

Dimplex[®]

A world of expertise



Unvented Hot Water Cylinders

Introducing the
QUANTUM[®]
water cylinder



Tried. Tested. Trusted.

The world's most advanced
direct electric water cylinder



Quantum® Energy System

Unparalleled efficiency

Amid a rapidly changing UK heating market, Dimplex – the world’s largest manufacturer of electric heating products – introduced the Quantum Energy System.

Combining state-of-the-art electric heating with an economical demand response management tool, the Quantum Energy System is the world’s most advanced electric space and water heating management system.

The culmination of three years of research and development, the revolutionary Quantum Energy System uses low-cost, low-carbon energy from nationally generated renewable sources – such as solar photovoltaics and wind turbines – and converts this into heat. When demand is low, the smart system stores this green energy, only delivering heat when it’s needed.



THE QUANTUM ENERGY SYSTEM

THE QUANTUM ROOM HEATER

An ultra-efficient heater that uses off-peak tariffs for low running costs.



Please visit www.dimplex.co.uk/quantum for more information.

THE QUANTUM CYLINDER

The world’s most advanced direct electric water cylinder.



Full details in this brochure.

THE QUANTUM HUB*

A system manager enabling two-way communications between Quantum and the energy supplier.

*Available summer 2014.



Please visit www.dimplex.co.uk/quantum for more information.

Introducing the Quantum® water cylinder

Unparalleled performance

Following the successful launch of the Quantum heater, we are now delighted to launch the Quantum hot water cylinder – the world's most advanced direct electric water cylinder.

Designed and developed by our own in-house team of experts and manufactured in our own factory in Northern Ireland, the Quantum cylinder is the ideal partner to the Quantum heater for a complete heating and hot water system, or as a standalone hot water system for the electrically heated home.



The Quantum cylinder is a class-leading and intuitive, smart energy storage water vessel. Offering reliable hot water and low running costs, the Quantum range is available in a choice of five capacities, from 125 litres to 300 litres – all unvented. So there's a cylinder to suit even the most demanding household.

Unvented Quantum cylinders provide efficient and economical hot water delivery throughout the home. Working directly from the mains supply of water, they ensure hot water at mains pressure to all outlets in the home. This means fast-filling baths, powerful showers and constant water pressure – even when the washing machine is in use.

They also offer an unprecedented level of control, so that the correct amount of water is stored to accommodate the needs of the household, using the minimum amount of energy. Plus, using a variety of techniques to minimise heat loss has ensured that the Quantum cylinder has unrivalled heat retention capabilities.



The Quantum® cylinder

Reliable. Efficient. Economical.



Benefits

Energy storage feedback display.

Helps homeowners to plan their water usage accordingly.



Holiday function.

Ensures heating function is disabled during holiday periods.



Energy consumption history.

Helps homeowners to identify usage patterns and modify consumption.



Family setting.*

Enables increase of stored hot water volume to accommodate short-term visitor needs.



Party function.*

Extends timer programme by a number of hours.



Timer programme.*

Enables user to create profile with four on/off times and independent volume and temperature settings.

Smart feedback display.

The colour of the display will turn red once 48°C is exceeded, at the top of the cylinder. The battery symbol gives an indication of the volume of water available at the user defined preset temperature.

Unrivalled heat retention.

Minimises heat loss for lower energy consumption/running costs.

Four temperature sensors for unparalleled accuracy.

Follows target temperature, adjustable to +/- 1°C.

'Primary' and 'Boost' temperature settings.

Enables user to increase temperature as and when required.

Ensures hot water availability meets usage demands.

Hygiene function.

Ensures hygienic water delivery from the cylinder.

Flexible delivery.

Smart Grid ready.

(Additional components required.)

Supports upcoming changes in energy supply.

To improve efficiency and lower costs.

Fast reheat for freely available hot water.

Low maintenance.

No hidden costs.

