SW07/31741/F

USE OF NON-MAINS SEWERAGE ARRANGEMENTS
(THIS FORM TO COMPRISE PART OF THE PLANNING APPLICATION)

HEREFORDSHIRE COUNCIL

Site address: YEW TREE FARM
GARWAY

Please enter details where relevant and use the tick boxes

Package Sewage Treatment Plant

Product type: WPL DIAMOND DMS 3

Capacity: 5-11 PERSONS

A copy of the manufacturer's specification/brochure is enclosed ✓

Has a maintenance contract been agreed for the plant? ☐ if yes enclose copy

Final discharge will be to:- ground soakaway ✓ watercourse ☐

Note: if discharge is to soakaway, a percolation test is necessary. (see below)
If to a watercourse, a Discharge Consent is necessary.

Has a Discharge Consent been granted by the Environment Agency ? ☐ if yes enclose copy

Septic Tank

Capacity of tank: ☐ Number of chambers: ☐

Number of persons the tank will serve: ☐
a percolation test is necessary. (see below)

Please use this section for either option:
A percolation test to BS 6297 has been carried out and
The result (percolation value) is an average of 55 seconds
(Further advice on the test is available from the Council's Building Control Section)
Percolation tests should not be carried out in extreme weather

A block plan showing *the location of the tank or plant, test holes, any watercourses, the soakaway length and discharge area, or any other drainage arrangements* is enclosed **(all applications)** ✓

If you wish to use an **alternative system,** (for example a reed-bed) please enter the specific arrangements here and include a plan

HEREFORDSHIRE COUNCIL
PLANNING SERVICES
DEVELOPMENT CONTROL
11 OCT 2007
To:
Ack'd: FRS:

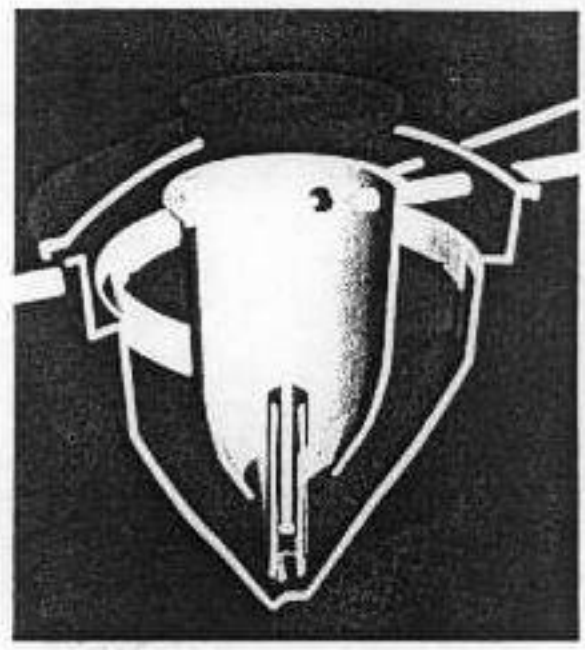
SW07/3174/F

Diamond

For households or small communities not connected to mains drainage – the Diamond range of quality, cost effective and low maintenance sewage treatment plant

