Drayton Tank & Accessories Ltd

Water and Chemical Storage Specialists

Product Brochure

2016

Drayton Tank & Accessories Ltd

INDEX

Tel: 08712884213 www.draytontank.co.uk

Drayton Tank & Accessories Ltd

INTRODUCTION

Welcome to Drayon Tanks

Drayton Tanks is one of the largest family run Water Tank manufacturers in the UK, supplying storage tanks in many forms and materials to the whole of the United Kingdom for over 25 years,

We have included in this brochure several useful guides that we hope will be invaluable to yourselves including some of the current Water Regulations.

Our Range of Storage Tanks is always increasing as is our range of fittings and accessories, this brochure will highlight most of them briefly, If you require more information on any of the products please find the product on our website or Call one of our helpful team members.

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WATER SUPPLY (WATER FITTINGS) 1999

Water Supply (Water Fittings) Regulations 1999.

Introduced on the 1st July 1999, these regulations were to replace the water bylaws commonly known as BYLAW 30.

This requires a water tank be manfactured and constructed to certain British Standards

In The Case of Drayton Tanks:

One Piece Tanks:	BS EN 13280:2001 (Previously BS7491: Part 1 & 2: 1992)
Sectional Tanks:	BS EN 13280:2001 (Previously BS7491: Part 3: 1994)
Backflow Prevention:	BSEN 13077:2008 (previously BS6281 & BS6282:1992)

The regulations now also have 5 Categories of Fluid risk,

Fluid Category 1: Supplied by a water undertaker and complying section 67 of the Water Industry Act 1991.

Fluid Category 2: Water in Fluid Category 1, whose aesthetic quality is impaired due to change in temperature or presence of substance or organism causing change to taste, odour or appearance.

Fluid Category 3: Fluid that represents a slight health hazard due to the concentration of low toxic substances.

Fluid Category 4: Fluid that represents a significant health hazard due to the concentration of toxic substances.

Fluid Category 5: Fluid that represents a serious health hazard due to pathogenic organisms, radioactive or very toxics

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WATER SUPPLY (WATER FITTINGS) 1999

Water Supply (Water Fittings) Regulations 1999.

An Airgap is the form of backflow prevention device most preferred by the UK Water Authorities.

If a vacuum should occur in the supply pipe, air will be drawn in rather than water.

In order to comply with the Water Regulations a minimum vertical distance must be provided between the outlet of the supply pipe and the stored water.

This vertical height is sized on twice the bore of the incoming feed pipe with a minimum of 20mm

AIRGAP DEFINITIONS	FLUID LEVEL PROTECTION
TYPE AA AIRGAP: Airgap with unrestricted discharge spillover level	5
TYPE AB AIRGAP: Airgap with weir overflow	5
TYPE AC AIRGAP: Airgap with vented submerged inlet	3
TYPE AD AIRGAP: Airgap with Injector	5
TYPE AF AIRGAP: Airgap with circular overflow	4
TYPE AG AIRGAP: Airgap with minimum size circular overflow	3

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GRP TANK TYPES

GRP ONE PIECE TANKS.
These tanks are made with the 4 walls and base as one part with only the bolted lid (removable when empty), with vertical steel supports enbedded into the outer wall of the tank where needed.

max internal dimension : 14000 * 3000 * 2500mm

GRP TWO PIECE TANKS.
These tanks are made with a horizontal split halfway up the height , giving two equal parts, Bottom half is the 4 walls and the base, the top half is the 4 walls and the bolted lid (removable when empty), the tanks are supplied with the sealing strips and fasteners to bolt the two sections together once in position.

max internal dimension : 3000 * 3000 * 2500mm

GRP SECTIONAL TANKS.
These tanks are made of 1000*1000mm panels that are bolted together to make the desired size of tank and can be upto 4000mm High, these tanks are supplied with the sealing strips, fasteners, stayrods and posts needed to assemble them on site, assembly should only be done by an experienced professional. (500mm panels also available)
These Tanks require a minimum of 500mm around the tank for assembly.

max internal dimension : xx000 * xx000 * 4000mm

GRP INTERNALLY FLANGED SECTIONAL TANKS.
These tanks are made from panels that run the full height of the desired tank and have all bolting flanges on the inside allowing the maximum storage capacity inside a room, only requiring 50mm clearance around the tank and 500mm clearance above the tank for assembly. panel widths range from 250mm upto 3000mm

max internal dimension : xx000 * xx000 * 3000mm

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GRP WATER AND CHEMICAL TANKS

Water Tanks.

