

NYMNP

07/01/2022



Prüfinstitut für
Abwassertechnik
GmbH

PERFORMANCE RESULTS

Kingspan Environmental Limited
College Road North, HP22 5EW Aylesbury
United Kingdom

EN 12566-3

Results corresponding to the Irish National Annex for IS EN 12566-3
Small wastewater treatment system Bio-Ficient
Fluidized bed reactor

| | | | | | |
|--|------|-------------------|----------------------------|----------|----------|
| Nominal organic daily load* | 0.23 | kg/d | | | |
| Nominal hydraulic daily load | 0.60 | m ³ /d | | | |
| Material | | | polyethylene (PE) | | |
| Watertightness (water test) | | | pass | | |
| Crushing resistance (pit test) | | | pass (also wet conditions) | | |
| Durability | | | pass | | |
| Treatment efficiency (nominal sequences) | | | Efficiency | Effluent | |
| | | | COD | 90.6 % | 67 mg/l |
| | | | BOD ₅ | 94.4 % | 20 mg/l |
| | | | NH ₄ -N** | 99.0 % | 0.4 mg/l |
| | | | SS | 92.7 % | 27 mg/l |
| Electrical consumption | 0.52 | kWh/d | | | |

* at a test influent of ≥ 300 mg/l BOD₅ (mean)

** determined for temperatures $\geq 12^{\circ}\text{C}$ in the bioreactor

Performance tested by:

PIA – Prüfinstitut für Abwassertechnik GmbH
(PIA GmbH)
Hergenrather Weg 30
D-52074 Aachen

This document replaces neither the declaration
of conformity nor the CE marking



Notified Body
number 1739:



Certified according to
ISO 9001:2008



Prüfinstitut für Abwassertechnik GmbH

Geprüft - tested - testé

Elmar Lancé

March 2014

Water Management

| | | | | |
|--------------------|------------------|---------------|---------------|---------------|
| Outlet Invert (mm) | 600-910/555-865* | 600/1100/1600 | 630/1130/1630 | 630/1130/1630 |
| Material | MDPE | GRP | GRP | GRP |
| Cover Sizes | 700 | 900 | 1500/900 | 1500/900 |

Optional inlet depth down to 1800mm

*BioFicient 1 IPS model only

**BioFicient 6 has two shafts

Applications



1-4 model

Technical information



How the Klargest BioFicient works

The moving aerated media process used is a compact development of the traditional biological process and provides a more effective and complete means of reducing the loads.

1. Raw sewage gravitates to the unit where it is received in the primary settlement zone. Here, gross solids and other social debris settle to the bottom of the tank where they remain until the tank requires desludging. Settled sewage is displaced from primary zone and enters the first of : two sequential moving aerated media reactors.
2. Media and liquid circulation in each zone is achieved through the use of a compressor and diffuser, which introduces fresh air into each compartment. The liquor is constantly re-circulated and contacts the moving media and as it does so, it is purified by the microorganisms (biomass) growing on the surface of the media and within the moving liquor. Excess growth of biomass is shed as solid particles into the liquor.
3. The final settlement tank is where humus solids settle to form sludge. At preset intervals, portions of the sludge and liquor are returned to the primary tank for additional treatment.
4. Final effluent is displaced from the final settlement tank. With regulator approval, it is suitable for discharge to a watercourse or drainage field.

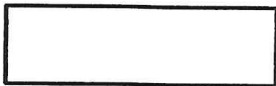
| | BioFicient 1 | BioFicient 3 | BioFicient 4 | BioFicient 5 |
|-----------------------|--------------|--------------|--------------|--------------|
| PE | 6 | 10 | 15 | 20 |
| Overall Diameter (mm) | 1540 | 1425 | 1920 | 1920 |

Water Management

and a discreet profile. The BioFicient® is easy to maintain, highly efficient and a reliable solution for your sewage treatment needs. Offering low running costs but with the kind of high performance you would expect from any Klargest product.

- Unique design features, including a low-profile cover and adjustable extension neck.
- Shallow dig applications allow for a faster on-site installation time and low expense.

For more information call our team today on [01273 834000](tel:01273 834000), or contact us using one of the alternate options below.



