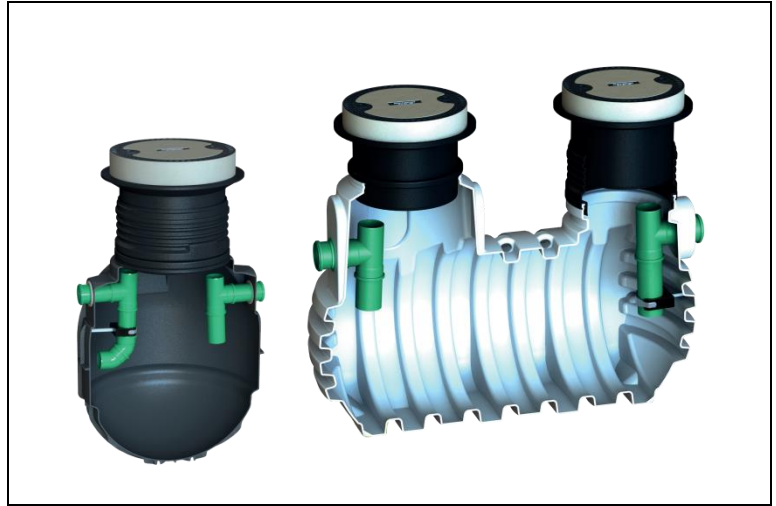
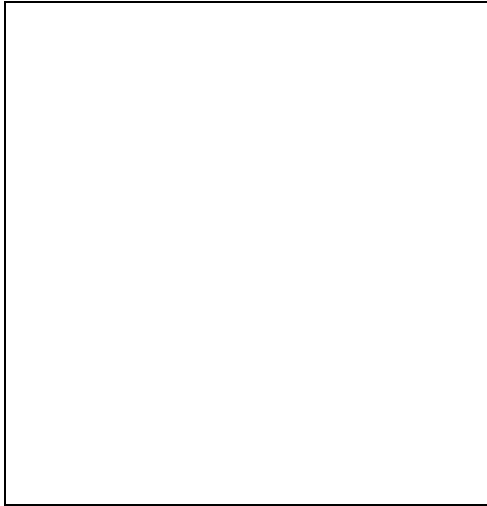


Operating Manual for Grease Separator Systems KLsepa.pop



The points described in these instructions must be observed in all cases. Failure to do so

The components must be checked for any damage before the system is transferred to the pit.

You will receive separate instructions for installation of the system.

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1. Note

Essential prerequisites to ensure fault free operation of the grease separator system are compliance with DIN EN 1825 or DIN 4040-100, following the manufacturer's instructions and regular cleaning, maintenance and emptying of the separator.

This involves various tasks which are described in detail in this operational log and in the attached product documentation.

The enclosed operational log for grease separators should facilitate management of the plant.

Please file all certificates, protocols and reports in the log. The authorities can demand to be shown all operational records and documents during an inspection. Those companies which operate the plant conscientiously and are able to provide carefully compiled documentation and all the necessary records tend to be subject to fewer inspections.

Responsibility for the Operational Log:

Responsibility for the grease separator plant and for setting up and maintaining the operational log always rests with the system operator. It is not usually possible for the system operator to absolve themselves of this responsibility. However, individual tasks and duties can be delegated to reliable and suitably qualified employees where this is sensible and necessary.

2. General Plant Specifications

2. General Plant Specifications

2.1. Notification of Completion pursuant to DIN EN 1825 or DIN 4040-100

Nominal size	Authorisation number
Year of construction	Location
Item number	Serial number
Sampling available internal <input type="checkbox"/> external <input type="checkbox"/>	Lifting system available Item No.
Separator volume in litres	Grease storage volume in litres
Sludge trap volume in litres	

2.2. Type of Operation

Suitable for operation in:

- | | |
|---|---|
| <input type="checkbox"/> Hotel kitchen
<input type="checkbox"/> Specialist restaurant
<input type="checkbox"/> Hospital
<input type="checkbox"/> Workshop
<input type="checkbox"/> Large scale catering establishment (24 h operation)
<input type="checkbox"/> Oil press
<input type="checkbox"/> Meat / sausage factory with / without slaughterhouse | <input type="checkbox"/> Butchers shop with / without slaughterhouse
<input type="checkbox"/> Slaughterhouse
<input type="checkbox"/> Poultry slaughterhouse
<input type="checkbox"/> Margarine factory
<input type="checkbox"/> Refinery for cooking oils
<input type="checkbox"/> Ready-meal manufacturer
<input type="checkbox"/> Other: |
|---|---|

2. General Plant Specifications

2.3. Person Responsible

Proper maintenance of the plant is to be ensured through:

the expertise of Ms / Mr. (please attach proof of relevant expertise)

maintenance contract (please attach a copy)

Name of the person responsible for the technical operation:

Name of the responsible operating staff member on duty:

Commissioned on: _____

Has a disposal contract been signed with an authorised specialist company?

No Yes

Name: _____

Address: _____

3. Technical Drawing

3. Technical Drawing

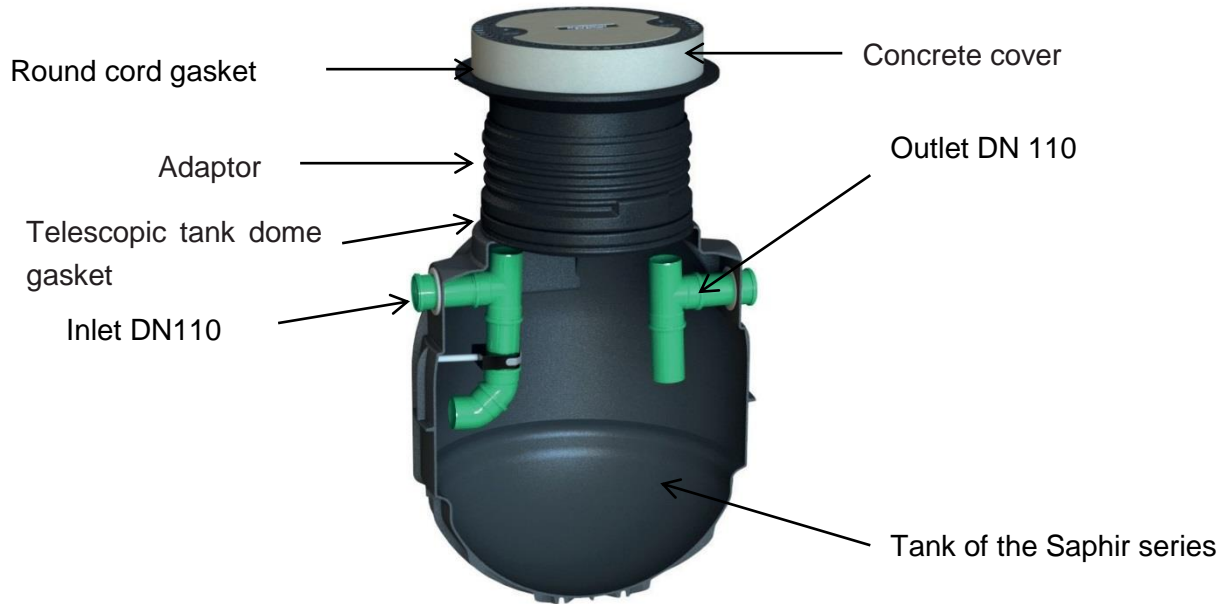


Image 1 Compact grease separator. NS 4/7 and NS 10/15 with class B/B cover.

