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Sewage Treatment

Diamond

*Small package sewage treatment plants
for domestic and commercial properties*



- ✓ Compact design
- ✓ No odours
- ✓ Easy to install

The *Authentic* WPL Diamond

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

Our unique sewage treatment system includes innovative features that you will not find elsewhere, making them the first choice for thousands of customers around the world.

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
- To replace existing septic tanks

Typical commercial uses include:

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

The Diamond offers a range of *brilliant features*

• **No odours**

Does not require primary settlement of raw sewage, where odours can occur

• **Up to 3 year de-sludge intervals on the DMS range**

Efficient, continuous, bacterial digestion process (DMC range usually requires annual de-sludging)

• **No internal moving parts**

Simple design, reliable operation, minimal maintenance and low running costs

• **Fantastic value for money**

Low running costs, with a small air blower

• **Alarm beacon included**

All weather, air blower kiosk fitted with a failure alarm beacon (+ second alarm beacon as standard for IPC models)

• **Compact design**

Reduced excavation and handling costs

• **Robust construction**

No concrete backfill in some situations

• **Low visual impact**

Small lid, flush with the ground

• **Easy to install with minimal labour**

• **Load tested and water tight**

Protecting the Environment - The WPL Diamond treats the sewage using no chemicals and to a high standard, so that the effluent can be safely discharged to a watercourse or ditch.



**Process
Performance
Guaranteed*
for life of
the plant**

**WPL
Warranty*
Tank 10 yrs
Air blower 2 yrs**

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

Air Blower

The Diamond's air blower is supplied with a failure alarm and a kiosk to protect it from the weather.

Your plant comes complete with 10 metres of airline to connect the blower and the tank.

The Diamond can accommodate longer airlines of up to 30 metres from the blower; please speak to a member of our sales team for more information.



The Diamond Standard

We pride ourselves on the fact that the WPL Diamond meets the following standards:

- **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



- **NBS Plus**

Your architect will be able to find our Diamond specifications on RIBA's NBS Plus website or they are downloadable from www.wpl.co.uk



+ flexible options (additional)

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 and allows alignment to existing pipework.



Turret invert extension during installation

Integral Pump Chamber (IPC)

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 "IPC" which can deliver up to 80 litres per minute of effluent at a head of 4m.

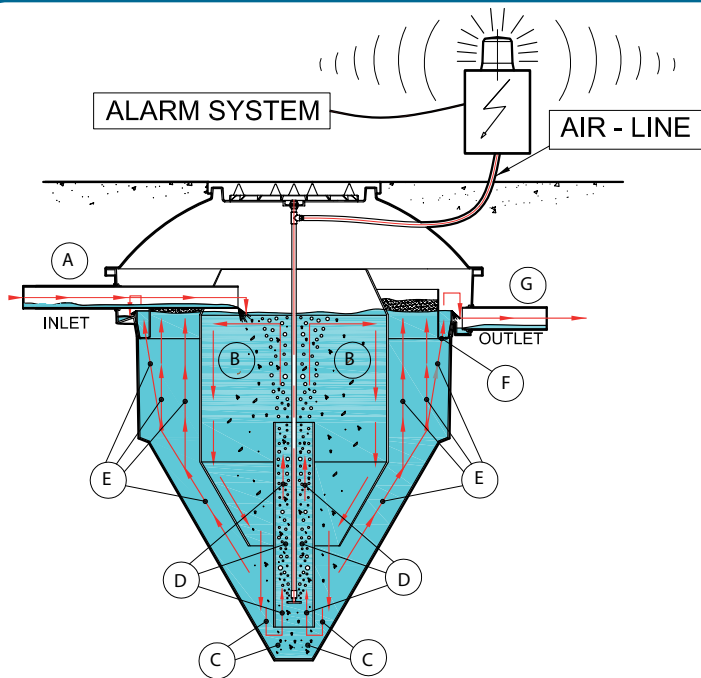
IPC consists of:

- 240v, 0.25kw submersible pump, integral float switch with stainless steel internals
- High level floatswitch and mounting tube
- High level alarm beacon with 10m lead
- Floatswitch adapter socket
- 32mm MDPE Pipe outlet
- Invert extension kit for the IPC also available (optional extra)



IPC access lid during installation

How does the Diamond plant work?



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. This is the clarifier. There is no aeration in this area. The fluid flows upwards through the clarifier as it is being displaced when more wastewater enters the tank. 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 then percolates through the holes in the bottom of scum board assembly and flows over the weir.

G. The clarified fluid flows out over the weir, into the outlet pipe and is then discharged.

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 023 9224 2600

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



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

Protecting the environment by delivering reliable wastewater solutions

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 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
Population range (persons)	1-6	5-11	10-15	14-20	21-27	28-35	36-45	46-55
Maximum organic loading BOD/day (grams)	360	660	900	1200	1620	2100	2700	3300
	A WPL/British Water Loading Guide providing further information for non-domestic applications is available							
Blower Motor Size (kw)* single phase rating	0.105	0.112	0.149	0.216	0.55	0.75**	0.75**	0.75**

* 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)
DMS2	1.85	1.72	610	1.62	2.34	155	2270
DMS3	2.07	1.84	780	1.74	2.62	192	3030
DMS4	2.07	2.00	800	1.90	2.81	210	3975
DMS5	2.07	2.00	800	1.90	2.81	210	3975
DMC6	3.30	2.78	570	2.68	3.35	380	9056
DMC7	3.30	2.78	570	2.68	3.35	380	9056
DMC8	3.30	3.14	580	3.04	3.72	460	15038
DMC9	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 IPC have 32mm MDPE Pipe outlet and the outlet invert depth is 250mm for all of models.

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

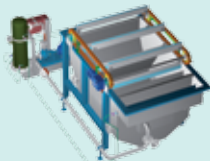
Any questions? Contact a member of our sales team | **023 9224 2600** | enquiries@wpl.co.uk

Other WPL Products

Wastewater Treatment



HIPAF Modular



Industrial Effluent Treatment



Hire Fleet

Rainwater Harvesting



RainRetain Developers



RainBrain



RainRetain Domestic



RainSustain Commercial

Other Products



Grease Guzzler

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 which provides information on the daily operation and regular maintenance of the plant. WPL also supply a 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.



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About WPL Limited

WPL Limited provides innovative and reliable wastewater treatment, rainwater harvesting 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.

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 and other regulatory authorities.

Where to buy WPL products

