

KLARMAX

TREATING WATER

**The new SBR generation
Single chamber
treatment tank**



**Fully biological
wastewater treatment plant**

KLÄRMAX

TREATING WATER

No pumps, no mechanical parts and no electricity inside the waste water.

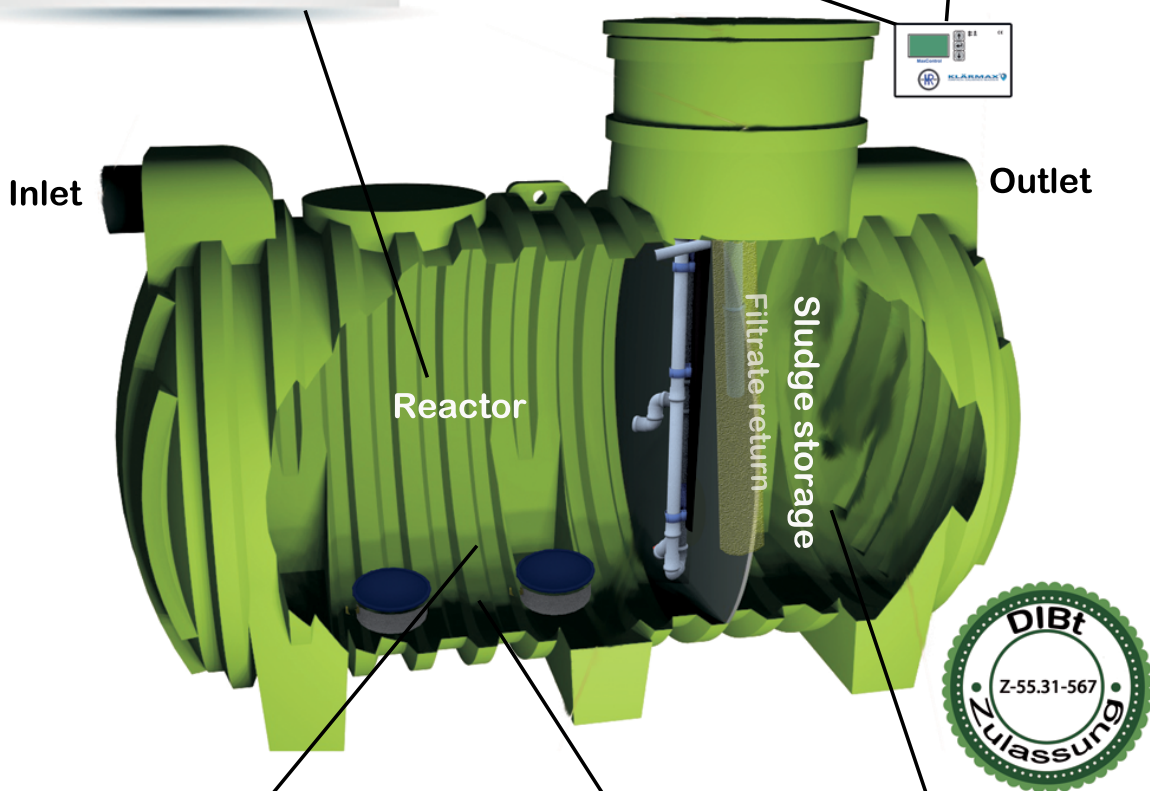
There are no movable or electrical parts inside the tank. The complete technology is easily accessible outside of the septic tank and never comes into contact with the waste water. As a result the susceptibility is reduced significantly.

Minimal energy consumption

The KLÄRMAX® provides a fully biological cleaning capability of up to 98%, starting with an energy consumption of 0,36 kWh / day.

Intelligent control

Adjustment and documentation of the cleaning cycles are foolproof. A robust control module with quiet valves is used.



Single chamber system

100 % biological! No preliminary sedimentation is necessary. As a result no odour nuisances or issues due to fluctuation of load.

Outstanding cleaning performance

The Ideal almost reaches the effluent values of highly technical membrane filtration plants. A record that is unparalleled by fully biological waste water treatment plants.

90 % less sludge

The excess sludge gets filtered inside the sludge storage once more and the filtrate water flows back into the reactor. The remaining sludge gets thickened. A sludge removal is necessary only after several years have elapsed. Neither outlet nor irrigation are clogging.

Fully biological waste water treatment plant


according to DIN EN 12566-3 with CE marking for 2-50 PE with state-of-the-art single chamber SBR technology

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Data Water Quality	Domestic waste water Influent	Effluent Class C (EU-law regulation)	Effluent class D (EU-law regulation)	KLÄRMAX® IDEAL	Domestic small WWTP Ø	Municipal WWTP Ø
COD	300-1000	150	90	25	96,8	28
BOD	150-500	40	20	3	13,8	4,3
NH ₄ -H ammonium nitrate	22-80	-	10	0,7	x	1,12
N anorg/ Nges	25-100	-	25	7	x	9,1
SS suspended solids	200-700	75	50	4	x	x

Record effluent values and suction capability of the concentrated excess sludge tested and certified by the testing institute PIA Aachen GmbH!



