

Public art at Woking Park

Fuel Cell CHP

The hydrogen fuel cell was first discovered by Sir William Grove in 1839. He discovered how hydrogen and oxygen interact within a cell to generate electricity and heat and produce 100% pure water as its emissions. Fuel cells were first used in the space programmes of the 1960s. The fuel cell in Woking Park, supplied by UTC Fuel Cells LLC, is the first commercially operational fuel cell in the UK.



Sir William Grove 1811-1896

The statue commemorates the achievements of Sir William Grove who was born in 1811 in Swansea, South Wales. After graduating with a bachelor's degree from Brasenose College, Oxford in 1832, Grove became a barrister. He continued his life long passion of scientific exploration and electrochemistry in particular, and did much of the work for which he is remembered - including his 'gas battery'/fuel cell.



In 1839, the fuel cell was born in the laboratories of the London Institute at Finsbury Circus. In 1840, Grove was appointed to the professorship of experimental philosophy at the London Institution.

After semi-retiring from the legal profession in 1853, Grove devoted even more of his time to the sciences. Grove married Emma Powles in 1837, they had six children.

The Woking Fuel Cell Mural

Alan Potter, the designer and producer of the mural encircling the Fuel Cell comments on its design:

"The design tells the story of the development of the fuel cell from its invention in 1839 by Sir William Grove; its dormant years until its rediscovery by NASA in the 1960s; its present use and its possible future uses.

A commentary on the history of the fuel cell runs along the bottom of the mural and information about fuel cell technology, and its use in Woking, is set in the panel next to the viewing window.

The first scene shows Sir William Grove M.A., F.R.S., Professor of Experimental Philosophy at the London Institution, demonstrating the power created by his "gas battery", or fuel cell, to his colleagues using one of his early incandescent Grove lamps. His invention lay dormant for about 120 years, until it was revived by the English scientist Francis Bacon F.R.S., who provided NASA with their first "Alkaline Fuel Cell".



Fuel Cells were used to provide power and water during manned space flights, such as the Apollo missions to the moon, the International Space Station and the Space Shuttles.

Around the viewing window the mural illustrates some of a fuel cell's applications which include energy conversion into heat and electricity over a wide range of applications such as transport, lighting, recreational facilities and industrial power, without any impact on the environment.

The Fuel Cell can be seen through the viewing window where there is a diagram to show how it works."

The Grove Garden

Geoff Ward, Outdoor Amenities Officer for Woking Borough Council, designed and created the Grove Garden. He explains:

"We've designed the Grove Garden to reflect the cutting edge technology within it and the park's Edwardian history. A number of exotic plants, including large specimen Cordylines under planted with grasses and Yuccas, reflect the innovative nature of the project and provide a visual link with the mural. The water produced by the fuel cell will irrigate the garden.



The garden is enclosed by a yew hedge, a common feature throughout the park and we plan to add more yew hedges to create a series of 'garden rooms'.

With the creation of the garden we have begun the restoration of the Horse Chestnut tree avenue behind the Pool in the Park.

The garden is laid out to provide space to view the fuel cell mural and statue from a simple footpath network which also passes the Grove statue. It features a circular stone inscribed with a quotation from the philosopher Seneca (4B.C. to A.D. 65.) which reads 'True wisdom consists in not departing from nature but in molding our conduct according to her laws and model'. This was chosen to reflect the Council's philosophy in championing innovative projects which contribute towards sustainability."

Grove Statue Artist Biography – Ulli Knall

London-based sculptor Ulli Knall was educated at the Rietveld Academie in Amsterdam, the University of Applied Arts in Vienna and at Goldsmith's College, London. Knall has exhibited in galleries across the globe including London's Laurent Delaye Gallery and the Austrian Cultural Institute; she recently represented Britain in the Albanian Biennale.