

INSTALLATION AND OPERATING INSTRUCTIONS

KESSEL Backwater chamber • KESSEL *Standard* inspection chamber • KESSEL *Vario* inspection chamber • KESSEL *Dual* inspection chamber



Product advantages

- Light weight polyethylene offers quick and easy installation
- Installation ready chambers in heights of 1.0, 1.5, 2.0 and 2.5 meters
- Available with load class A, B and D manhole covers
- Transition piece available for use with BEGU manhole covers
- Fracture resistant chamber lowers transport and construction site risks
- High resistance against aggressive soils, wastewaters and chemicals
- Monolith construction offers lifelong watertight and root-proof chamber
- Certified by German construction standards regulations



The installation and service of this unit should be carried out by a licensed professional servicer

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(Subject to technical amendments)

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1. Safety information

All personnel who work on the chamber (installation, operation, maintenance and repair personnel) must be fully trained in the use of this product.

The operational safety and performance of this product is only guaranteed if the unit is properly installed, operated and maintained. The technical limits of this product should not be exceeded.

All local and national safety regulations (for example VBG 37 and DIN 4124) should be followed during installation, assembly, operation, maintenance and repair of this unit. In cases that the hole or trench in which the chamber is to be installed is deeper than 1 meter, make sure that the hole / trench is properly secured and protected against cave-ins (collapsing of the walls). Among the guidelines to follow are:

- Accident safety standards BGV C22 (formerly VBG 37)
- Trench safety standards – DIN 4124
- Installation and maintenance of wastewater lines – DIN EN 1610
- Confined space safety standards – BGR 117 (formerly ZH 1/77)

WARNING !!!

Not following this user's manual and all local and national safety regulations could result in serious injury or even death.

During installation, inspection, maintenance or repair of the system it is important to first disconnect the entire system from all power sources and secure against the system being accidentally being re-activated.

CAUTION

Changes or modifications to the backwater chamber should only be made after checking with the manufacturer. Original replacement parts or manufacturer certified parts should only be used. The use of parts other than original replacement parts or manufacturer certified parts could void the warranty and limit or cancel any liability.

The backwater chamber has no effect on the quality of the wastewater.

2. Upper section / cover

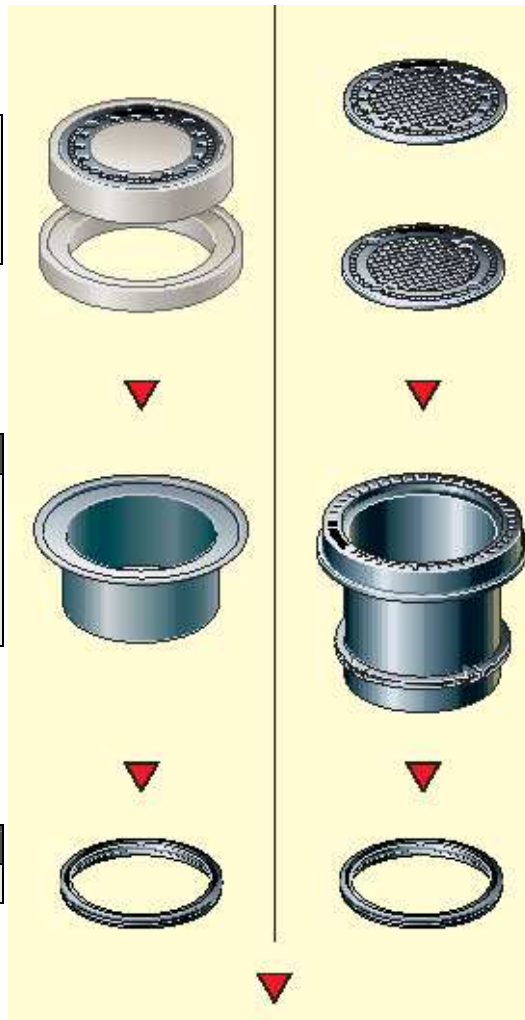
KESSEL polymere upper section, suitable for standard concrete rings and BEGU covers for load classes A / B / D (EN 124)

KESSEL polymere upper section and KESSEL cast iron cover for load classes A / B / D (EN 124)

Example:
standard BEGU cover
(not supplied by KESSEL)
possibility to put additional concrete rings to meet final elevations

Article	Art.no.
Polymere upper section, suitable for standard concrete rings and BEGU covers vertically adjustable from 40 to 300 mm	860122

Article	Art.no.
Gasket	860116



Article	Art.no.
Cast iron cover with ventilation class A 15	860134
Cast iron cover class A 15 class B 125	860130 860131
Cast iron cover class A 15 class B 125 class D 400, screwed	860132 860133 860136

Article	Art.no.
Polymere upper section with fixing ring, vertically adjustable from 100 to 600 mm, for load classes A/B	860120
Polymere upper section with fixing ring, vertically adjustable from 100 to 600 mm, for load classes A/B/D, screwed	860121

