

Re-submission of Planning Application for Conversion of Redundant Agricultural Buildings into Care Home at Llanellen Court, Llanellen, Abergavenny

**Original Planning Permission ref: DC/2008/01305 dated December 2009.
Expired in 2014.**

Re-submission dated: September 2021

INTRODUCTION

The conversion of the existing redundant Poultry Unit buildings into a Care Home at Llanellen Court has already been granted Planning Permission MCC Approval ref: DC/2008/01305 dated: Dec 2009.

The Planning Permission expired in 2014.

This current Planning Application is the re-submission of the Approved Plans and all application documents previously approved.

PERCOLATION TEST RESULTS

The following Percolation Test Data was previously submitted with the original Planning Application Approval ref: DC/2008/01305 dated December 2009.

The approved drawings for the Care Home conversion show the foul drainage connected to a packaged treatment plant.

This current Planning Application is the re-submission of the Approved Plans and all application documents previously approved. The foul drainage remains as previously approved.

Since the original application was approved new legislation regarding phosphates has come into force. To deal with this it is proposed that the packaged treatment plant will include automated phosphate removal system.

Manufacturers details for the treatment plant including the Phosphate removal system are attached. Test Certification to British Standard BS EN 12566-3 for the phosphate removal is also attached.

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PERCOLATION TEST RESULTS

In order to determine that the ground conditions are suitable for soakaway drainage from the proposed foul drainage packaged treatment plant percolation test were carried out.

The Percolation Test Procedure was carried out as described in paragraphs 1.34 to 1.37 of Approved Document H of Building Regulations, as follows:-

- Three holes were excavated down to the anticipated level of the outfall drainage pipe from the treatment plant in the proposed area where the outfall drainage is to be located.
- A test hole 300 mm square was excavated 300mm below the invert level of the outfall drainage.
- Each test hole was filled with water and allowed to soak away overnight.
- Next day each hole was re-filled and the time taken for 150mm depth of water to soak away was recorded for each hole.

Percolation Test results

Test Hole 1 (T1) = 40 minutes (2400 seconds)

Test Hole 2 (T2) = 35 minutes (2100 seconds)

Test Hole 3 (T3) = 38 minutes (2280 seconds)

Time in seconds for water to drop 1mm (Vp)

Test Hole 1 (T1) = 2400 seconds ÷ 150mm = 16 seconds/mm

Test Hole 2 (T2) = 2100 seconds ÷ 150mm = 14 seconds/mm

Test Hole 3 (T3) = 2280 seconds ÷ 150mm = 15.2 seconds/mm

Average Vp

$$(T1+T2+T3) \div 3 = Vp$$

$$(16 + 14 + 15.2) \div 3 = 15$$

Results

Based on average Vp value of 15 and by reference to paragraph 1.38 of Approved Document H of Building Regulations the ground conditions are suitable for land drain drainage field from the proposed foul drainage treatment plant.

The land drainage field will be constructed from a continuous loop of perforated 100mm diameter pipes laid out in a herringbone pattern. The design and construction of the drainage field will be in accordance with the criteria set out in paragraphs 1.39 to 1.44 of Approved Document H of Building Regulations.

The floor area of the drainage field (and consequently the length of pipe work) will be calculated using the formula given in paragraph 1.44 of Approved Document H of Building Regulations.



Certificate

353.02C02

Kingspan Water & Energy Ltd.

College Road North, Aston Clinton, Aylesbury, HP22 5EW, UK

EN 12566-3, Annex B

Small wastewater treatment systems for up to 50 PT

Small wastewater treatment system BioDisc +P

Rotating Biological Contactor (RBC) in a GRP tank with chemical dosing equipment

Test report PIA2019-353B47.02

This test certificate is a revised version of test certificate no. 353.02C01.

Nominal organic daily load (influent)	0.28 kg BOD ₅ /d		
Nominal hydraulic daily load	0.9 m ³ /d		
Material	GRP		
Treatment efficiency (nominal sequences)		Efficiency	Effluent
	COD	95.9 %	31 mg/l
	BOD ₅	98.0 %	6 mg/l
	N _{tot} *	71.1 %	17.9 mg/l
	NH ₄ -N*	92.1 %	3.0 mg/l
	<u>P_{tot}</u>	95.4 %	0.3 mg/l *
	SS	95.6 %	15 mg/l
Electrical consumption	1.5 kWh/d		

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

Performance tested by:

PIA - Prüfinstitut für Abwassertechnik GmbH

Hergenrather Weg 30

52074 Aachen

Germany

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



Notified Body
No.: 1739



Martina Wermter

December 2020

Why choose a Large BioDisc®?

