

The WPL Diamond

Kirknewton House NET1 6XF

17/1074/8

The WPL Diamond range of packaged sewage treatment plants is specifically designed for properties not connected to mains drainage.

Our unique sewage treatment system includes innovative features that makes it your number one choice.

Our commitment to the highest quality products, supported by our friendly, knowledgeable after sales service adds up to the best wastewater treatment solution on the market.

In domestic applications the Diamond comes in a range of sizes and can provide treatment for domestic population equivalents of up to 55 persons, meeting consent standards of 20mg/l Biological Oxygen Demand, 30mg/l Suspended Solids and 20mg/l Ammoniacal Nitrogen.

The Diamond is also an ideal wastewater solution for many commercial applications.

Typical domestic uses include:

- Single houses
- Small groups of houses, with maximum population equivalent of 55 persons
- Replacement of septic tanks

Typical commercial uses include:

- Offices
- Factories
- Bed and breakfasts
- Farm shops
- Other rural businesses

Northumberland National Park
Authority
Planning Department
Received

11 DEC 2017

Diamond features

- **CE EN12566-3 European approval**
- **Effluent Standard:**
20mg/l BOD; 30mg/l SS; 20mg/l NH3
- **No odours**
No settlement required, in a fully mixed aerobic reactor. Correct ventilation required.
- **Below ground for low visual impact**
Below ground installation with a small lid, flush with the ground.
- **Easy to install with minimal labour**
Compact design, reducing excavation and handling costs. Variable inlet depths available with a choice of extension kits.
- **Up to 3 year de-sludge intervals on the DMS range**
Efficient, continuous, bacterial digestion process (DMC range usually requires annual de-sludging).
- **Low running costs and user maintenance**
No internal moving parts, reliable operation and minimal maintenance.
- **Alarm beacon included**
All weather, air blower kiosk fitted with a failure alarm beacon (+ second alarm beacon as standard for external pump chamber models).
- **Robust design and construction**
Manufactured using high quality components. Load tested and water tight.

Protecting the Environment

WPL Diamond treats sewage to Environment Agency approved levels without the need to add chemicals. The final effluent can be safely discharged to a soakaway, watercourse or ditch. Your plant comes complete with a kiosk and 10 metres of airline to connect the blower and tank.



WPL Diamond DMS plant and kiosk with Alarm Beacon pictured right.

Flexible options

External Pump Chamber (EPC)

If the location of the Diamond plant is on an incline, in a high water table area or a long distance away from the designated discharge point (ie: soakaway/water course/ditch) the final effluent may require pumping. The Diamond DMS range can be specified with an EPC which can deliver up to 100 litres per minute of effluent at a head of 4m. The EPC can be simply retro-fitted and is easy to maintain.

EPC consists of:

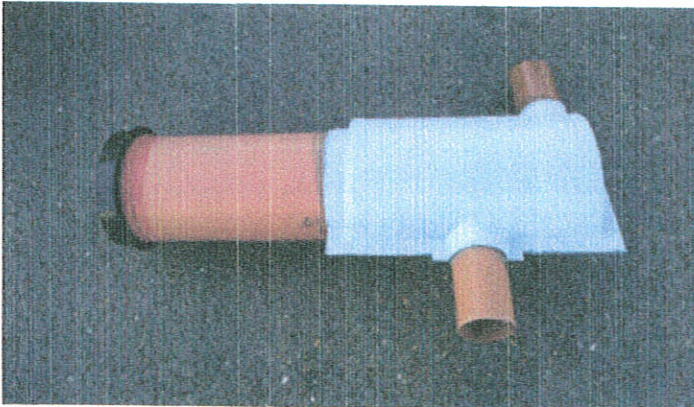
- 240v, 0.25kw submersible pump, integral float switch with stainless steel internals
- High level alarm beacon
- Junction box
- 32mm MDPE Pipe outlet
- Invert extension kit for the EPC also available (optional extra)

Sample Chamber

A compact chamber designed to allow easy sampling of treated wastewater (final effluent) which may be required periodically by the Environment Agency or other regulatory authorities.

Invert Extensions

The Diamond range offers one of the widest choices for invert extensions giving complete flexibility for different site conditions and installation requirements. This can enable alignment to existing pipework.



Turret invert extension during installation

The WPL Diamond standard

We pride ourselves on the fact that the WPL Diamond meets the following standards and codes of practice:

- **CE Marked**
Fully tested, accredited and certified under the BS EN12566-3 standard
- **Environment Agency**
Fully compliant with recommendations and exceeds normal consent standards
- **UK Building Regulations**
Fully compliant with Part H2
- **Environmental Permitting Programme 2 (EPP2)**
Meets current legislation for exemption from a permit to discharge by the Environment Agency
- **British Water**
Designed using the British Water Code of Practice Flows and Loads, to ensure the tank is correctly sized
- **LABC Registered**
Pre-registered with Local Authority Building Control and is recognised by all LABC inspectors in England & Wales



How does the WPL Diamond plant work?