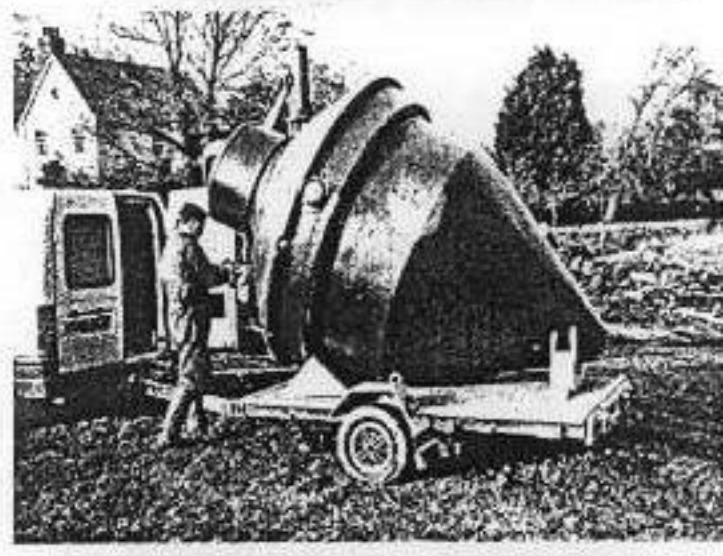
DESIGN

- Effluent quality to 20:30mg/l BOD:SS on 95%ile basis
- Range of five Diamond models available for households of up to 20 population equivalent
- No internal working parts – requires less than two hours maintenance a year
- Unique internal weir design ensures continuous high performance by reducing the impact of surges from the flow of sewage and waste water
- Using well established technology the Diamond's design meets high standards of performance testing carried out by NSF Organisation – a leading International environmental test agency.



ADVANTAGES

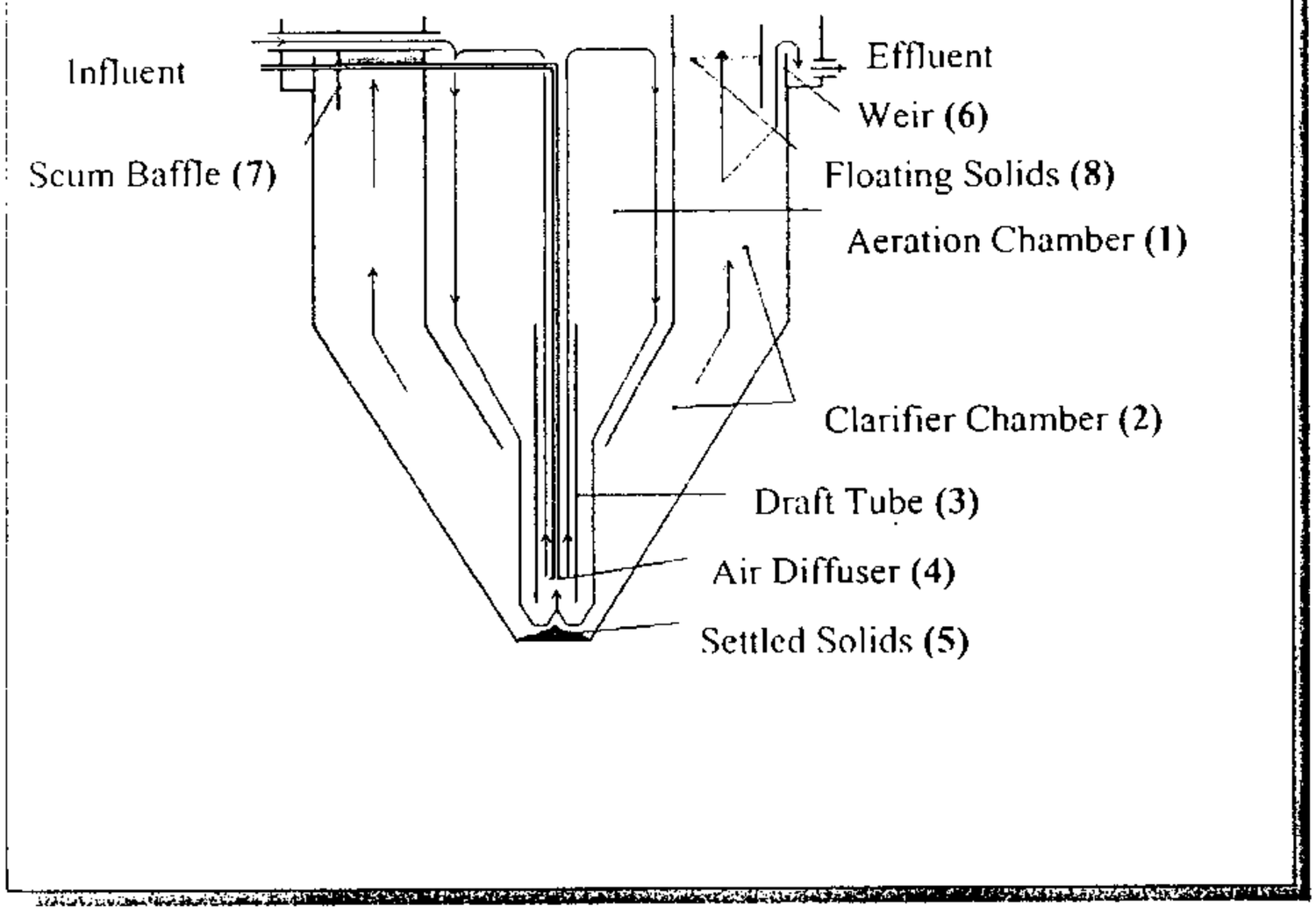
- **Outstanding value for money** benefits from
  - **5-year de-sludging intervals*** – continuous re-circulation gives virtually total solids degradation.
  - easy installation – unique design reduces excavation costs
  - low operation costs from the small efficient compressor
  - Robust construction alleviates need for concrete backfill
- **Odourless** - with no primary tank required, the sludge is prevented from settling and turning septic
- **Low visual impact** – 600mm cover, flush with the ground
- **Reliable operation** – simple design, no internal moving parts
- **Excellent performance** meeting normal consent standards
- **Over 20000 units installed world wide**