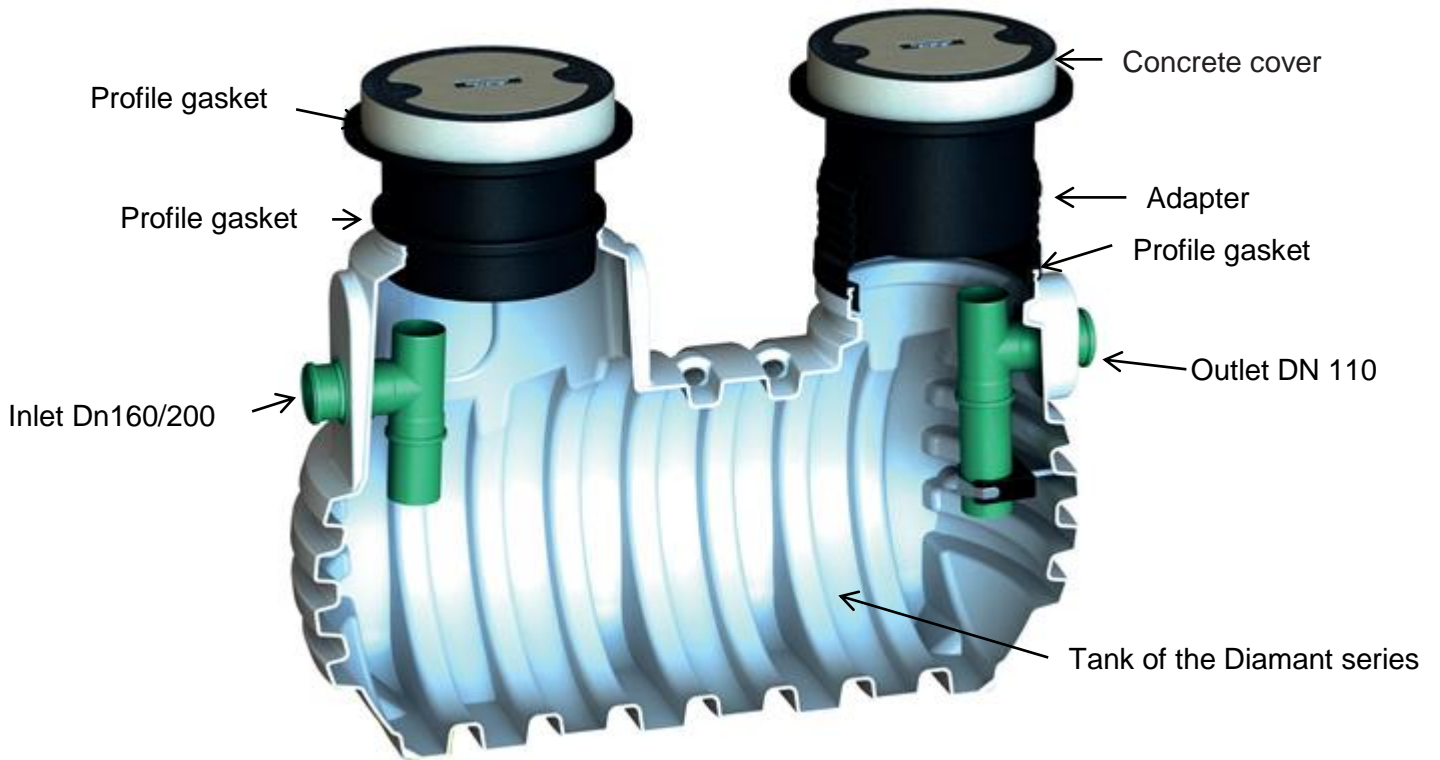


Image 2 Compact grease separator NS 4/7 and NS 10/15 with class A cover

4. Commissioning

4. Commissioning

Once the tank has been installed, the entire separator system must be checked for leaks in accordance with the requirements from the relevant authorities. In order to do this, the inlet and outlets are sealed watertight and the whole system is filled with clean water up to the lower lip of the shaft cover. The test must be carried out in accordance with DIN 4040-100. A qualified person¹ must then check whether the tank, all joints and all pipe connections are watertight as per DIN 1999-100. Confirmation of watertightness should be recorded by the person carrying out the test in the record supplied. This should be arranged by the building project manager or the construction company.

In the event that the system is not watertight GRAF must be informed immediately; any complaints regarding watertightness made at a later date shall be disregarded!

Once it has been confirmed that the system is watertight, the water is drained or pumped out until it only reaches to the lower lip of the outlet. The remaining water must be retained as the initial filling. Should it become necessary to pump the tank out completely, the plant must be filled with clean water before commissioning until no further rise in the water level can be discerned. If this is not done, any mixture of fat and water introduced into an empty tank would not be sufficiently well cleaned before leaving the tank.

If there is not already one in place, the nameplate delivered with every separator must be attached via a chain to the underside of the telescopic dome shaft cover.