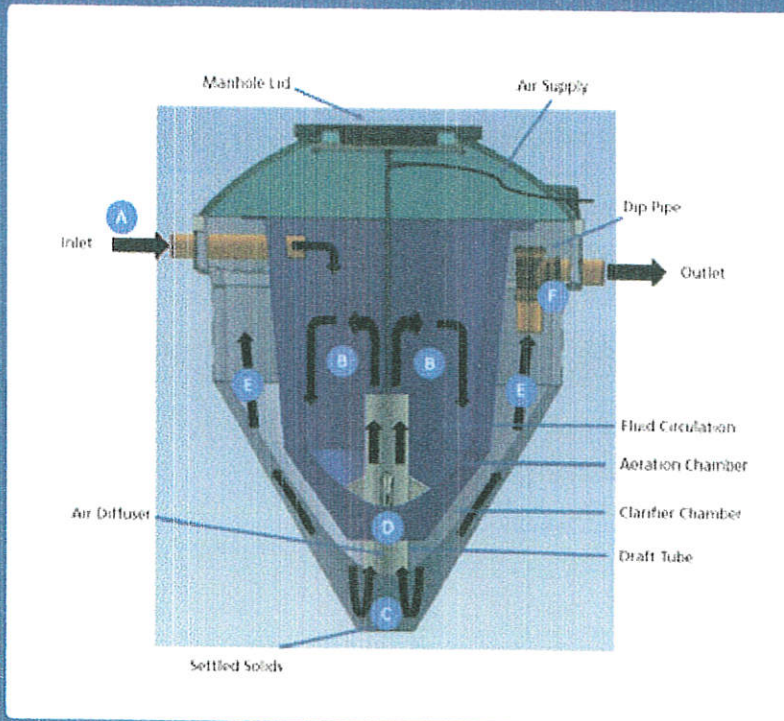
Process Performance Tested, Certified & Guaranteed*

Certified efficiency of up to 97% for pollution removal (BOD) under European performance standards.
The Diamond treats wastewater to a 95th percentile standard of:

- 20mg/l Biological Oxygen Demand (BOD)
- 30mg/l Suspended Solids (SS)
- 20mg/l Ammoniacal Nitrogen (AMM-N)

If more stringent environmental requirements are specified, please contact WPL on +44 (0)23 9224 2600

*Subject to consistent influent conditions and regular plant maintenance as per the manufacturer's instructions.



A. The wastewater flows into the main tank and enters directly into the bio-chamber (B) through this inlet pipe (A).

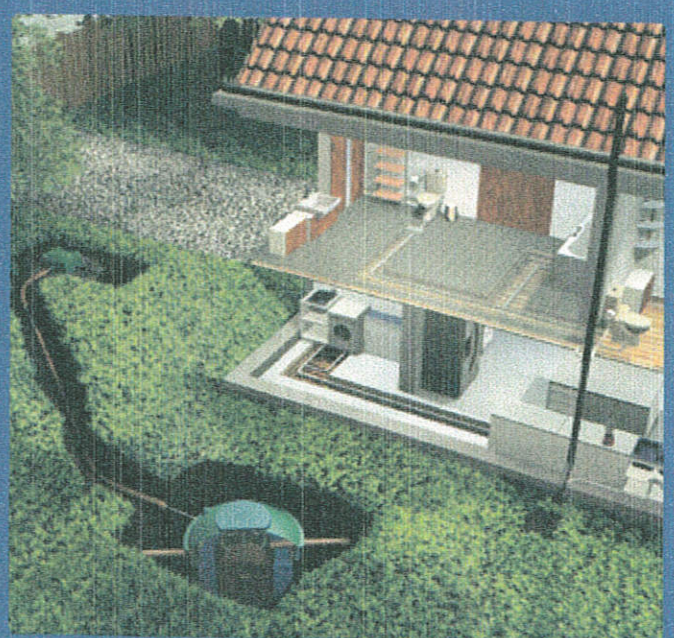
B. This is where the biological process begins. The bio-chamber (B) is an aerated zone where the solids circulate and are thereby biologically treated. Part of the solids settle in to area (C) only to be re-circulated via the draft tube (D) and re-treated.