** Typical domestic systems will need to be partially desludged every 3-5 years. Systems that receive up to their design loading may require this desludging every 1-2 years. Lightly loaded systems may go for 10 years or longer before requiring desludge.*

WPL provide a full brochure that details consents to discharge and on how to calculate whether your soakaway area or discharge point (drainage ditch or stream) will meet the requirements. Please contact us, or your local distributor, for more information.

How the Diamond works



The Diamond system consists of two treatment chambers within a single tank.

- The centre aeration chamber **(1)** is a circular tank with a sloped open bottom, which empties into the bottom of the outer clarifier chamber (2).
- Located in the centre of the aeration chamber is a 200mm diameter draft tube **(3)**, which extends to 100mm from the bottom of the clarifier. Air is released at the bottom of the draft tube through a disc plate diffuser **(4)**.
- As the diffused air rises in the draft tube, it causes an upward flow of process fluid. This draws the settled solids **(5)** from the bottom of the clarifier up through the draft tube where they are discharged at the surface of the aeration chamber.
- The design of the draft tube insures continuous and complete mixing of oxygen with the sewage. This allows for the growth of various aerobic organisms that biologically degrade the wastewater contaminants.
- Gravity causes the aerated solids to settle back to the bottom of the tank where they are again drawn back up through the draft tube.
- As raw sewage enters the aeration chamber, it displaces biological solids from the aeration compartment to the clarifier. Quiescent conditions in the clarifier allow the digested solids to settle to the bottom of the clarifier where they are returned back to the aeration compartment.
- The clarified (treated) effluent flows slowly up through the clarifier and over a weir **(6)**, which extends around the periphery of the tank.
- The effluent collects in an outer trough where it is discharged through a 110mm-pipe connection. The scum baffle **(7)** located inside the overflow weir prevents floating solids **(8)** from passing over the weir.

BRITISH STANDARDS and BUILDING REGULATIONS

Part H of the Building Regulations comes in to force on April 1st 2002. This standard indicates that "package treatment systems should be type tested in accordance with BS EN 12566-3 (undated) or otherwise tested by an approved body". BS EN 12566-3 (undated) supersedes BS 7781.

WPL is currently unable to find an accredited body to test to either standard. While UK testing is unavailable, WPL will continue to promote the Diamond range citing the American National Standards Institute (ANSI) testing carried out by NSF International as an otherwise approved body. The ANSI/NSF Standard 40 has a similar testing regime to BS 7781.