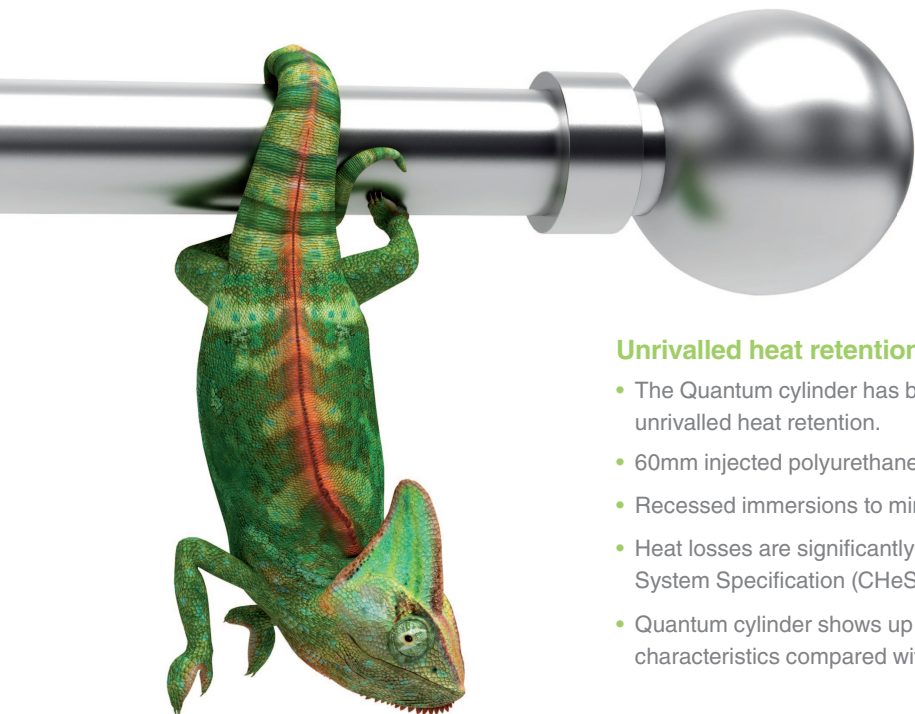
Override boost switch.

Can be located in kitchen or wherever convenient.

*Family setting, party function and timer programmer functions are only available to households with a standard tariff and not available to those using an off-peak tariff (i.e. Economy 7).

The Quantum[®] cylinder

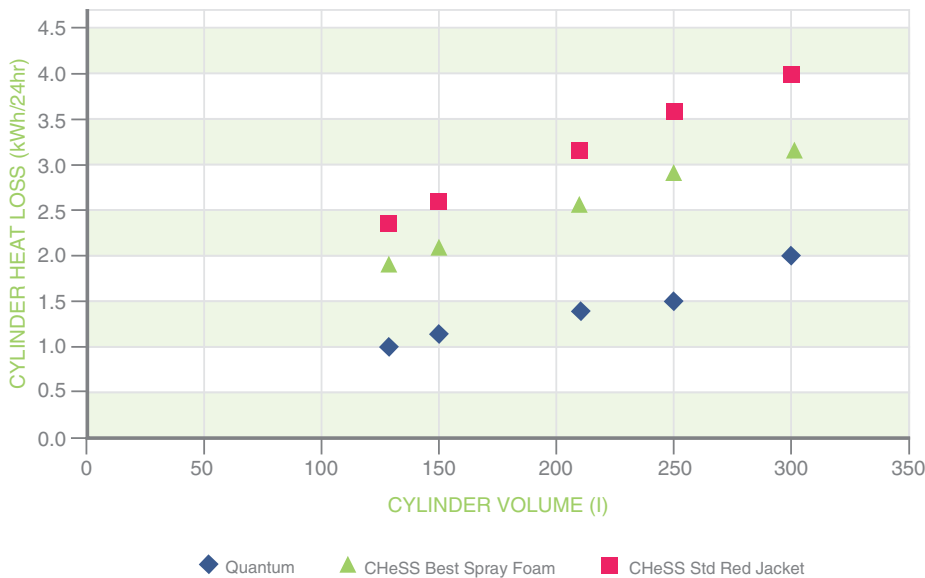
Unrivalled heat retention



Unrivalled heat retention

- The Quantum cylinder has been purposely designed to give unrivalled heat retention.
- 60mm injected polyurethane foam insulation.
- Recessed immersions to minimise heat loss.
- Heat losses are significantly lower than the Central Heating System Specification (CHeSS) requirement.
- Quantum cylinder shows up to 47% improvement in heat loss characteristics compared with alternatives.

Cylinder heat loss comparison



This graph illustrates the standing heat loss of a range of Quantum cylinders against a range of references.