Drayton GRP Water Tanks are suitable for Potable water (drinking water), these tanks have been thoroughly tested by WRAS (Water Regulations Advisory Scheme) to ensure none of the Materials in the GRP leech into the water in any way or form, ensuring the water stays clean inside the GRP tank.

If it is not WRAS Approved it should not be used for potable storage.

Chemical Tanks.

Draytons GRP Chemical Tanks are suitable for a large range of liquids and solutions in varying concentrates and temperatures, and to a lesser extent so can our water tanks,

Standard Water Tank	-	Max water temp 30 Deg C
F&E Water Tank	-	Max water temp 70 Deg C
Chemical Tank	-	Max water temp 98 Deg C

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GRP TANK ACCESSORIES

ACCESS HATCHES.

GRP Square access hatches with bolt down collars and covers that are held down with wingnuts

450 x 450mm Hatches (650 x 650mm Overall)
600 x 600mm Hatches (800 x 800mm Overall)

MDPE Plastic round access hatches with screw down collers and screw on covers

380mm Diam (470mm Overall Diam)
540mm Diam (620mm Overall Diam)

RAISED BALLVALVE HOUSINGS.

GRP Float Valve Housings with bolt down collars, Top cover held down with wingnuts, Side Access also available, Screened Spillover Weirs can be added to produce a TYPE AB AIRGAP.

750 x 400 x 200mm (850 x 500mm Collar)
780 x 600 x 330mm (880 x 700mm Collar)
1250 x 600 x 360mm (1350 x 700mm Collar)

LADDERS AND HANDRAILING.

Galvanised Ladder from 1000mm upto 4000mm with optional safety cage required over 2000mm

Galvanised Handrailing 1100mm in Height, Supplied in 1000mm and 500mm sections, special sizes can be produced to fit any tank, Handrailing is supplied with bolt down feet.

316 Stainless Steel Ladders for inside water tanks and vessels to ensure the ladder does not contaminate the water.

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CIRCULAR PLASTIC TANKS

MDPE OPAQUE WHITE DOSING TANKS.
Food grade MDPE Tank suitable for non potable water and some chemical and other solutions, these tanks are moulded in one piece with a screwed cap in the top of the tank.

50 ltr, 100 ltr, 250 ltr, 350 ltr, 500 ltr, 1000 ltr.

MDPE LARGE DOSING TANKS.
Made from Food Grade MDPE, These tanks are available in Black or Opaque White, Suitable for non potable water and some chemical and other solutions, these tanks are moulded in one piece with a screwed cap in the top of the tank.
Some capacities have 2 or 3 sizes

1500 ltr, 2000 ltr, 3000 ltr, 5000 ltr, 8000 ltr, 10000 ltr, 15000 ltr

MDPE or PP SEMI BULK TANKS WITH BUNDS.
Designed for ease these tanks are supplied with an integral 110% bund, 400mm Access Hatch with Vent, 25mm Outlet pipe with shut valve, 76mm Overflow Pipe , Float level Indicator and fixing brackets. Option fittings : Bund Weather Cowl, 40mm Inlet, Ultrasonic and Bund Alarm, immersion heater.

1500 ltr, 2000 ltr, 3000 ltr, 5000 ltr, 6000 ltr.

LARGE HDPE AND PP TANKS.
Ideal for a variety of chemicals at various concentrations and temps from -30˚C to +90˚C, from 1500 ltr to 70000 ltrs.
Huge range of accessories and bunds available.

Tank Diam: 1200mm, 1785mm, 2460mm 3084mm.
Tank Heights : 1100mm - 9800mm.

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BAFFLED PLASTIC TANKS

LOW PROFILE BAFFLED TANK.
Made from WRAS Approved Medium Density Polyethylene (MDPE), Available in various colours, Fitted with an Screwed Cap and a BSP Outlet Connection,
Integral Baffle to reduce water movement inside the tank.
Ideal for Car Valeting or other mobile water storage
Maintenance Free.