PIA Certificate BioFicient PE

[Download](#)

PIA Certificate BioFicient GRP

[Download](#)

Key Benefits



- Shallow dig
- New high performance compressor
- Robust and damage resistant due to MDPE construction
- Minimal visual impact
- Excellent ammonia reduction (0.4mg/l)
- Installation in trafficked areas (structural advice required)

Kingspan.

Water Management

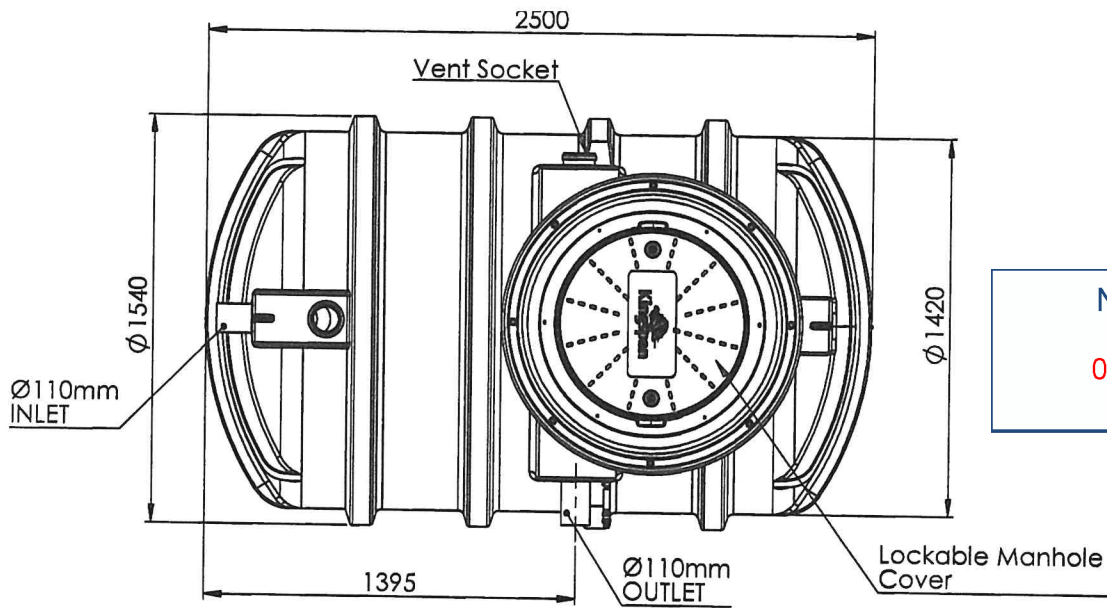
KINGSPAN BIOFILM Domestic Sewage Treatment Plant

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Jump to: [Service and guarantee](#) [You may also be interested in](#)