Notes

- Dimplex Quantum values measured for direct electric cylinder in accordance with EN12897 at a temperature difference between water (65°C) and ambient (20°C) of 45K.
- CHeSS standard and best values in accordance with central heating system specification CE 51 2008, and Energy Saving Trust publication.
- Red Jacket calculation based on 80mm fibreglass insulation.
- Spray foam cylinder heat loss data taken from competitor product range. The stated insulation thickness is 35mm.
- It should also be considered that cylinder replacements are covered under Part L1B of building regulations (conservation of fuel and energy). Part L1B refers to the Domestic Building Compliance Guide, which calls for cylinders to have a heat loss of no more than the high level products as specified in CE 51 2008.

The Quantum® cylinder

A look inside

Sustainable material

- **Inner vessel manufactured from high quality Duplex stainless steel:**
 - Lightweight yet ultra high strength and stress/corrosion resistant, ensuring long cylinder life.
 - 100% recyclable.
 - No need for sacrificial anode.
 - 25-year warranty.
- **HIPS/ABS outer cladding:**
 - Produced from 100% recycled material.
 - Hard wearing, flexible and damage resistant.
- **CFC/HCFC free injected foam insulation.**
- **High proportion of materials (excluding insulation) by volume recycled.**



Environmentally sound performance

- **Pipework routing optimises internal stratification, thereby maximising hot water availability.**
- **Side hot water draw off connection, minimises heat losses through the top of the cylinder.**
- **60mm of injected polyurethane foam insulation:**
 - Exceeds CHeSS best practice standards for low heat loss and heat recovery.
 - Completely void free, including insulation around immersions and thermostats.
- **Recessed immersion heaters and thermostat housings reduces heat loss.**

Superior operational performance

Unvented cylinder gives:

- **High flow rates for efficient hot water delivery:**
 - Powerful showers and fast filling baths.
 - Fully compatible with all tap fittings.
- **Light and easy to handle for simple installation.**
- **Surface mounted thermostats and sensors for easy installation and maintenance/replacement.**
- **Supplied complete with inlet safety group and external expansion vessel.**
- **All connections accessible from the front.**

The Quantum® cylinder

Features

Materials

- Inner cylinder: Duplex stainless steel.
- Outer casing: Black HIPS/ABS (from recycled materials).
- Inlet/outlet: Stainless steel.
- Insulation: 60mm PU foam (GWP = 1, ODP = 0).

Maximum operating conditions

- Potable water temperature: 75°C.
- Operating pressure: 3 bar.

Cold water supply

- Minimum dynamic pressure: 1.5 bar.
- Maximum pressure: 12 bar.
- Minimum flow rate: 15l/min.

Connections

- Cold water inlet: 22mm stainless steel.
- Hot water outlet: 22mm stainless steel.
- Sensor: Surface mounted.
- T&P valve: ½" F BSP.
- Immersion heater: 1¼" F BSP.

Immersion heaters

- 2 (3kW 240v).

Temperature control

- Electronic thermostatic control and integrated thermal cut out.

Safety components

- Pressure reducing valve and strainer: 3 bar.
- Expansion relief valve: 6 bar.
- T&P valve: 7 bar/90°C.
- Factory pressure tests: 12 bar.
- Expansion: External.

Approvals

- KIWA (water and building regs).

Warranty

- Inner cylinder: 25 years.
- Immersion heaters: 2 years, excluding the effects of limescale.
- Other components*: 2 years.



*Excluding expansion vessel membrane.

Technical specifications

Cylinder Model	Volume	Height	Diameter	T&P Valve	Immersion 1	Immersion 2
QWCd 125	125l	945mm	580mm	720mm	208mm	570mm
QWCd 150	150l	1115mm	580mm	890mm	208mm	650mm
QWCd 210	210l	1490mm	580mm	1265mm	208mm	820mm
QWCd 250	250l	1765mm	580mm	1540mm	208mm	1265mm
QWCd 300	300l	2065mm	580mm	1840mm	208mm	1495mm