In an increasingly regulated world with new Environment Agency standards, it's more important than ever to choose a sewage treatment plant that delivers peace of mind by guaranteeing proven and reliable treatment of wastewater.

Designed in accordance with BS EN12255

Klargester BioDisc® is built on the back of 70 years' experience and offers the following benefits:

Product Benefits

🔊 X Silent operation

🛡️ Odour free

📉 £ Low lifetime running costs

🔄 A full solution – sizing, commissioning & maintenance

✅ Proven & trusted performance

70 YEARS' EXPERIENCE

3 year warranty period*

* Subject to regular maintenance by either Kingspan Service or a Kingspan Klargester Accredited Installer and Service Partner.

Low lifetime running costs

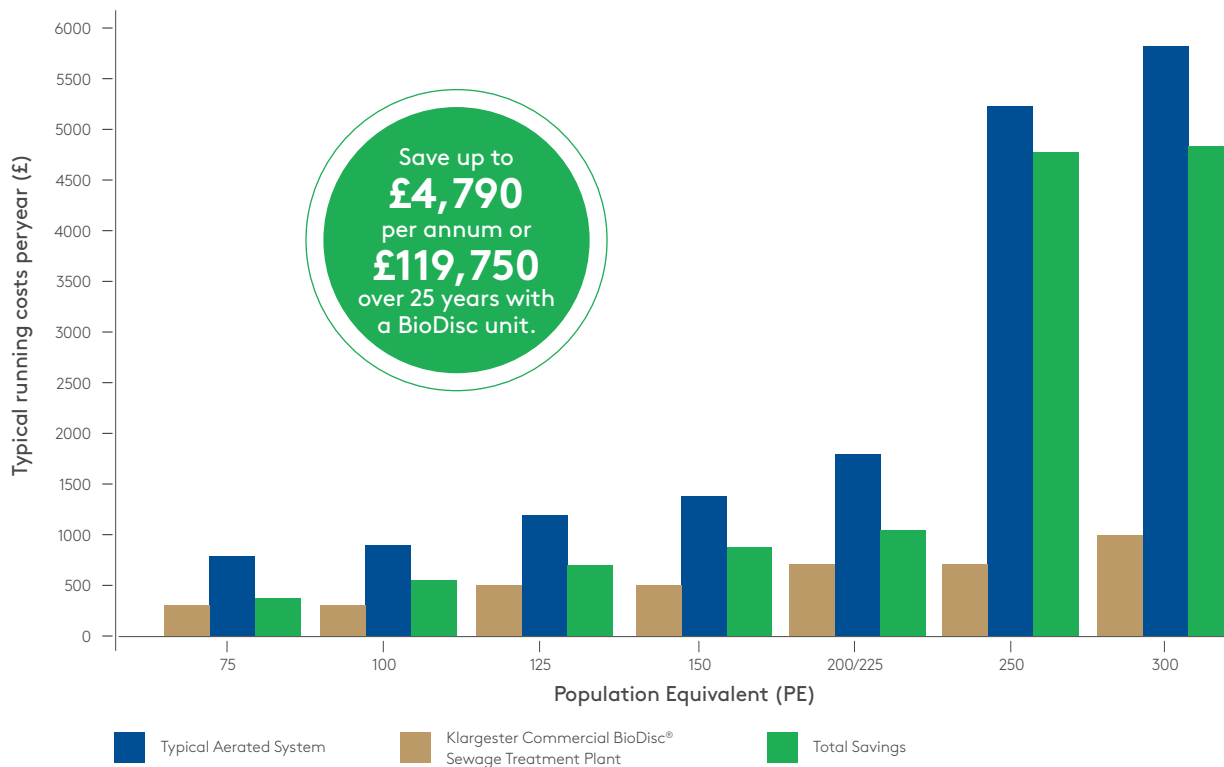
Delivered as a single, packaged system, the Klargester BioDisc® RBC range, offers low running costs due to its unique design and operational efficiencies. A manual air blower system is not required to power the commercial BioDisc, as it instead relies on the proven and patented rotating biological disc which drives the wastewater treatment process in a highly efficient way.

Our range of large treatment plant is designed to run from either a single phase or three phase power source, and require 60 to 550 watt motors, offering the lowest running costs of any treatment plant in their class.



Low energy consumption means lower running costs

BioDisc commercial versus a typical aerated system yearly running costs



To find out more about the cost benefits of choosing the Klargester BioDisc, contact our in-house technical team who are happy to provide guidance on the size and cost of model for your wastewater project.

