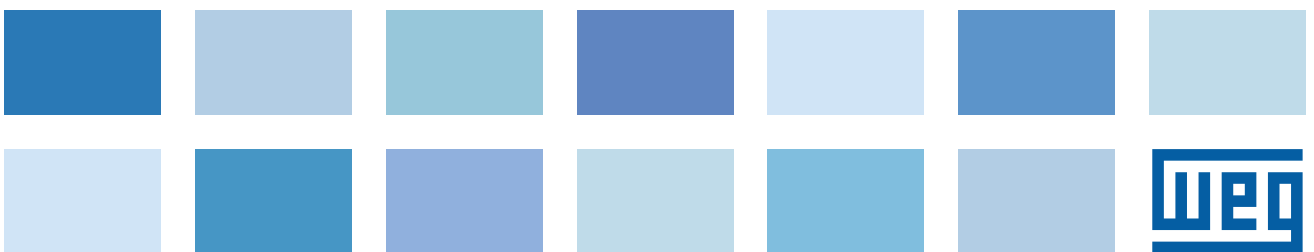





# WEG delivers pumping efficiency to new £17m Dee Valley Water treatment works



# WEG delivers pumping efficiency to new £17m Dee Valley Water treatment works



Dee Valley Water (DVM) has now completed its flagship water treatment works at Llwyn Onn, where the new facility is capable of producing 47,500m<sup>3</sup> of potable water per day. Opened in March 2014 by the Minister for Natural Resources and Food, Alun Davies, the site's pumps and compressors are predominantly powered by WEG motors, which have fulfilled the criteria for a number of applications and suppliers.

DVM serves approximately 258,000 customers in an 831 km<sup>2</sup> area of North East Wales and North West England and currently supplies 23 million tonnes of water per year. The new facility at Llwyn Onn also includes rapid gravity filtration (RGF) to reduce the levels of manganese, a mineral that occurs naturally in the surface water in the area.

The main contractor for this project was Black & Veatch, the company has a design office close by in Chester and the majority of the construction and installation work was completed by local contractors. This close proximity of the involved parties improved the sustainability of the project as well as improving communications between the design team and the installation and construction engineers.

The water treatment process consists of dissolved air flotation (DAF) clarification, granular activated carbon (GAC) filtration followed by rapid gravity filtration (RGF) and a chlorine contact tank before being pumped to a storage reservoir - from where it is fed into the distribution network. These processes require pumping



**“The motors from WEG have performed well and an ongoing study into the operational energy efficiency of the site is expected to demonstrate that the motors have been running to expectation.”**

**Allan Reef,**  
Capital Programme Manager,  
Dee Valley Water



systems not only for transporting the water but also for backwashing and recycling the filter systems.

The original equipment manufacturers (OEMs) responsible for the water treatment equipment were at liberty to select any brand of motor provided that it met the efficiency and reliability criteria as well as WIMES (Water Industry Mechanical and Electrical Specification). Interestingly the vast majority of motors on the site are manufactured by WEG, including those powering the air compressor units.

Originally introduced to reduce costs across the water industry by providing a common standard, WIMES is also a means of reducing the whole life costs of equipment such as low voltage electric motors. WIMES achieves this by specifying minimum criteria for features such as energy efficiency, power factor, build quality and environmental protection, all of which can affect a company's profitability.

The importance of WIMES as a whole life cost reduction tool is clear when the ratio of the initial cost of low voltage motors is compared to their operating costs. It has been calculated that in high use cases – and the water industry has many of these - the purchase cost







The importance of WIMES as a whole life cost reduction tool is clear



Allan Reef and Phil Hall



of an LV motor can represent as little as 1% of the motor's lifetime cost; the remaining 99% being attributable to the motor's energy consumption.

The W22 WIMES line is available in two versions, both backed by a 3-year warranty, and both designed to exceed the requirements of the IE2 (High) and IE3 (Premium) efficiency classes. Importantly, the IE3 Premium Efficiency versions of the motors are available, in standard IEC frame sizes, well in advance of the Energy using Products (EuP) Motor Regulations due for implementation in 2015/2017.

The three low lift pumps on site are powered by WEG W22, 110 kW, IE2 motors that offer a 95% efficiency rating, while the backwash and recycle pumps are powered by similar 90 kW and 75 kW motors respectively; with both offering an efficiency rating above 94%. Even the de-sludge pumps on the new lamella separator are powered by 1.5 kW WEG motors.

Allan Reef, Capital Programme Manager for Dee Valley Water, comments: "This has been a virtually clean sheet design where the procurement process has ensured that the most energy efficient

equipment has been installed. The motors from WEG have performed well and an ongoing study into the operational energy efficiency of the site is expected to demonstrate that the motors have been running to expectation."

Phil Hall, Industry Manager for WEG, comments: "The W22 WIMES motor is specifically designed to tick all of the specification boxes for operation in the water treatment industry. Design engineers and OEMs can save time in preparing specification documents and be confident that WEG can deliver whatever the requirement, from stock. A large range of our LV motors are even available in super efficient IE4 energy compliant spec.

'The stock aspect is critical; although the design and specification process is often drawn out on these projects, the fact that we can supply the motors to outdoor, or indoor specification, in vertical or horizontal mounting position from fractional kilowatt power ratings, right up to three hundred kilowatt plus, from stock, held in the UK, makes the job of the designer and the contractors much easier.'





