ The separator is installed completely level on a flat firm surface in a frost free area.
- ◆ The height of the room in which the separator is installed should allow easy removal and access of the two lids.
- ◆ In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to DIN EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed (see KESSEL *Aqualift*® F, page 13).

Notice

- ◆ In all circumstances where the accessibility of the disposal truck's suction hose to the separator is highly limited or impossible, KESSEL recommends the installation of a Version „D“ separator or above (all with direct disposal devices).
- ◆ With the installation of the refill equipment, the KESSEL Version „R“ grease separator can be refilled after disposal without the need of opening any of the covers and releasing strong and aggressive odors.
- ◆ The KESSEL Version „R“ separator is not intended for use in meat processing plants.

► Description of KESSEL Version „E+S“ M free standing Euro separators

KESSEL Version „E+S“ M grease separators are designed according to prEN 1825-1 and are equipped with an automated self-cleaning system as well as a pumping disposal system. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

The advantage of the Version „E+S“ M separators is that disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck can hook up to a connection on an exterior wall of the building

so that the pump(s) of the Version „E+S“ M separator can pump the separator contents into the waiting disposal truck without any unpleasant odors escaping. After the contents of the separator have been pumped out, the interior of the separator is automatically rinsed and cleaned with warm water in a multi-step process which is manually controlled from the control unit.

According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.



Installation hints

- ◆ Important is that a testing or sampling chamber is installed after the outlet side of the separator (see KESSEL sampling chambers, page 11).
- ◆ The separator is installed completely level on a flat firm surface in a frost free area.
- ◆ The height of the room in which the separator is installed should allow easy removal and access of the two lids.
- ◆ In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to DIN EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed (see KESSEL *Aqualift*® F, page 13).

Notice

- ◆ KESSEL „E+S“ separators should be installed in all areas where nuisance odor problems are either undesired or not allowed.
- ◆ In cases where the Version „M“ separator is installed in an operation producing large amounts of sludge (ie. slaughterhouses/butchers) it is recommended that the separator be equipped with twin pumps - one pump for the disposal of the sludge and the second pump for the disposal of wastewater and separated grease. For more information please contact KESSEL directly.



► Description of KESSEL Version „E+S“ PV free standing Euro separators

KESSEL Version „E+S“ PV grease separators are designed according to prEN 1825-1 and are equipped with a fully automated disposal, self-cleaning and refill system. These separators distinguish themselves through their ease of installation and nearly maintenance free characteristics.

The advantage of the Version „E+S“ PV separators is that a complete disposal can take place through permanently installed disposal lines while the twin covers of the separator remain closed. With this advantage, the disposal truck can hook up to a connection on an exterior wall of the building so that the pump(s) of the Version „PV“ separator can pump the separator contents into the waiting disposal truck without

any unpleasant odors escaping. After the contents of the separator have been pumped out, the interior of the separator is automatically rinsed and cleaned with warm water in a multi-step automated process. The complete procedure occurs with the press of a button and is also available with a remote control system so that the driver of the disposal vehicle can handle the entire procedure without the necessity of any building personnel being present.

According to DIN V 4040-2, the complete contents of the separator should be emptied, the unit cleaned and refilled with clean cold water every fourteen days or at a minimum of once every month.



Installation hints

- ◆ Important is that a testing or sampling chamber is installed after the outlet side of the separator (see KESSEL sampling chambers, page 11).
- ◆ The separator is installed completely level on a flat firm surface in a frost free area.
- ◆ The height of the room in which the separator is installed should allow easy removal and access of the two lids.
- ◆ In the case that the outlet of the separator is located below the local defined backwater level, a lifting station is to be installed according to DIN EN 12056. In situations where the interruption of separator service is not allowable, a lifting station with double pumps is to be installed (see KESSEL *Aqualift*® F, page 13).

Notice

- ◆ KESSEL „E+S“ separators should be installed in all areas where nuisance odor problems are either undesired or not allowed.
- ◆ The KESSEL „E+S“ PV systems allow the user to customize settings to improve disposal performance and also allow the disposal vehicle driver to handle the complete disposal procedure which can also be conducted during off hours.
- ◆ In cases where the Version „PV“ separator is installed in an operation producing large amounts of sludge (ie. slaughterhouses/butchers) it is recommended that the separator be equipped with twin pumps - one pump for the disposal of the sludge and the second pump for the disposal of wastewater and separated grease. For more information please contact KESSEL directly.

Product Advantages

Compact - Lightweight



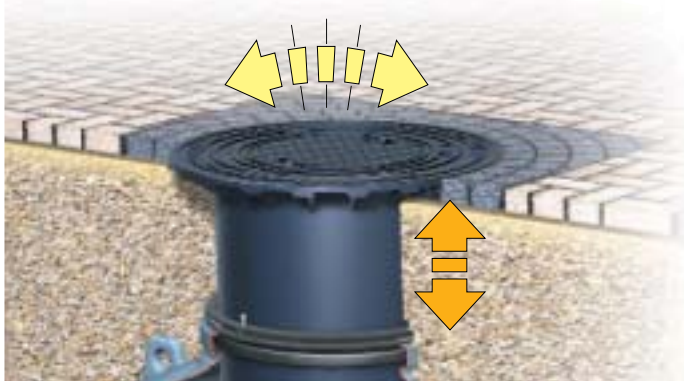
- The separator's compact size means easy delivery and placement on site. This also allows the separator to fit through most door or passageways and will not take up valuable space in basements.