400 ltr, 500 ltr, 1050 ltr

SLIM LINE BAFFLED TANK.
Made from WRAS Approved Medium Density Polyethylene (MDPE), Available in various colours, Fitted with an Screwed Cap and a BSP Outlet Connection,
Integral Baffle to reduce water movement inside the tank.
Ideal for Car Valeting or other mobile water storage
Maintenance Free.

280 ltr, 350 ltr, 400 ltr, 500 ltr, 750 ltr, 1050 ltr

TALL SLIM LINE BAFFLED TANK.
Made from WRAS Approved Medium Density Polyethylene (MDPE), Available in various colours, Fitted with an Screwed Cap and a BSP Outlet Connection,
Integral Baffle to reduce water movement inside the tank.
Ideal for Car Valeting or other mobile water storage
Maintenance Free.

400 ltr, 500 ltr, 1050 ltr

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TANK INLET FITTINGS

BRASS EQUILIBRIUM BALLFLOAT VALVES.
With an equilibrium chamber inside the valve that can self-compensate for changes in water pressure.
MK1 - Full Bore Valves upto 5 Bar Pressure
MK2 - Reduced Bore Valves upto 10 Bar Pressure
Additional Droparms Also available for use in Raised Ballvalve Housings or/and use with a Type AB Airgap.

1/2" - 6" in BSP Thread or Flanged.

AYLESBURY DELAYED ACTION VALVES.
Low Maintenance Valves with a non-wearing ceramic disc seal and Polyethylene Foam Float.

Valves with a non adjustable delay action of approx 75mm

K TYPE
Suitable for tanks without raised ballvalve housing
1/2", 3/4", 1", 1 1/4", 1 1/2", 2"

KAX TYPE
Valve with extended drop, Suitable for tanks with raised ballvalve housings and for Type AB Airgap.
3/4", 1", 1 1/4", 1 1/2", 2"

KS TYPE
Suitable for use with Demineralised, Brine and Sea water
1/2", 3/4", 1", 1 1/4", 1 1/2", 2"

Valves with a fully adjustable delay action upto 1820mm, and longer on request.

KB TYPE
The chain allows for virtually unlimited opening and closing levels.
3/4", 1", 1 1/4", 1 1/2", 2"

KP TYPE
With a 3/4" KB as the the control valve creating a larger inlet.
1 1/2", 2", 2 1/2", 3", 4", 6", 8"

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TANK OVERFLOW FITTINGS

MDPE OVERFLOW KITS.
Screened Overflow Kits upto 2"
Produced from Approved MDPE and with quick release traps on some fittings.

comprising of:
- Screened Overflow
- Screened Warning Pipe
- Screened Tank Vent/Breather

3/4", 1", 1 1/4", 1 1/2", 2"

UPVC OVERFLOW KITS.
Screened Overflow Kits upto 24"
Supplied with a Tank connector, Spigot Pipe or PN16 Flanged Connection. Larger overflow are only available with the Flanged Connection or Spigot Pipe
comprising of:
- UPVC Screened Overflow
- MDPE Screened Warning Pipe
- MDPE Screened Tank Vent/Breather

2.5", 3", 4", 6", 8", 10", 12", 14", 16", 18", 20", 24"

INLINE SCREENED OVERFLOWS
MDPE Inline Filters with puchfit connections for easy fit onto existing pipework
1", 1 1/4", 1 1/2", 2"

UPVC Inline Filters with Spigot Pipe, these filters can be fitted into the existing pipe run by removing a section of the existing pipe work, fitting this filter into the gap with straight connectors at each end.
Also available with Flanged connections.
2 1/2", 3", 4", 6", 8", 10", 12", 14"

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TYPE AB AIRGAP TANK RECOMMMENDATIONS

Type AB Airgaps give the maximum backflow protection (Category 5) to a given tank,

This Backflow Prevention is created by having screened spillover weirs fitted in between the height of the overflow and the Inlet, this may mean the Inlet requires raising or the Overflow and water level height needs reducing.