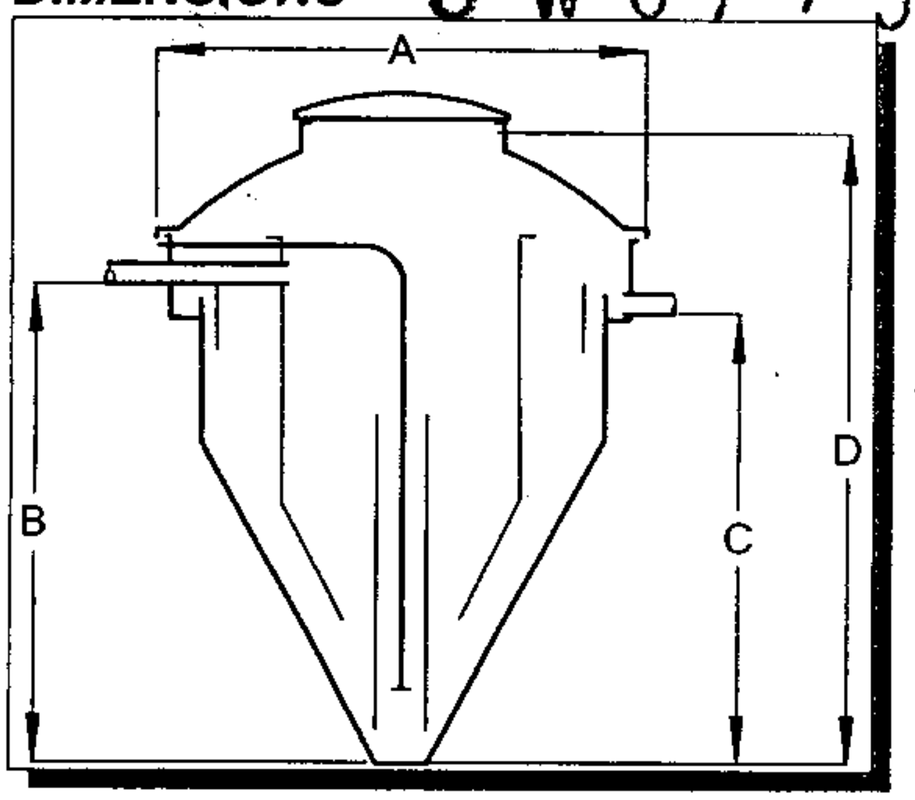
ANSI is recognised by British Standards Institute and NSF International is associated with our Water Research Council (WRC). All these companies have comprehensive web sites.

Copies of the most recent ANSI/NSF Standard 40 report and a sample CE certificate are available from WPL on request.

TECHNICAL INFORMATION

ALAN WILLIAMS DRAINAGE
SEWAGE POLLUTION CONTROL SPECIALISTS
ELMTREE HOUSE, OLDWALLS, SWANSEA. SA3 1HA
Tel : 01792 390606 Fax : 01792 390440

DIMENSIONS



Model	A Outside diameter	B Height to inlet	C Height to outlet	D In ground depth	Weight empty kgs	Capacity holding litres	Capacity treated litres
DMS1 Tank A	1.85m	1.69m	1.59m	2.26m	120	2271	189
DMS2 Tank A	1.85m	1.69m	1.59m	2.26m	120	2271	189
DMS3 Tank B	2.1m	1.85m	1.73m	2.55m	160	3028	2271
DMS4 Tank C	2.1m	2.04m	1.92m	2.74m	210	3974	3028
DMS5 Tank C	2.1m	2.04m	1.92m	2.74m	210	3974	3028