Easily transported

- On site the chamber can be easily handled and maneuvered by hand without the need of machinery.
- Integrated forklift-grips allow the larger separators to be easily handled by forklifts for stocking or loading operations.

Adjustable cover

KESSEL Euro-separators for underground installation are supplied with fully adjustable covers in load classes A (1.5 ton), B (12.5 ton) and D (40.0 ton). These covers are vertically adjustable by 500 mm, twistable and tiltable up to 5 degrees so as to match all types of surface elevations and slopes.



Acid resistant

The polyethylene material used in the construction of the separator is extremely resistant to the aggressive acids contained in oil and fat laden wastewater. This resistance provides the separator with a very long life expectancy unlike separators manufactured from other materials such as steel and concrete. Additional acid resistant coatings required on most steel and concrete separators are also not necessary with KESSEL Euro separators.



Easily Cleaned

The smooth wax-like surface of the separator hinders the building up of coagulated oils and fats. This allows for quick and easy cleaning of the separator with minimal rinse water usage.

Odor tight

The monolith polyethylene grease separator is gas and watertight. The covers provide a complete seal with their quick release clamping rings.



Durable

Polyethylene guarantees a high durability against dents, cracks or breaks in the material.

Upgrading

Options such as inspection windows, ventilation pipes or refill equipment can be ordered and connected at any time after the separator has been installed.

The version "G" separator can even be upgraded to a version "D" (Direct Disposal) separator at a later date.



Recyclable material

Polyethylene can be fully recycled and reused for the production of high quality products.



KESSEL-Calculation for Grease Separators

Based on DIN V 4040-2, February 99 and based on Euro-Norm prEN 1825-2

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 	Builder
Planner 	Version

1.2. Facility

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

1.3. Times of operation

Daily operation	Weekly operation	Wastewater discharge
☐ hours/day	☐ days/week	☐ 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	Saponifiable oils and greases (lipophilic substance)
..... °C	 pH-value	max. mg/l



2. Sizing the grease separator (NG - 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
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► 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

$$Q_s = \dots\dots\dots \text{ l/s}$$

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)
Inputs	$Q_s = \frac{\dots\dots\dots \times \dots\dots\dots \times \dots\dots\dots}{\dots\dots\dots \times 3600} = \dots\dots\dots$	F: Surge factor irrelevant of operational conditions (See Table 1)
		M_M: Monthly average of the DAILY prepared warm meals (avg. meals per day)
		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	t (hours)
Hotel restaurant kitchen	100	5		
Fine cuisine restaurant kitchen	50	8.5		
Fast food restaurant kitchen	5	20		
Hospital/Retirement facility kitchen	20	13		
Military base barracks kitchen	10	22		
Standard restaurant kitchen	15	10		

b) Meat processing plants

► Calculating maximum wastewater flow Q_s

$$Q_s = \dots\dots\dots \text{ l/s}$$

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)
Inputs	$Q_s = \frac{\dots\dots\dots \times \dots\dots\dots \times \dots\dots\dots}{\dots\dots\dots \times 3600} = \dots\dots\dots$	F: Surge factor irrelevant of operational conditions (See Table 2)
		M_P: Daily average of meat/sausage production (kg)
		t: Average hours of operation when the separator will be receiving fat laden wastewater

Table 2 (Meat processing facilities)

Meat processing facilities	V_P (Liter)	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

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

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		Dish-washing machine	tiltable frying pans	frying pans	High pressure floor washer	Peeling machine*	Vegetable washing machine
	Ø 25	Ø 50	Ø 70	Ø 100	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	2.72	0.84	0.08	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

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

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

Total number of faucets (n)	Outlet size (inches)		
	DN 15 R 1/2	DN 20 R 3/4	DN 25 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 x 0.1	n x 0.2	n x 0.34
Total			

Q_s -Calculation based on actual fixtures installed in kitchen

Total maximum output from all kitchen faucets and fixtures in liters per second $Q_s = Q_{s(K)} + Q_{s(A)}$

$$Q_s = \dots\dots\dots \text{ l/s}$$



2.2. Calculation of influential factors

The following three factors (f_d , f_t , f_r) are required to properly size a grease separator.