The telescopic dome shaft must be covered by the original cover supplied and must be marked "separator system".

All relevant information, including the serial number from the type approval plate must be entered on page 3 in this operating manual!

Commissioning must be documented in the commissioning report. Any claims under the warranty can only be made if the completed commissioning report is provided!

¹ Qualified persons are employees of independent companies, appraisers or other institutions who have the proven necessary expertise for the operation, maintenance and testing of separator systems to the extent mentioned here, as well as having the necessary technical equipment for testing separator systems. In isolated cases and in large companies the tests may be carried out by internal, independent qualified persons from the operating company who are not bound by instructions in relation to their area of responsibility and who hold equivalent qualifications and have the appropriate equipment.

5. Operation and Maintenance of Grease Separator Systems in Accordance with EN 1825-2 and DIN 4040-100

5. Operation and Maintenance of Grease Separator Systems in Accordance with EN 1825-2 and DIN 4040-100

The provisions of DIN EN 1825-2 and DIN 4040-100 apply as a matter of principle.

5.1. Operation

Only the amount of wastewater determined by the dimensions may be fed into the separator system. This may only contain fats or oils from organic sources.

The system must not be used for:

- sewage containing faecal matter
- rain water
- wastewater containing oils or fats from mineral sources.

If the system is to be used for greasy wastewater which also contains washing up liquid or cleaning products, these products must be suitable for use with a separator system and must not form any stable emulsions.

Unauthorised removal of components of the separator system is not permitted. Any damage to system components or operational faults must be repaired immediately by a specialist company on the operator's own initiative.

In order to avoid strong odours being caused by bacteria breaking down the fats, it is recommended that the system is checked at frequent intervals at the start. Once sufficient experience in how the system operates has been gained, the definitive intervals for inspection can be determined.

5.2. Operational Log

An operational log, in which the dates and results of the inspections undertaken, maintenance and testing, disposal of the materials removed by the system and the remedying of any faults identified are documented, must be maintained.

The operational log and test reports must be stored by the operator and must be presented to the local responsible authorities or the operator of the municipal wastewater systems which the separator system feeds into if requested.

5.3. Disposal

The disposal intervals must be arranged such that the storage capacity of the sludge trap (half the volume of the sludge trap) and the separator (grease collection area) are not exceeded. The sludge trap and separator must be emptied completely and cleaned at least once a month, preferably every two weeks. The subsequent refilling of the separator system must be undertaken using water (e.g. drinking water, industrial water, treated wastewater from the grease separator system) which complies with the local supply provisions. If exceptionally high levels of grease or sludge occur, the operator should undertake inspections at appropriate shorter intervals and arrange for removal of the sludge and grease at shorter intervals. All relevant legal provisions on waste disposal must be complied with in disposing of the materials removed from the system.

5. Operation and Maintenance of Grease Separator Systems in Accordance with EN 1825-2 and DIN 4040-100

5.3.1. Measures to be carried out in connection with the disposal are

- Complete draining and cleaning of the sludge trap and separator. For this the layer of grease which has collected on the surface must first be extracted. This prevents grease from entering the outlet as the water level falls during emptying and being washed out of the separator once operation is restarted. Only once the layer of grease has been completely removed may the water underneath be pumped out.
- Remove encrustations and deposits.
- Clean the odour-proof cover and check the condition of the seal and sealing effectiveness if necessary.
- Clean the inlet and outlet pipes and the sampling system, if present, with warm water (approx. 30°C). The water used for cleaning must then be pumped out completely.
- The entire system, sludge trap and grease separator must then be filled with clean water in order to restore functionality for continued operation.

5.3.2. Volumes and coating thickness of the compact grease separator

KLsepa.pop	NS [l/s]	Sludge trap			Grease collection area		Container Volume Total [l]
		Volume [l]	Fill level		Volume [l]	Layer thickness max. [cm]	
			max. [cm]	50 % [cm]			
1-200-2 2-200-2	1 2	200	40	27	200	25	490
1-200-3 2-200-3	1 2	200	41	27	300	34	720
1-400 2-400	1 2	400	62	40	200	26	720
2-500 4-500	2 4	500	73	46	300	33	1000
4-700 7-700	4 7	700	41	25	350	20	2050
10-1500 15-1500	10 15	1500	65	39	600	25	3150

5. Operation and Maintenance of Grease Separator Systems in Accordance with EN 1825-2 and DIN 4040-100

5.4. Maintenance

The separator must be serviced annually by a qualified person².