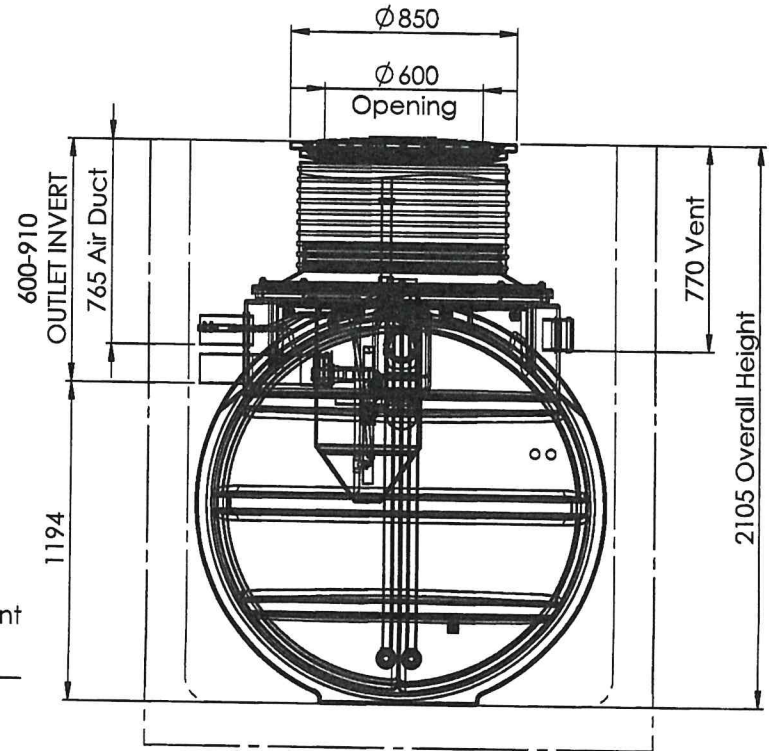
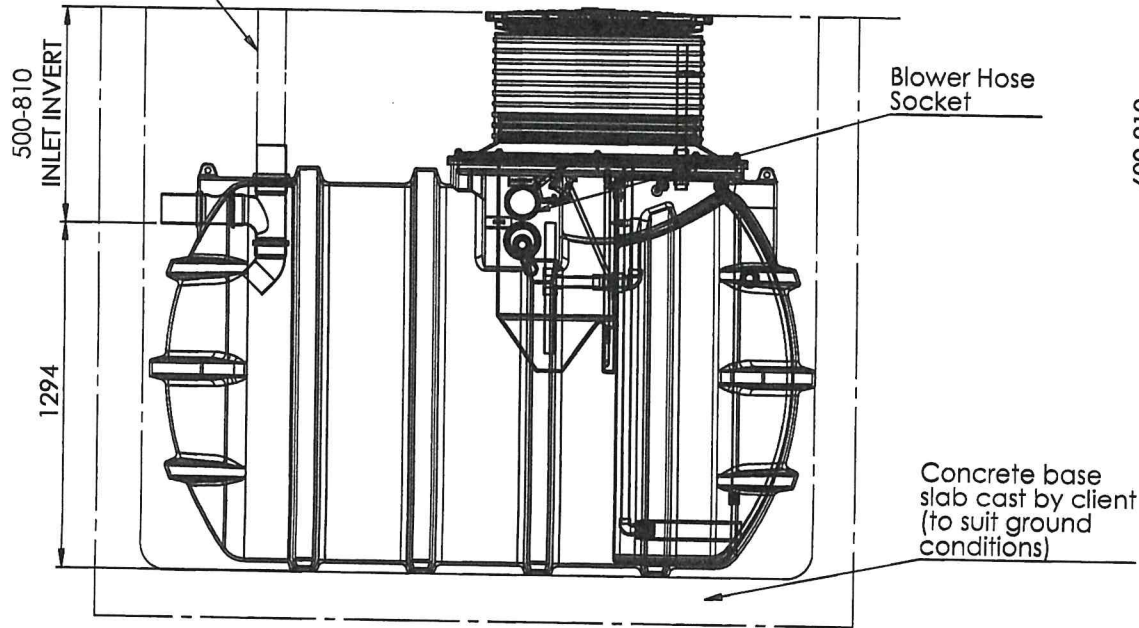


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Notes :

1. INLET/OUTLET are Ø110 mm. Suitable reducers should be used to step down from bigger pipework. Supplied by others.
2. Units invert is adjustable by trimming external riser to required height. Selection of correct invert is key and must be suitable for drainage and ground levels on site.
3. Ext neck kit available for deeper inverts up to a maximum invert of 1500 mm.
4. It is important to read and understand installation operation and maintenance guidelines before attempting to install this unit.
5. Vent pipe connections are supplied but vent runs and stacks are supplied by others.
6. Ø110mm Rodding point connection provided - to be extended to ground level by others and capped.
7. The unit will normally need de sludged annually. However this is dependant on use.
8. Tank Weight (Empty) - 285 Kgs

Rodding Point
See Notes



Please check with Kingspan Environmental that this drawing is the latest issue

| Issue | Date | Drawn by | Approved by | Description |
|-------|----------|----------|-------------|---|
| 04 | 03.06.19 | T.Kelly | | CC1482 - Pictorial Update to Inlet Pipework |
| 03 | 06/05/16 | JMcM | | CC1312 |

| | |
|--------------|----------------|
| Material : | Tolerance : |
| Finish : | Thickness : |
| Weight : Kgs | Surface Area : |