2.2.1. Calculation of density factor f_d

$f_d = \dots\dots\dots$

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

$f_t = \dots\dots\dots$

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

2.2.3. Cleaner (detergent) solution factor f_r

$f_r = \dots\dots\dots$

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 (NG) (liters/second) according to DIN V 4040-2, date 02/1999

$NG = Q_s \times f_d \times f_t \times f_r$ $NG = \dots\dots\dots \times \dots\dots\dots \times \dots\dots\dots \times \dots\dots\dots = \dots\dots\dots$

Appropriate authority	Applicant
location, date	location, date
signature	signature

3. Choosing the type of grease separator

3.1. Calculating the sludge trap volume

☐ Restaurants, hotels: cafeterias, meat processing plants without slaughter, etc.	☐ Slaughter houses: meat processing plants <u>with slaughter</u>
NG x 100 liter = liter	NG x 200 liter = liter



3.2. Type of grease separator

Installation location: ☐ free standing in frost free area	Installation location: ☐ Underground installation in frost free areas ☐ Outdoor underground installation									
☐ Delivery to installation site Smallest passage through which separator must pass through: L x W = mm x mm	☐ Groundwater susceptible area									
Make and Type of free standing grease separator: ☐ Version „G“ Standard separator (Manual disposal and cleaning through opened covers) ☐ Version „D“ Standard separator* (Manual disposal through permanently installed disposal pipe, cleaning through opened covers) ☐ Version „R“ Comfort separator* (Manual disposal through permanently installed disposal pipe, automated control unit controlled cleaning) ☐ Version „E+S“ M Comfort separator* (Control unit controlled disposal and cleaning through permanently installed disposal pipe) ☐ Version „E+S“ PV Comfort separator* (Remote controlled disposal and cleaning through permanently installed disposal pipe) ☐ Version „SE“ for self disposal* (Self disposal of sludge and grease into separate 60 liter storage tanks)	Make and Type of underground grease separator: ☐ Version „G“ Standard underground separator (Manual disposal and cleaning through opened covers, outdoors) ☐ Version „D“ Standard underground separator (Manual disposal through permanently installed underground disposal pipe, cleaning through opened covers, outdoors) ➤ Made-to-order versions on request									
* Desired position of accessories (in direction of flow): <table border="0"> <tr> <td>Inspection window</td> <td>Disposal hook-up</td> <td>Refill pumps</td> </tr> <tr> <td>☐ left</td> <td>☐ left</td> <td>☐ left</td> </tr> <tr> <td>☐ right</td> <td>☐ right</td> <td>☐ right</td> </tr> </table>	Inspection window	Disposal hook-up	Refill pumps	☐ left	☐ left	☐ left	☐ right	☐ right	☐ right	Installation depth T: The local frost free depth must be considered. T is measured from ground level to the bottom of the inlet of the grease separator. T = mm
Inspection window	Disposal hook-up	Refill pumps								
☐ left	☐ left	☐ left								
☐ right	☐ right	☐ right								
	Manhole covers: ☐ Class A (1.5 ton) ☐ Class B (12.5 ton) passenger car ☐ Class D (40 ton) tractor trailer									
Accessories ☐ Inspection window on left side (in direction of flow) ☐ Inspection window on right side (in direction of flow) ☐ Refill equipment on left side (in direction of flow) ☐ Refill equipment on right side (in direction of flow) ☐ Sampling chamber with lateral outlet ☐ Sampling chamber with vertical outlet ☐ Pump/lifting station	Accessories ☐ Sampling chamber ☐ Pump in collection chamber									

3.3. Chosen grease separator

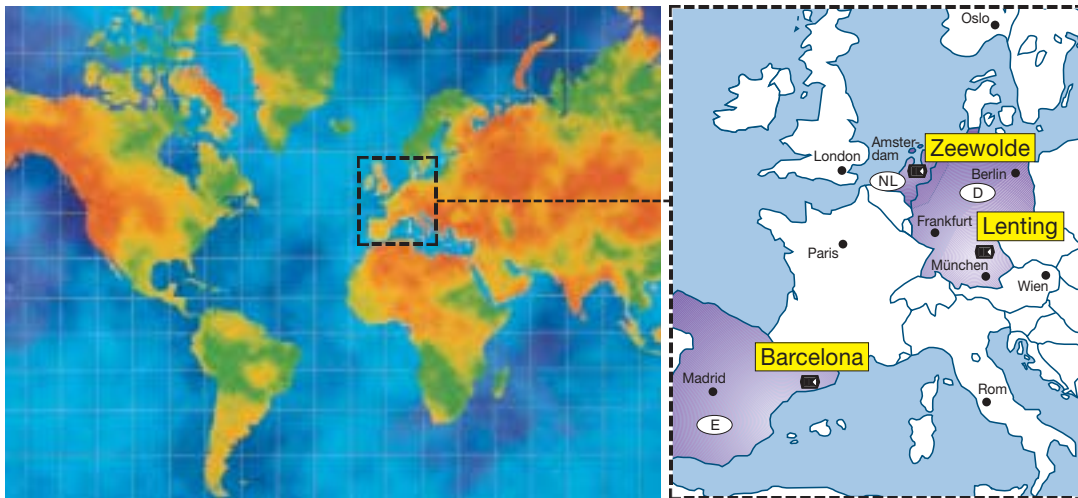
Grease separator/Accessories	Article Number
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