The Airgap is designed to provide protection for the mains inlet, the Weirs Will never allow the inlet to become submerged and be susceptible to Backflow that could suck the water back into the mains supply.

The tanks shall be manufactured to BSEN 13280 : 2001 requirements(Formally BS7491).

The tanks Shall comply with the Water Supply regulations 1999 (Water Fittings).

The tanks shall be fitted with adequate Screened Overflows, Screened Warning pipes and Screened Tank Vents.

The tanks should be fitted with adequate sized Screened Spillover Weirs,

The size of the Screened Spillover Weirs shall be determined by the connection size of the inlet onto the tanks, As will the size of the Overflow.

The Screened Spillover Weirs shall :

A. Be mounted into the tank walls at the appropriate height.
(this will reduce the working capacity of the tank)
or
B. Be mounted onto a Raised Ballvalve Housing fixed ontop of the tank.

The Screened Spillover Weirs shall be screened with 316 stainless steel mesh.

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RESIN LINING SYSTEMS

The Resin Lining Systems available from ourselves can extent the life a some existing tanks saving the immediate cost of replacing the tank.

Nearly all Tanks can be lined, below are a few examples :

Concrete Tanks, Galvanised Tanks, GRP Fibreglass Tanks, Plastic Tanks, Steel Tanks.
One Piece and Two Piece Tanks, Sectional Tanks, Internally Bolted Tanks.

The Lining system give the tank a new watertight internal surface that can last Decades. and can be completed by any competent person in a fraction of the tank it may take to replace the tank.

The Tank will need to be drained down and cleaned as much as possible prior to the lining taking place,

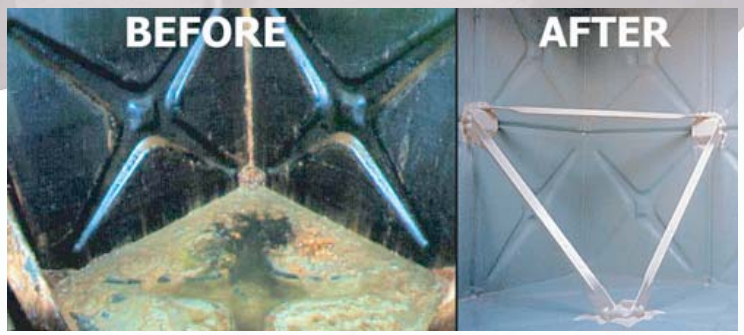
Any loose Debris should be removed by a practical means. eg. Wire Brushing.

Once the tank is dry and clean the Resin Can be applied as follows:

The Resin Comes in varying Litre Tins and is mixed together and brushed or rolled onto the prepared internal surface.

A second thin coat should be applied within 24 hrs to ensure no air bubbles of area has been missed.

as soon as the resin has fully cured the tank can be refilled.
(the system may require Chlorinating prior to being used again)



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INSTALLATION RECOMMENDATIONS

Ensure the base for the tank is sufficiently supported over it's entire area.

Ensure there is adequate room around the tank to maintain connections and inspections of the tank in the future.

Support the pipes to the tank so they dont distort the tank,
Do not overtighten any back nuts.

Ensure that holes cut into the tank for connections with a hole saw or drill have clean edges that are free from debris and notches.

Where possible position the tank away from any source of heat.

Use jointing materials which meet the requirements of BS 6920.

All Tanks should be installed with Lids bolted down tightly, also with screened overflow and/or warning pipe and vent fitted where applicable prior to being filled.

Tanks should not be filled up without lids or with bolts missing from the lid holes.

It is essential for a water tight connection that the entire surface of any fitting connected to the tank (Including any flanges or nuts) are completely clear from any radius and the corners for the tank and also away from any intergrated supports encapsulated on the tank walls.

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BASE CONSTRUCTION RECOMMENDATIONS

For One Piece Tanks, Two Piece Tanks and Sectional Tanks with Internally Flanged Base panels.

All tanks require a flat, even fully supported base, The construction of which is the responsibility of the contractor.

Bases are usually marine grade plywood, concrete or steel sheet.

The required tolerances for the base are as follows :-

1 mm in any Metre
6 mm in any 6 Metres
Maximum deflection 1:500

The base should not vary by more than the above tolerances when measured from side to side or corner to corner.