Drawing : DS1255P Page 1 of
BioFicient 1 (6PE) Sales Drawing - Gravity

All dimensions in mm

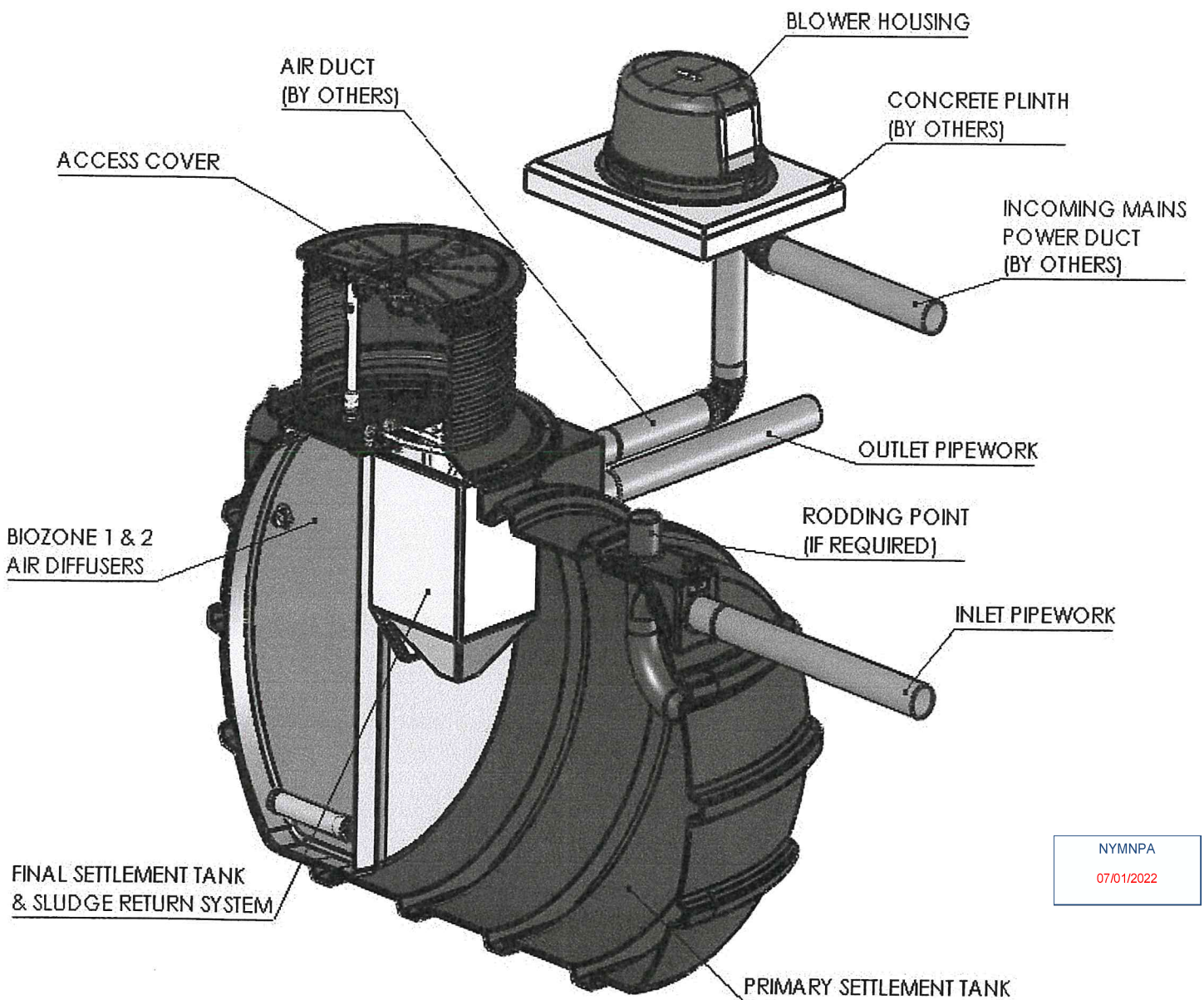
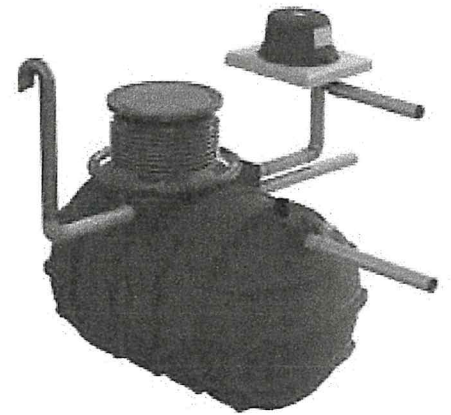
Scale: Not to scale

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SYSTEM OVERVIEW

Pictorial representation below indicates basic requirements for a standard system, please note that not all of the items required are supplied by Kingspan.



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