Article	Art.no.
Gasket	860116

3. Installation

1



1. Excavate hole and prepare base with compacted gravel (5cm).

2



2. KESSEL *Standard* inspection chambers are easy to handle and place in excavation.

3



3. Saw off tips of necessary inlets / outlet at recessed cut marks.

4



4. Connect to required pipes.

5



5. Backfill with gravel and compact at equal increments of max 50 cm.

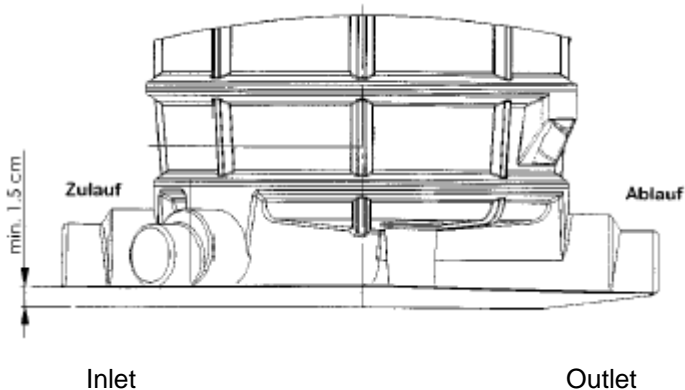
6



6. Standard polyethylene cover (H=140 mm)

4. Installation in traffic areas

Attention:



When installing the chamber, make sure that the elevation difference between inlet and outlet of chamber is 1.5 cm.
 (.Outlet is 1.5 cm lower than inlet)

Important during installation :
Elevation difference between inlet and outlet is 1.5cm

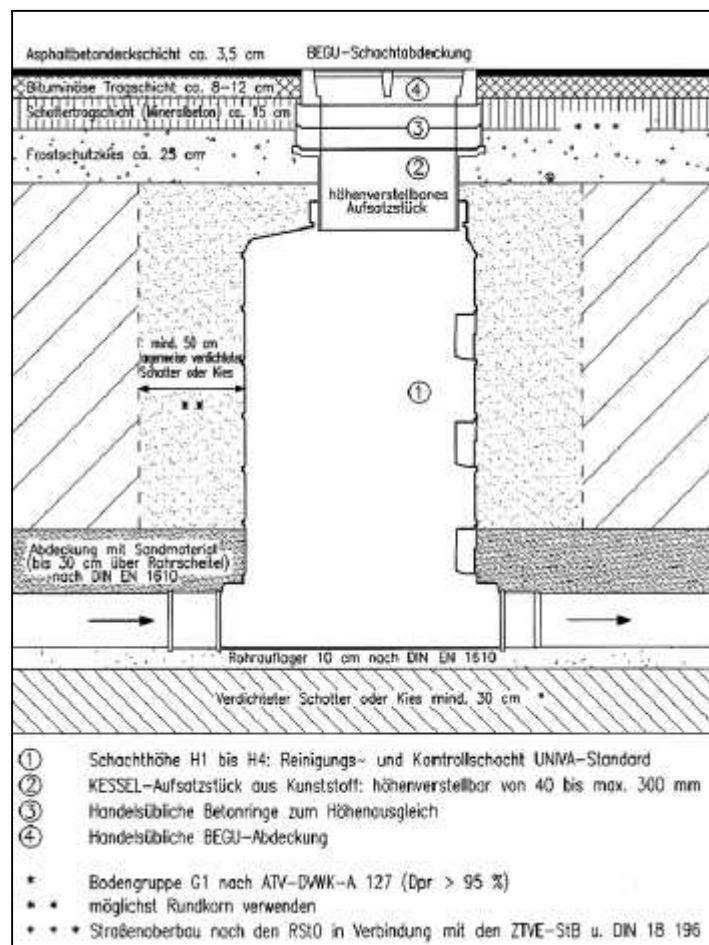
4.1 Installation in load class A (1.5 ton) and load class B (12.5 ton) areas

For installations in load class A and B areas it is important to firmly compact the upper section into the ground after the backfilling around the upper section. This is accomplished by placing a heavy duty steel plate over the upper section and running a soil compacter over the upper section and the area surrounding it.

4.2 Installation in load class D (40.0 ton) areas

In load class D (40.0 ton) areas the KESSEL chamber should be installed according to the RstO in coordination with the ZTVE-StB and DIN 18196. The KESSEL chamber will be equipped with the KESSEL upper section Article Number 860122 and standard BEGU manhole covers.

In Class D installation without an approved road surface, a concrete (with steel re-enforcement) support plate is required. This plate should be cast around the upper section, should be 2 x 2 meters in area and have a depth of 150 mm. A diagram of this re-enforcement plate is available from KESSEL upon request.