Email: klargest@kingspan.com
 Tel: 01296 633 033
 Web: www.kingspan.co.uk/Klargester



*Larger bespoke schemes available. Please speak to our technical team for details.

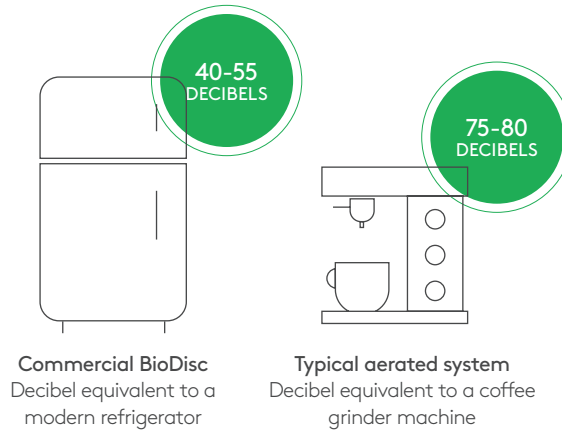
Silent performance guaranteed

In contrast with a noisy aerated wastewater treatment system, the Klargester Large BioDisc promises noiseless day to day operation. Whereas an aerated system creates constant noise, the discs of the BioDisc revolve silently. Under test conditions at a recent site, our expert team concluded that commercial BioDisc has the same level of noise as the average ambient background noise outside – between 40-55 decibels.



Low noise means minimal environmental impact, zero noise pollution

With clear evidence to prove its silent operation, you can rest assured that the Klargester BioDisc will continue to operate efficiently on site, with absolute minimal disruption to your environment.



Proven odourless operation

Kingspan Klargester's Large BioDisc® uses the tried and tested Rotating Biological Contactor technology. This means that it utilises moving discs containing living biomass and a patented flow management system to treat the wastewater, as opposed to an air pump which is used in a traditional aerated system.



BioDisc is one of the only sewage treatment systems available in the UK that does not make use of an air pump. This means minimal odour being omitted as effluent is not aerated or 'blown around' within a system.

This is verified by an independent odour sampling report undertaken at one of our sites in Cumbria, in partnership with H+M Environmental Ltd (April 2017) and in line with BS EN13725 test standards.

The key findings of the report stated:

'No odour was subjectively discernible at the site boundary fence, or within the BioDisc compound'

- The odour emission rate was calculated by sampling the odour concentration from joins in the unit covers. This was then multiplied by a volumetric air flow.
- Weather conditions were dry and sunny during the sampling.
- Temperatures on the day of sample (18th April) ranged from 8-12oC during the test period.
- The BioDisc operated normally during the sampling with no particular reported operational issues.



Calculated Odour Emissions Rates

Source	Measured Odour Concentration	Measured Air Flow	Calculated Odour Emission
	ou _e /m ³	m ³ /s	ou _e /s
Air vented from BioDisc 9am	330	0.008	2.7
Air vented from BioDisc 11am	339	0.008	2.7

(Above: extract showing actual calculated Odour Emission Rates from sample report – April 2017. Full report available on request from Kingspan Klargester).