Prüfinstitut für
Abwassertechnik
GmbH

PERFORMANCE RESULTS

Klärtechnik Reinhardt GmbH
Albert-Einstein-Str. 20, 23701 Eutin, Germany
EN 12566-3, Annex B
Small wastewater treatment systems for up to 50 PT
Small wastewater treatment system Klärmax AS-IDEAL-PZV
One-chamber SBR-process with internal
or external sludge storage in a PE-tank
Test report PIA2014-192B26.02





Nominal organic daily load	0.25 kg BOD ₅ /d
Nominal hydraulic daily load	0.75 m ³ /d
Material	Polyethylene

Treatment efficiency (nominal sequences)	Efficiency	Effluent
COD	96.3 %	25 mg/l
BOD ₅	99.0 %	3 mg/l
SS	98.8 %	4 mg/l
NH ₄ -N	98.4 %	0.7 mg/l
N _{tot}	87.5 %	6.8 mg/l
P _{tot}	65.0 %	2.6 mg/l


Electrical consumption	0.69 kWh/d
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Performance tested by:
PIA – Prüfinstitut für Abwassertechnik GmbH
(PIA GmbH)
Hergenrather Weg 30
52074 Aachen, Germany

This document replaces neither the declaration of performance nor the CE marking.

DAkkS
Deutsche
Akademie
für
Zertifizierung
DPA-13713-01-00



Prüfinstitut für Abwassertechnik GmbH
geprüft - getestet - teste

Elmar Lance June 2017



Prüfinstitut für
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Versuch zur Pumpfähigkeit an der Anlage Klärmax Ideal

Sehr geehrte Damen und Herren,

um die Pumpfähigkeit des eingedickten Schlammes zu demonstrieren wurde am 21.05.2014 die Firma Wilden beauftragt den eingedickten Fäkal- / Belebtschlamm aus dem Schlammespeicher bzw. Vererdungsmodul der Kleinkläranlage Klärmax Ideal abzupumpen.

Um aufzuzeigen, dass der Schlamm unter ungünstigsten Bedingungen noch pumpfähig ist, wurde ein Saugwagen mit nur einer Pumpe und einem ca. 30 m langen Schlauch eingesetzt. Bei den Schläuchen wären wahlweise 80 mm oder 50 mm Schläuche verfügbar gewesen. Auch hier wurde der ungünstigste Fall, der 50 mm Schlauch, gewählt. Der Schlamm, welcher sich nach dem Prüfen im Januar 2014, bis Ende Mai weiter eindickte, erreichte TS-Werte von rund 75 g/l.

Der komplette Behälter konnte ohne Probleme komplett mit dem 50er-Schlauch abgesaugt werden. Der hierbei eingestellte Saugunterdruck hätte noch höher eingestellt werden können. Somit ist zu erwarten, dass eine Entleerung der Kleinkläranlage Klärmax Ideal auch unter ungünstigen Bedingungen problemlos erfolgen kann.

Freundliche Grüße

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Dipl.-Ing. Elmar Lanö

Geschäftsführung: Dr.-Ing. Elmar Dorgeß
Amtsgericht Aachen
HRB 12841
USt-ID: DE 255900014
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Notified Body No. 1739
Zertifiziert nach ISO 9001:2008
DIN EN ISO/IEC 17025:2005

Fully biological waste water treatment plant

according to DIN EN 12566-3 with CE marking for 2-50 PE with state-of-the-art single chamber SBR technology

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Functional description:

The wastewater gets pumped into the tank (concrete, fiberglass or PE) through a calmed inflow. The wastewater gets swirled by the use of plate- or tube membrane diffusers. The turbulence caused by the rising air bubbles mixes the reactor contents and dissolves the organic components.

The sedimentation takes place during the inflow break (at night), the clear water discharge takes place and afterwards the aeration phase starts again. As a special feature of the wastewater treatment plant once a week right after the clear water withdrawal a removal of the excess sludge takes place.

The excess sludge is on this occasion pumped into a separate chamber of the sludge storage. After feeding the sludge storage, the water / sludge mixture flows to the surface of the previously thickened sludge. The excess water is returned by the drainage system back to the process of purification. The remaining sludge continues to thicken. Due to this a disposal of the excess sludge is only necessary after years.

Extras:



Weatherproof Control cabinet for wall mounting, including keys



Weatherproof floorstanding control pillar, including keys



Optical alarm



STR Marketing Ltée

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