**The three low lift pumps on site are powered by WEG W22, 100kW, IE2 motors that offer a 95% efficiency rating.**

# WEG Worldwide Operations

## ARGENTINA

San Francisco - Cordoba  
Phone: +54 3564 421484  
[info-ar@weg.net](mailto:info-ar@weg.net)

Cordoba - Cordoba  
Phone: +54 351 4641366  
[weg-morbe@weg.com.ar](mailto:weg-morbe@weg.com.ar)

Buenos Aires  
Phone: +54 11 42998000  
[ventas@pulverlux.com.ar](mailto:ventas@pulverlux.com.ar)

## AUSTRALIA

Scoresby - Victoria  
Phone: +61 3 97654600  
[info-au@weg.net](mailto:info-au@weg.net)

## AUSTRIA

Markt Piesting - Wiener  
Neustadt-Land  
Phone: +43 2633 4040  
[watt@wattdrive.com](mailto:watt@wattdrive.com)

## BELGIUM

Nivelles - Belgium  
Phone: +32 67 888420  
[info-be@weg.net](mailto:info-be@weg.net)

## BRAZIL

Jaraguá do Sul - Santa Catarina  
Phone: +55 47 32764000  
[info-br@weg.net](mailto:info-br@weg.net)

## CHILE

La Reina - Santiago  
Phone: +56 2 27848900  
[info-cl@weg.net](mailto:info-cl@weg.net)

## CHINA

Nantong - Jiangsu  
Phone: +86 513 85989333  
[info-cn@weg.net](mailto:info-cn@weg.net)

Changzhou - Jiangsu  
Phone: +86 519 88067692  
[info-cn@weg.net](mailto:info-cn@weg.net)

## COLOMBIA

San Cayetano - Bogota  
Phone: +57 1 4160166  
[info-co@weg.net](mailto:info-co@weg.net)

## ECUADOR

El Batan - Quito  
Phone: +593 2 5144339  
[ceccato@weg.net](mailto:ceccato@weg.net)

## FRANCE

Saint-Quentin-Fallavier - Isère  
Phone: +33 4 74991135  
[info-fr@weg.net](mailto:info-fr@weg.net)

## GERMANY

Türnich - Kerpen  
Phone: +49 2237 92910  
[info-de@weg.net](mailto:info-de@weg.net)

Balingen - Baden-Württemberg  
Phone: +49 7433 90410  
[info@weg-antriebe.de](mailto:info@weg-antriebe.de)

Homburg (Efze) - Hesse  
Phone: +49 5681 99520  
[info@akh-antriebstechnik.de](mailto:info@akh-antriebstechnik.de)

## GHANA

Accra  
Phone: +233 30 2766490  
[info@zestghana.com.gh](mailto:info@zestghana.com.gh)

## INDIA

Bangalore - Karnataka  
Phone: +91 80 41282007  
[info-in@weg.net](mailto:info-in@weg.net)

Hosur - Tamil Nadu  
Phone: +91 4344 301577  
[info-in@weg.net](mailto:info-in@weg.net)

## ITALY

Cinisello Balsamo - Milano  
Phone: +39 2 61293535  
[info-it@weg.net](mailto:info-it@weg.net)

## JAPAN

Yokohama - Kanagawa  
Phone: +81 45 5503030  
[info-jp@weg.net](mailto:info-jp@weg.net)

## MALAYSIA

Shah Alam - Selangor  
Phone: +60 3 78591626  
[info@wattdrive.com.my](mailto:info@wattdrive.com.my)

## MEXICO

Huehuetoca - Mexico  
Phone: +52 55 53214275  
[info-mx@weg.net](mailto:info-mx@weg.net)

Tizayuca - Hidalgo  
Phone: +52 77 97963790

## NETHERLANDS

Oldenzaal - Overijssel  
Phone: +31 541 571080  
[info-nl@weg.net](mailto:info-nl@weg.net)

## PERU

La Victoria - Lima  
Phone: +51 1 2097600  
[info-pe@weg.net](mailto:info-pe@weg.net)

## PORTUGAL

Maia - Porto  
Phone: +351 22 9477700  
[info-pt@weg.net](mailto:info-pt@weg.net)

## RUSSIA and CIS

Saint Petersburg  
Phone: +7 812 363 2172  
[sales-wes@weg.net](mailto:sales-wes@weg.net)

## SOUTH AFRICA

Johannesburg  
Phone: +27 11 7236000  
[info@zest.co.za](mailto:info@zest.co.za)

## SPAIN

Coslada - Madrid  
Phone: +34 91 6553008  
[wegiberia@wegiberia.es](mailto:wegiberia@wegiberia.es)

## SINGAPORE

Singapore  
Phone: +65 68589081  
[info-sg@weg.net](mailto:info-sg@weg.net)

Singapore  
Phone: +65 68622220  
[watteuro@watteuro.com.sg](mailto:watteuro@watteuro.com.sg)

## SCANDINAVIA

Mölnlycke - Sweden  
Phone: +46 31 888000  
[info-se@weg.net](mailto:info-se@weg.net)

## UK

Redditch - Worcestershire  
Phone: +44 1527 513800  
[info-uk@weg.net](mailto:info-uk@weg.net)

## UNITED ARAB EMIRATES

Jebel Ali - Dubai  
Phone: +971 4 8130800  
[info-ae@weg.net](mailto:info-ae@weg.net)

## USA

Duluth - Georgia  
Phone: +1 678 2492000  
[info-us@weg.net](mailto:info-us@weg.net)

Minneapolis - Minnesota  
Phone: +1 612 3788000

## VENEZUELA

Valencia - Carabobo  
Phone: +58 241 8210582  
[info-ve@weg.net](mailto:info-ve@weg.net)

For those countries where there is not a WEG own operation, find our local distributor at [www.weg.net](http://www.weg.net).



WEG Group - Motors Business Unit  
Jaraguá do Sul - SC - Brazil  
Phone: +55 47 3276 4000  
[motores@weg.net](mailto:motores@weg.net)  
[www.weg.net](http://www.weg.net)