In addition to the disposal, the following tasks must be performed:

- Inspection of the internal wall surface of the sludge trap and grease separator: where concrete is used look in particular for any cracks which are forming, or in the case of metals look for corrosion in the area of the three-phase boundary (water, grease and light layers).

The findings and work carried out must be recorded and evaluated in a maintenance report.

5.5. Inspection (General Inspection)

Before commissioning and thereafter at regular intervals of not more than 5 years, the previously completely emptied and cleaned separating system must be inspected by a qualified person to ensure that it is in proper condition and operating properly.

The following points at least must be checked and recorded:

- assessment of the separating system;
- the structural condition and watertightness of the separating system;
- the condition of the inner wall surfaces or inner coating, of the installed components and the electrical devices, if any;
- fitting of the separator system inlet pipe as a ventilation duct via the roof as per DIN EN 1825-2:2002-05, 7.4;
- the completeness and plausibility of the records in the operational log;
- proof of proper disposal of the contents removed from the separator;
- the availability and completeness of all necessary authorisations and records (permits, drainage plans, operation and maintenance manuals as per DIN EN 12056-5 or DIN 18381).

A test report on the inspection carried out must be drawn up, listing any faults identified. If faults were identified, they must be rectified immediately.

5.6. Test Report

The test report must be given to the system operator and must be stored as part of the operational in-house monitoring together with all other records of in-house monitoring, maintenance and drainage until the next general inspection is undertaken, and in any case for a minimum of five years. The test report must be submitted to the relevant

² A qualified person is a member of the operator's staff or a third party who, on the basis of the training received, their expertise and the experience gained through practical use, is able to ensure that they carry out assessments or tests properly within their area of expertise. The qualified person can gain the expert knowledge for the operation and maintenance of separator systems in a course with subsequent on-site instruction offered, for example, by the relevant manufacturer, professional associations, Chambers of Crafts, and expert organisations in the field of separator technology.

5. Operation and Maintenance of Grease Separator Systems in Accordance with EN 1825-2 and DIN 4040-100

responsible authorities, the operator of the municipal wastewater system and any representatives of external assessment institutions for examination if requested.

5.7. What to Do in the Event of a Fault

If the water is no longer able to flow freely through the separator system inlet

- inspect the layer of grease on the surface,
- notify the maintenance company.

5. Operation and Maintenance of Grease Separator Systems in Accordance with EN 1825-2 and DIN 4040-100

Operating manual for in-house inspection of a separator system for grease as per EN 1825-2 and DIN 4040-100

NS compact grease separator: with sludge trap: |

Grease storage: cm Sludge trap: cm

Date	Comments / faults detected			Stamp/signature
	Sludge trap	Grease separator	Sampling shaft	

5. Operation and Maintenance of Grease Separator Systems in Accordance with EN 1825-2 and DIN 4040-100

Operating manual for in-house inspection of a separator system for grease as per EN 1825-2 and DIN 4040-100

NS compact grease separator: with sludge trap: l

Grease storage: cmSludge trap: cm

Date	Comments / faults detected			Stamp/signature
	Sludge trap	Grease separator	Sampling shaft	

6. Record of Commissioning

6. Record of Commissioning

6.1. Measures taken during installation:

The watertightness test was carried out and recorded by a qualified person in accordance with the requirements from the relevant responsible authorities:

Date: Stamp
Signature
Company responsible for the installation:.....

6.2. Measures taken during commissioning:

1. All tanks in the separator system were filled with fresh water.

Carried out by: date:

Signature Company responsible for the installation:
.....

2. The type approval plate was attached to the shaft structure.

Carried out by: date:

Signature:

3. The operating manual was handed over.

Handed over by: date:

Signature Operator:

Note:

Any claims under the warranty can only be made if the completed commissioning report is provided!