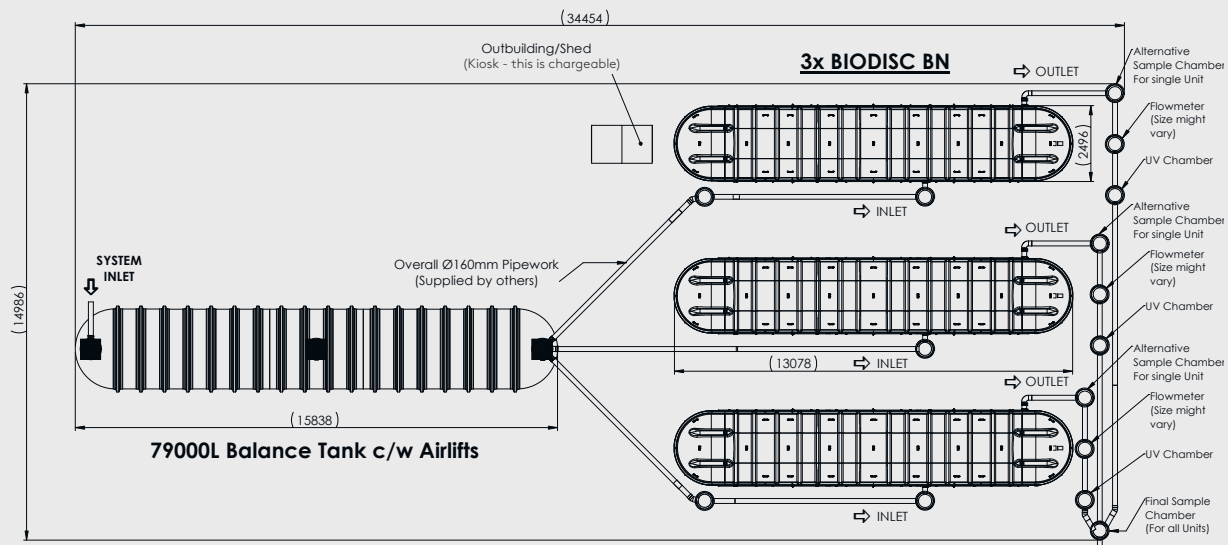
A professional partnership

Kingspan Klargester provide relevant advice and support throughout the wastewater treatment purchasing process based on our in-depth local knowledge and expertise. How? By offering comprehensive free site visits, professional installation options and expert aftersales care through our in-house Service team of engineers and our national network of Kingspan Klargester accredited installers and service partners.

Our expert team provides:

- Free on-site consultations, including sizing advice and full engineering expertise
- Full commissioning service on your commercial BioDisc
- Professional installation
- Preventative maintenance plans to ensure optimal ongoing performance
- Day to day technical support.
- Cost effective connectivity with Kingspan's SmartServ Pro remote asset monitoring solution.
- Consultancy and advice, direct from the manufacturer
- A 3 year warranty period (*when you register your warranty online).

As part of our free site visit service, we can offer advice on larger bespoke schemes.



Talk to us about larger bespoke schemes, at klargester@kingspan.com

Technical specifications

How it works

Our patented flow management systems ensure optimum treatment performance in the treatment zones. BioDisc® features two chambers to ensure a totally efficient operation with a unique flow balancing facility.

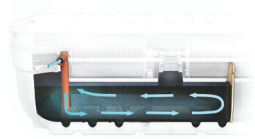
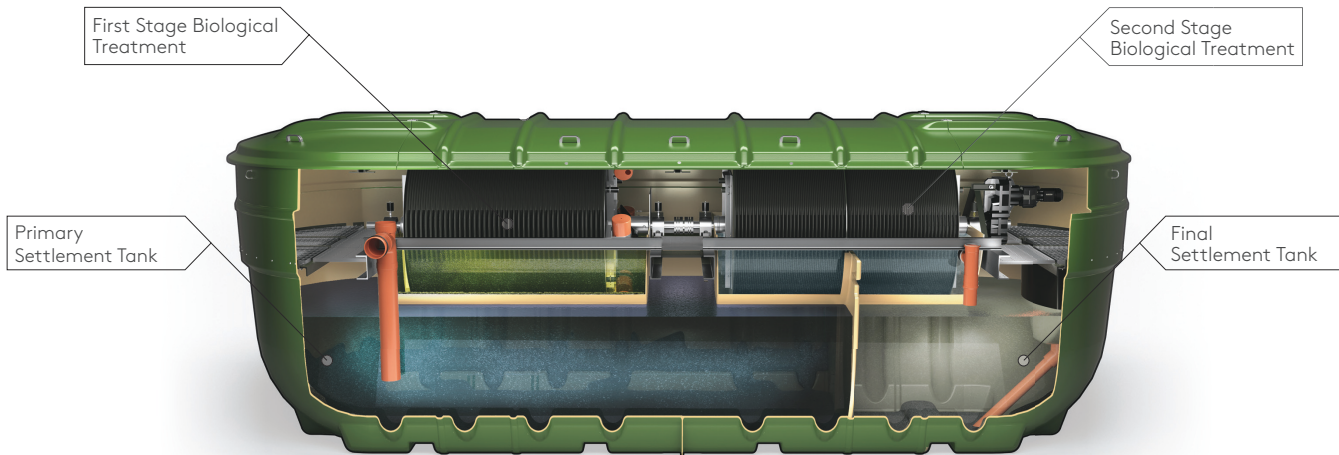
This managed flow system ensures peak performance by smoothing variable loads. Wastewater is moved at a controlled rate through the sections with the entire media area available, ensuring maximum treatment efficiency.

BioDisc® is 100% compliant with national and international regulations such as BS EN12255.

Performance & Compliance

- Odour free - independently tested in accordance with BSEN13725.
- Designed for applications selected in compliance with British Water Code of Practice Flows and Loads.