C. In this area, the settled solids from the bio-chamber (B) and the clarifier (E) are drawn up through the draft tube again and released into the bio-chamber for re-treatment.

D. The draft tube enables the solids to be drawn back up into central aeration chamber and re-circulated through the treatment process.

E. The clarifier is an aeration free zone where fluid flows upwards, being displaced by further effluent entering the system. The remaining solids settle out again into area (C) and are re-circulated via the draft tube (D) into the bio-chamber (B).

F. The clarified liquid passes through the dip pipe and out into the environment.



The Diamond system is completely below ground, with only a small green lid visible to blend in with your landscaping.

Easy installation

The Diamond plant is easy to install. It is a compact design which requires less excavation to install compared to other plants, and in some situations no concrete backfill is needed.

A comprehensive installation manual is always supplied with each Diamond plant, explaining the installation process in detail and should be read thoroughly prior to installation by your chosen installer.

WPL recommends using a qualified and experienced installer. Please contact a member of the WPL Sales Team if you need help finding one.



Technical information

Loadings (based on British Water Code of Practice) and Blower Power Rating

Model	DMS2	DMS3	DMS4	DMS5	DMC6	DMC7	DMC8	DMC9
	1-6	5-11	10-15	14-20	21-27	28-35	36-45	46-55
	360	660	900	1200	1620	2100	2700	3300
A WPL/British Water Loading Guide providing further information for non-domestic applications is available								
	0.105	0.125	0.160	0.210	0.550	0.9-1.1**	0.9-1.1**	0.9-1.1**

* Actual power consumption may vary (dependent on motor efficiency and nature of installation), size stated is the motor size NOT actual power consumption

** For DMC7, DMC8 AND DMC9 models using 3 Phase electrics, blower motor is rated at 0.9 kw

Process performance is subject to strict adherence to WPL's Installation Manual, User Guide/Operation & Maintenance Manual, and a start up period of 6-12 weeks depending on plant loadings and water temperature.

Dimensions

Model	Max Outside diameter (m)	Height to inlet (m)	*Inlet invert depth (mm)	**Height to outlet (m)	Max height/ In ground depth (m)	Weight empty (kg)	Total capacity (ltr)
	1.74	1.70	630	1.61	2.33	155	2270
	1.96	1.83	760	1.73	2.59	192	3030
	1.99	2.00	780	1.93	2.78	210	3975
	1.99	2.00	780	1.93	2.78	210	3975
	3.30	2.78	570	2.68	3.35	380	9056
	3.30	2.78	570	2.68	3.35	380	9056
	3.30	3.14	580	3.04	3.72	460	15038
	3.30	3.14	580	3.04	3.72	460	15038

* Deeper inverts can be accommodated with our range of standard invert extensions. All dimensions +/- 3% tolerance.

** Diamond units equipped with an EPC have 32mm MDPE Pipe outlet and the outlet invert depth is 300mm for all of models.

For more information on any of the above, contact a member of the WPL sales team.



Where to buy WPL products:



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 Fax: +44 (0)23 9224 2624
 Email: enquiries@wpl.co.uk
 Web: www.wplinternational.com
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 Waterlooville
 Hampshire PO7 7UX
 United Kingdom

WPL Diamond Plant Operation & Maintenance

The Environment Agency requires all sewage treatment plants to be operated and maintained in accordance with the manufacturer's maintenance instructions. Every WPL Diamond comes with a helpful Operation and Maintenance User Guide and Maintenance Log Book which must be updated when the regular maintenance and de-sludging is carried out. Records must be retained for a minimum of 5 years by the consent holder. Maintenance should only be undertaken by a qualified service engineer accredited by British Water.

About WPL Limited

WPL Limited provides innovative and reliable wastewater treatment and grease management systems for domestic, commercial and industrial markets as well as holding a prominent position as a supplier to the water companies. As an internationally recognised leader in the design, manufacture and supply of both standardised, and bespoke environmental solutions, WPL Limited is dedicated to ensure the provision of high quality products and services.

To see more WPL products please visit:
www.wplinternational.com

Environmental Policy

WPL Limited is ISO14001 accredited. WPL Limited rigorously fulfils its vision of protecting the environment by delivering reliable wastewater solutions. A strong focus on quality and compliance ensures that all wastewater treatment systems are designed to work within the guidelines of the British Water Code of Practice and exceed all present and proposed discharge consent standards enforced by the Environment Agency, SEPA, NIEA, Natural Resource Wales in the UK and national regulatory authorities around the world.

Warranty

WPL tank warranty is 10 years and air blower 2 years on a DMS, subject to consistent influent conditions and regular plant maintenance as per the manufacturer's instructions. For more information, please contact WPL.