Type	<ul style="list-style-type: none"> • Unvented systems. • Direct cylinders. 																			
Colour/finish	<ul style="list-style-type: none"> • Black. 																			
Controls	<ul style="list-style-type: none"> • Highly intuitive, ergonomically designed electronic control system. • Modern, easy-to-read display. • User adjustable cylinder water temperature. • 'Boost' immersion heater, for rapid response, short-term use. 	<ul style="list-style-type: none"> • Hot water volume availability display. • User can set normal water temperature and boost water temperature. • Boost element automatically disengages upon reaching target temperature. 																		
Technical features	<ul style="list-style-type: none"> • Class-leading insulation levels. • Communicates stored water volume and temperature. • Automatic sterilisation function. • Algorithm specifically calculates: <ul style="list-style-type: none"> • Hot water volume. • How much more energy can be stored in the tank until the maximum set temperature is reached. • Water and energy consumption over a defined period. 	<ul style="list-style-type: none"> • Fittings supplied: <ul style="list-style-type: none"> • Inlet control set. • Temperature and pressure relief valve. • Tundish. • Expansion vessel-mounting kit. • 2 x 3kW (240v) immersion heaters. 																		
Future proofing	<ul style="list-style-type: none"> • Bi-directional communication to power utility of specific control and configuration parameters.† 	<ul style="list-style-type: none"> • High level energy management system interacts with external (Wide Area Network) and local (Home Area Network).† 																		
†Additional components required																				
Cylinder storage capacity and heat loss	<table border="1"> <thead> <tr> <th>Cylinder size</th> <th>Storage capacity @ 65°C water (ΔT 55k)</th> <th>Heat loss over 24 hours (ΔT 45k)</th> </tr> </thead> <tbody> <tr> <td>125l</td> <td>7.1kWh</td> <td>0.95kWh</td> </tr> <tr> <td>150l</td> <td>8.8kWh</td> <td>1.1kWh</td> </tr> <tr> <td>210l</td> <td>12.7kWh</td> <td>1.4kWh</td> </tr> <tr> <td>250l</td> <td>15.3kWh</td> <td>1.55kWh</td> </tr> <tr> <td>300l</td> <td>18.4kWh</td> <td>1.96kWh</td> </tr> </tbody> </table>	Cylinder size	Storage capacity @ 65°C water (ΔT 55k)	Heat loss over 24 hours (ΔT 45k)	125l	7.1kWh	0.95kWh	150l	8.8kWh	1.1kWh	210l	12.7kWh	1.4kWh	250l	15.3kWh	1.55kWh	300l	18.4kWh	1.96kWh	
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Specifications

Dimplex policy is one of continuous improvement; the Company therefore reserves the right to alter specifications without notice. The information contained in this brochure is correct at the time of printing. You are advised to consult your Dealer before purchasing.

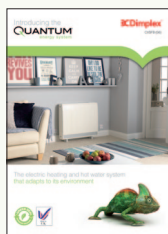
Installation Guidance

This brochure is designed to assist you with your choice of Dimplex products and it is not intended as an installation guide. For safety, products should only be installed by a competent person, in accordance with current regulations and the manufacturer's instructions.

The Dimplex Range

Dimplex offers the widest range of renewable energy, electric space and water heating products in the world – over 700. In addition to this publication, we have a wide range of brochures for both domestic and commercial applications. Please visit our website

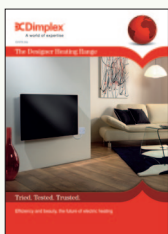
www.dimplex.co.uk for more information.



Quantum brochure



Domestic heating brochure



Designer panel heating brochure



Towel rail brochure



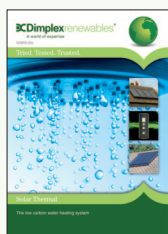
Commercial brochure



Heat pump brochure



Electric fires brochure



Solar thermal brochure



SmartRad brochure



Solid fuel brochure

For more information on these products and copies of the brochures please visit

www.dimplex.co.uk

For more information on Quantum, please

visit: dimplex.co.uk/quantum email: customer.services@dimplex.co.uk

or call: Trade – 0844 879 3587 Consumer – 0844 879 3588

For Republic of Ireland, contact Dimpcos on +353 (0)1 8424 277, email sales@dimpcos.ie or visit www.dimpcos.ie

A division of the GDC Group, Millbrook House, Grange Drive, Hedge End, Southampton SO30 2DF

For Northern Ireland, contact Glen Dimplex N.I. Limited, Unit No 24, Seagoe Industrial Estate, Portadown, Craigavon, Co. Armagh BT63 5TH



PATENTS
PENDING