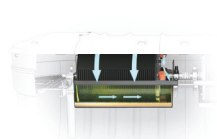
The Large BioDisc® Wastewater Management Process



01

Primary Settlement Tank

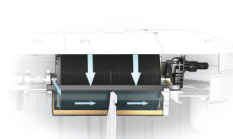
This is the initial stage of treatment and simply involves the retention of coarse solids present in raw sewage and wastewater for subsequent gradual breakdown.



02

First Stage Biological Treatment

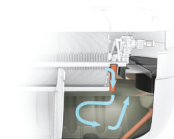
The liquor and fine solids then flow into the first stage of Biological Treatment. A unique managed flow system ensures peak performance by smoothing variable loads.



03

Second Stage Biological Treatment

The liquor is then fed forward at a controlled rate into Biological Treatment stage 2 for further cleaning. This process ensures the whole media area available is utilised ensuring maximum efficiency.



04

Final Settlement Tank

The surplus micro-organisms continuously slough off the discs and are carried forward to the final settlement where they settle out as a humus sludge, leaving a clear treated effluent to be discharged to ground or water course.

Technical Specifications

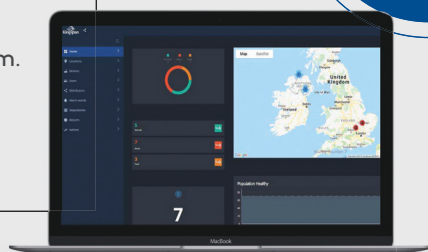
Model Reference	BD	BE	BF	BG	BH	BJ	BK	BL	BM	BN
Maximum Daily BOD (kg)	1.5	2.1	3	4.2	4.5	6	7.5	9	13.5	18
Maximum Daily Flow (m ³)	5	7	10	14	15	20	25	30	45	60
Ø/Width (mm)	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
Length (mm)	3340	3340	4345	5235	7755	7755	7755	7755	10420	13100
Inlet Invert depth (mm)	600/1100	600/1100	600/1100	600/1100	600/1000	600/1000	600/1000	600/1000	600/1000	600/1000
Depth Below Inlet Invert (mm)	1820	1820	1820	1820	1790	1790	1790	1790	1790	1790
Outlet Invert Depth (mm)	685/1185	685/1185	700/1200	700/1200	750/1150	750/1150	750/1150	750/1150	750/1150	750/1150
Overall Height (mm)	2825/3325	2825/3325	2825/3325	2825/3325	2830/3230	2830/3230	2830/3230	2830/3230	2830/3230	2830/3230
Height to Rim of Cover (mm)	2485/2985	2485/2985	2485/2985	2485/2985	2490/2890	2490/2890	2490/2890	2490/2890	2490/2890	2490/2890
Empty Weight (kg)	1100/1200	1200/1300	1315/1465	1660/1810	3000/3020	3100/3120	3200/3220	3300/3320	4200/4250	5500/5650
Standard Power Supply	1 phase	1 phase	1 phase	1 phase	1 phase	1 phase	1 phase	1 phase	1 phase	1 phase
Motor Rating – 1 Phase (Watts)	75	75	120	180	250	250	370	370	550	2 x 370
Full Load Current 1 Phase (amps)	1.1	1.1	1.3	1.6	1.5	1.5	2.35	2.35	2.8	2 x 2.35
Optional Power Supply	3 phase	3 phase	3 phase	3 phase	3 phase	3 phase	3 phase	3 phase	3 phase	3 phase
Motor Rating – 3 Phase (Watts)	90	90	120	180	250	250	370	370	550	2 x 370
Full Load Current 3 Phase (amps)	0.38	0.38	0.42	0.63	0.88	0.88	1.35	1.35	2.8	2 x 1.35
Sludge Return Pump Rating (Watts)	250	250	250	250	250	250	250	250	250	250

Protect your investment with a Kingspan Service plan

A service and preventative maintenance plan will help prolong the life of your Klargestar BioDisc system. Our dedicated Kingspan Service team offer a range of cost effective packages, including local and remote monitoring options – installation of a suitable alarm system is required under BS EN 12566-3 (BioDisc BE-BF units only).

To find out more about protecting your investment and ensuring peace of mind, contact us on helpingyou@kingspan.com.

Further information is available at Kingspanservice.com



Register your warranty online at kingspan.co.uk/klargesterguarantee to enjoy an extended 3 year warranty period*
*Terms and conditions apply. Ask our team for details



SmartServ Pro
Ask us about SmartServ Pro asset monitoring solution!