The base should be free from any ridges or protrusions.

We would recommend the base size should be a minimum of 300 mm longer and wider than the internal dimensions of the tank.

Example :
Tank Internal Dimensions (L/W/H) : 3000 X 1500 X 1000 mm
Required Minimum Base size (L/W) : 3300 X 1800 mm

We would suggest that any supporting steelwork underneath the tank base runs in one direction only and should be covered with an adequate thickness of marine grade ply wood or flat steel sheet.

The responsibility for the calculation of the deformation of the base lies with the contractor.

The supports should be spaced at 500 mm centres for metric tanks and 610 mm centres for imperial sized tanks so that a support will be directly underneath the tank walls.

The above information is our recommendation and we take no responsibility for base construction if in doubt we would always advise that you consult a suitably qualified structural engineer.

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UNDERGROUND GRP TANK RECOMMMENDATIONS

To suitably bury our GRP tanks below ground level it is required that the tank be seated on a flat concrete base of adequate thickness.

The slab of concrete must have a flat level surface within 1mm tolerance in any Metre and 6mm in any 6 metres.

An optional thin layer of sand can then be laid on top of the concrete if required.

The sides around the tank should be filled with concrete as the tank is filled to provide equal pressures to the tank walls,

The back filling process should be completed in stages of no deeper than 2ft then allowed to cure before continuing onto the next stage.

The standard Lid that is supplied with the underground Tank is not a load bearing lid and therefore is not recommended to have any materials laid straight onto it,

The concrete around the tank should be filled to a sufficient height to allow slabs of concrete to be laid over the tank forming an adequate cover.

Standard Access Hatches measure 600 * 600mm and have a height of only 100mm we can supply Hatch Turrets that will increase the height of the hatch,

These turrets can also be made to specific heights if required.

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OPERATING & MAINTENANCE RECOMMENDATIONS

1. Tank lid is always Bolted down and any inspection hatch is bolted and sealed.

2. Ensure any additional extra insulation is securely in place.

3. Check all overflows and warning pipes have screened mesh still in place, and clear any blockages.

4. Water into the tank must be at ambient temperature (unless otherwise stated.)

G.R.P. TANKS REQUIRE VERY LITTLE MAINTENANCE HOWEVER:-

1. We recommend that the tank be inspected approximately twice a year.
   (more frequently inspections may be required if contamination may be an issue.)

2. Inspect external surface of tank for any damage to insulation or tank wall.

3. Inspect foam seal is intact around access hatch and lid
   (Always ensure the tank is empty before removing the lid.)

4. Inspect all fittings to ensure there are no blockages and any screens are in place.

5. Visually inspect the internal surface of the tank.

6. Clean the tank and chlorinate water as per BS 6700 each year, or more frequently if inspection of the tank results it to be required.

7. Clean the tank and chlorinate the water if any part of the system has been altered or disturbed and is likley to have become contaminated as a result.

8. Clean and chlorinate the tank following any outbreak or suspected outbreak of legionella.

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MATERIALS

What is GRP?

Glass-reinforced plastic (GRP), also known as fiberglass, is a fiber reinforced polymer made of a plastic matrix reinforced by fine fibers made of glass.
GRP is a lightweight, strong material with very many uses.

GRP Products can withstand temperatures upto 100 Deg C.

What is MDPE?

Medium Density Polyethylene, (MDPE) is a type of Polyethylene defined by a density range of 0.926 - 0.940 g/cm3. It is less dense than HDPE, MDPE has good shock and drop resistance properties. It also is less notch sensitive than HDPE, stress cracking resistance is better than HDPE.

MDPE Products can withstand temperatures upto 50-60 Deg C.

What is PP?

Polypropylene (PP), also known as polypropene or polyprop, is a thermoplastic polymer, made by the chemical industry and used in a wide variety of applications, An addition polymer made from the monomer propylene, it is rugged and unusually resistant to many chemical solvents, bases and acids.

PP Products can withstand temperatures upto 90 Deg C.

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MATERIALS

What is PVC-U?