4. Installation in traffic areas

Asphaltbetondeckschicht	Final asphalt / concrete layer
BEGU-Schachtabdeckung	BEGU manhole cover
Bituminöse Tragschicht	Asphalt binder layer (base layer)
Schottertragschicht	Process / crushed stone layer
Frostschutzkies	Gravel / stones (frost protection)
Höhenverstellbares Aufsatzstück	Vertically adjustable upper section
Mind. 50 cm lagenweise verdichteter Schotter oder Kies	Backfill should be compacted at 50 cm increments or less
Abdeckung mit Sandmaterial bis 30 cm über Rohrscheitel nach DIN EN 1610	Backfill top of pipes with at least 30 cm protected sand cover according to DIN EN 1610
Rohrauflager 10 cm nach DIN 1610	10 cm sand softening layer according to DIN EN 1610
Verdichteter Schotter oder Kies mind. 30cm	Compacted stone or gravel (at least 30 cm)
1) Schachthöhe bis H4: Reinigungs- und Kontrollschacht UNIVA-Standard	1) Chamber height up to H4 : Access / Inspection chamber UNIVA Standard
2) KESSEL-Aufsatzstück aus Kunststoff: höhenverstellbar von 40 bis 300 mm	2) KESSEL polymer upper section – vertically adjustable from 40 to 300mm
3) Handelsübliche Betonringe zum Höhenausgleich	3) Standard concrete extension rings
4) Handelsübliche BEGU-Abdeckung	4) BEGU manhole cover
* Bodengruppe G1 ATV-DVWK-A 127 (Dpr. 95%)	* Soil group G1 ATV-DVWK-A 127 (Dpr. 95%)
** möglichst Rundkorn verwenden	** Use rounded gravel / process (not sharp edged)
*** Straßenoberbau nach den RStO in Verbindung mit den ZTVE-SVB u. DIN 18 196	*** Road surface should meet RstO requirements in connection with ZTVE-SVB and DIN 18 196

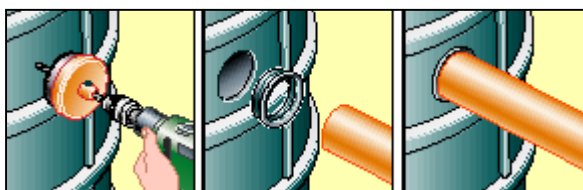
5. Installation hints

Standard construction phase chamber cover



All KESSEL Standard chambers come equipped with a protective cover. This cover can be used in installations with load classes under 300 Kg (pedestrian class only). The recessed cover can be filled with concrete or gravel to match surrounding surfaces. The cover can be adjusted to meet final elevations (max. inclination: 5°).

On-site connection of lateral inlets



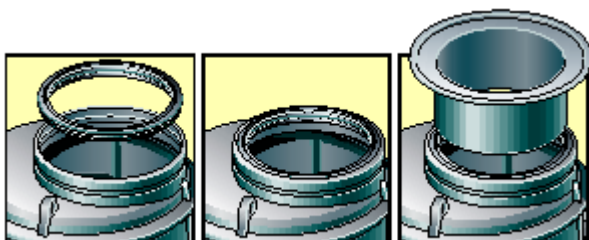
Various sized inlet holes can be drilled out on-site and equipped with KESSEL inlet gaskets.

Multiple on-site connections of main inlets / outlets



Chambers are available with main inlets / outlets from DN 150 to DN 400. The tip of the required inlet size is simply sawed off on-site.

Gasket installation



To assure a completely watertight fit, the KESSEL gasket number 860116 must be installed between the body of the chamber and the upper section.

6. Guarantee

1. In the case that a KESSEL product is defective, KESSEL has the option of repairing or replacing the product. If the product remains defective after the second attempt to repair or replace the product or it is economically unfeasible to repair or replace the product, the customer has the right to cancel the order / contract or reduce payment accordingly. KESSEL must be notified immediately in writing of defects in a product. In the case that the defect is not visible or difficult to detect, KESSEL must be notified immediately in writing of the defect as soon as it is discovered. If the product is repaired or replaced, the newly repaired or replaced product shall receive a new warranty identical to that which the original (defective) product was granted. The term defective product refers only to the product or part needing repair or replacement and not necessarily to the entire product or unit. KESSEL products are warranted for a period of 24 months. This warranty period begins on the day the product is shipped from KESSEL to its customer. The warranty only applies to newly manufactured products. Additional information can be found in section 377 and 378 of the HGB.

2. Wear and tear on a product will not be considered a defect. Problems with products resulting from improper installation, handling or maintenance will also not be considered a defect.

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Everything for drainage



- Backwater valves and cleanouts
- Polymer and cast iron drains
- Volatile liquid traps
- Lifting stations, pumps, warning and control units
- Rainwater management systems
- Grease separators
- Oil/fuel and coalescence separators
- Inspection chambers
- Custom projects for industrial applications