TECHNICAL DATA

Model	DMS1	DMS2	DMS3	DMS4	DMS5
Population range (persons)*	1-3	1-6	5-11	10-15	14-20
Tank size	A	A	B	C	C
Maximum organic loading (BOD_5/day) grams	180	360	660	900	1200
Maximum average daily flow (litres) **	600	1200	2200	3000	4000
Super-quiet compressor Power consumption (kW h) ***	0.07	0.12	0.14	0.23	0.27

* A WPL "Loading Guide" providing further information is available

** Peak flow must not exceed three times average flow rates for a period of more than half an hour in every two hour period

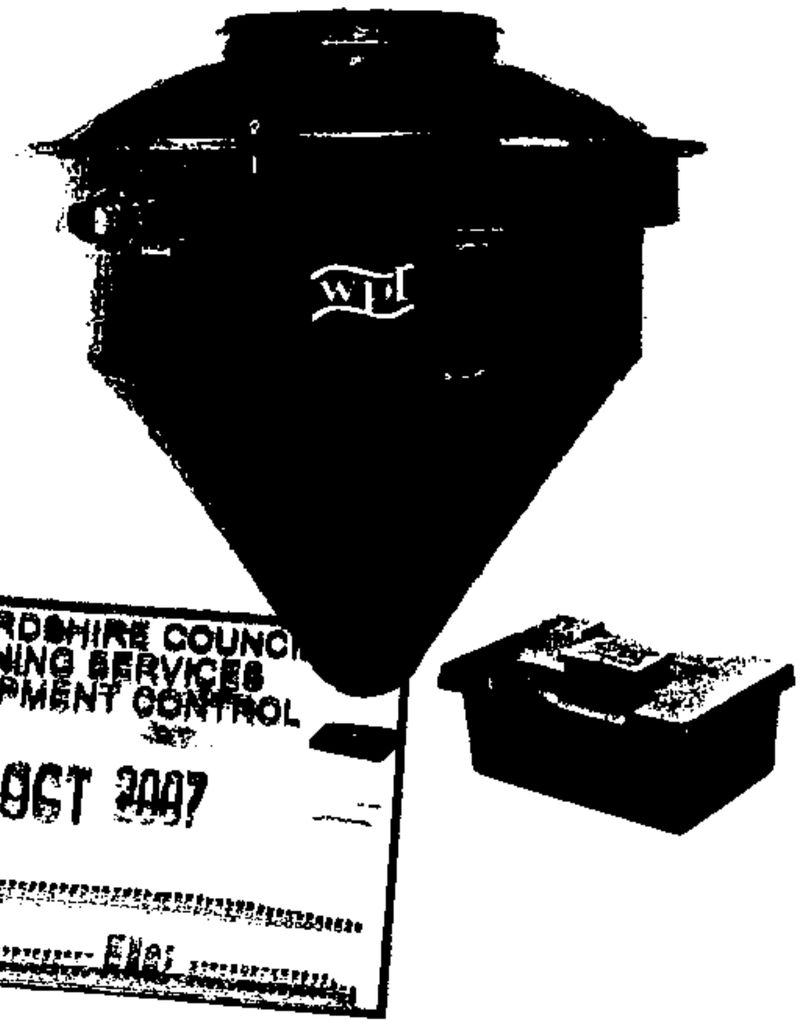
*** Compressor manufacturer's data is an approximation to plant operating conditions

DELIVERY

Units are shipped on a grouping arrangement and deliveries to some regions can take longer than others.

BLOWER INSTALLATION

The blower is supplied with a housing to protect it in an outdoor environment. The blower housing can be disregarded if it is installed in a garage or outhouse environment. It should be connected to a single-phase supply (230v), via a suitable IP55 rated weatherproof socket (not supplied) by a competent electrician. Included with the delivered equipment is 10m of airline to connect between the blower and the tank. Blower installations of up to 30m from the tank can be accommodated, please contact WPL or your authorised distributor for advice.



SYSTEM COMPONENTS & MATERIALS

Tank - Glass reinforced plastic (GRP) and plastic components
Super-quiet, high efficiency, compressor - Linear motor compressor