PVC-U (Polyvinyl Chloride, Unplasticized), PVC-U has excellent chemical resistance across its operating temperature range, Due to its long term strength characteristics, high stiffness and cost effectiveness, PVC-U systems account for a large proportion of plastic piping installations. PVC-U is resistant to most solutions of acids, alkalis, salts and organic compounds miscible with water.

PVC-U Products can withstand temperatures upto 60 Deg C.

What is PVC-C?

PVC-C (Polyvinyl Chloride, Post Chlorinated), PVC-C has excellent chemical resistance across its operating temperature range, with a broad band of operating pressures. Due to its long-term strength characteristics, high stiffness and cost effectiveness, PVC-C systems are suitable for a wide diversity of plastic piping installations. PVC-C is resistant to many acids, bases, salts, paraffinic hydrocarbons, halogens and alcohols.

PVC-C Products can withstand temperatures upto 100 Deg C.

What is ABS?

ABS (Acrylonitrile Butadiene Styrene), ABS is suitable for the conveyance of potable water, slurries and chemicals. Being non toxic ABS complies with the toxicological requirements of the British Plastics Federation and the British Industrial Biological Research Association (BIBRA) code of practice for food usage. ABS Pipe Systems are very suitable for chilled water applications, due to its low temperature properties.

ABS Products can withstand temperatures upto 80 Deg C.

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ESTIMATED DAILY WATER USAGE

WATER STORAGE - HOT & COLD.
As a general rule for water storage a third of the capaciy is hot water and two thirds cold water usage.

Break Tanks are calculated on a 15mm supply from the pump at full bore.

CAPACITY CALCULATION ON BUILDING USE

Boarding school	90 Ltrs per Pupil
Children/Nursing Home	200 Ltrs per Bed
Hospitals	200 Ltrs per Bed
Hostels	200 Ltrs per Bed
Hotels	200 Ltrs per Bed
Nurses Homes	120 Ltrs per Bed
Offices	40 Ltrs per Person
Offices with Canteen	45 Ltrs per Person
Restaurants	7 Ltrs per Meal
School - Primary	15 Ltrs per Pupil
School - Secondary	20 Ltrs per Pupil

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GENERAL WATER STORAGE INFORMATION

INLETS TO TANKS

Inlets should be provided with a servicing valve for maintenance,
A float operated valve or other equally effective devide that is capable of controlling the flow of water into the tank, Inlets should be fitted close to an access hatch to allow easy inspection of the valve, The Valve should be fitted so that when it is in the closed position the water level is not less than 25mm from the bottom of the overflow/warning pipe.

OUTLETS TO TANKS

The outlet should always be near the bottom of the tank and as far away from the inlet as possible to allow a maximum flow through the tank, reducing the chance of standing water that may stagnate over time.

OVERFLOWS TO TANKS

Overflows should always be at least twice the inlet size, and be screened to prevent ingress and contamination, The Overflow should be position below the inlet level.
A Warning pipe should also be fitted to show any possible failure in the inlet valve before it can become serious.

WATER TANKS

Tanks should always be insulated from the Cold to help prevent freezing,
They should also be insulated from heat sources such as boilers in plant rooms or ambient heat in loft areas, if a tank is left in a situation with a heat source the temperature of the water will gradually creep up and bacteria can grow in such conditions. eg at 27 Deg C Leigonnella Bacteria can grow.

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WRAS®

Water Regulations Advisory Scheme

This certifies that

DRAYTON TANKS & ACCESSORIES LTD.

has had the undermentioned product examined, tested and found, when correctly installed, to comply with the requirements of the United Kingdom Water Supply (Water Fittings) Regulations/Scottish Water Byelaws.

'DRAYTON TANKS & ACCESSORIES LTD. - PRE-INSULATED GRP ONE PIECE WATER TANKS': 45 - 60,000 LITRE. (COLD WATER STORAGE CISTERNS)

This certificate by itself is not evidence of a valid WRAS Approval. Confirmation of the current status of an approval must be obtained from the WRAS Directory (www.wras.co.uk/directory)

The product so mentioned will be listed in the Water Fittings and Materials Directory for a period until:

30 JUNE 2018

1306053

Certificate No.

Chairman, Test and Assessment Group

Secretary

WRAS APPROVED PRODUCT

January 2008