



Giant rotating wheel carries boats between canals

A unique wheel-like construction will transfer boats between two canals in central Scotland, thus connecting a vertical gap of about 32 m. The GBP 78 million wheel measures 35 m in diameter, with an axle length of 28 m. It will simultaneously lift and lower two 22 m long caissons which each holds a payload of 300 tonnes, comprising water and up to four boats.

The 'Falkirk Wheel', which will be located close to the Scottish town after which it is named, is a new giant rotating boat lift and will be the only structure of its kind in the world. It is the centrepiece of the Millennium Link, a GBP 78 million project led by British Waterways, which reopens and reconnects the Forth and Clyde Canal, and the Union Canal between Glasgow and Edinburgh. The wheel will transfer boats between the two canals, over a vertical gap equivalent to the height of eight London buses.

Until the 1930s, the two canals were linked by a series of 11 locks. However, along with the demise of the canals, the locks fell into disrepair, were filled in, and have remained unusable. As a result, the idea of connecting the canals via a rotating boatlift was put forward and was originally conceived as a giant Ferris wheel with suspended gondolas. For this design SKF, the world's leading bearing solution supplier, proposed large double-row spherical roller bearings and specially designed bearing housings to support the wheel. The final design has, however, evolved over the years of planning into the radical concept that is now a reality. To many in Scotland, the Falkirk Wheel is expected to become a new national landmark.

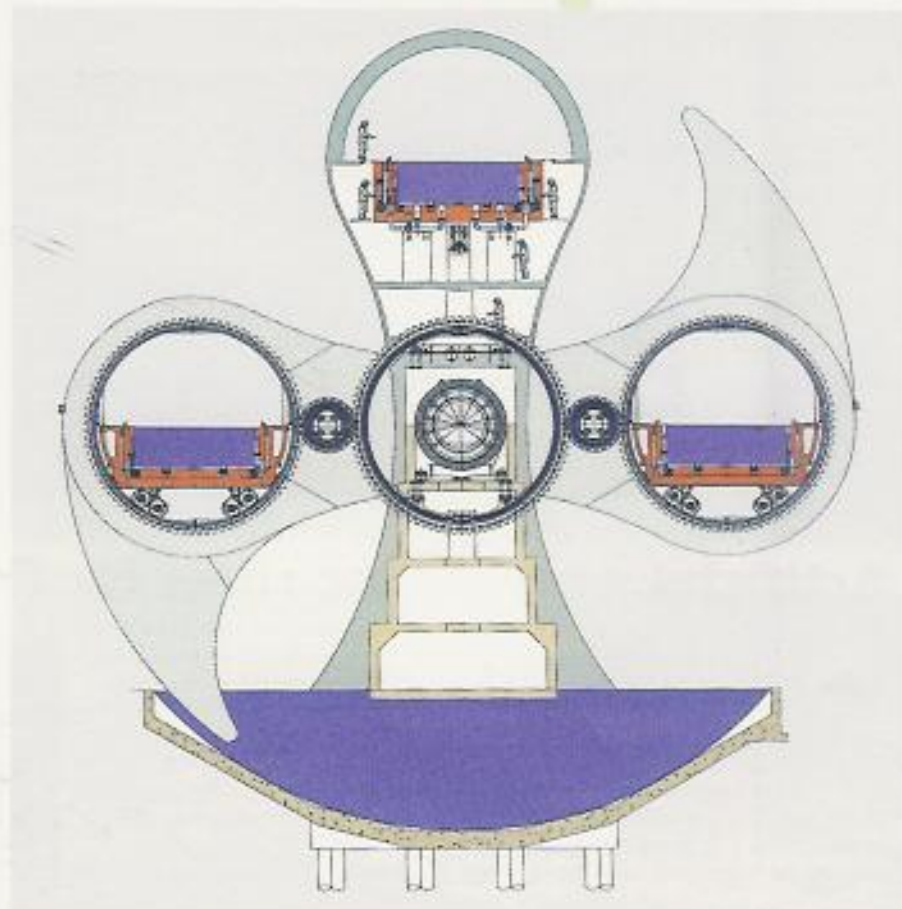
Situated in a natural amphitheatre, the wheel itself is considered to be a form of contemporary sculpture and is endorsed as such by the Royal Fine Art Commission for Scotland. It takes the shape of a Celtic-inspired double-headed axe, in which two axe-shaped arms rotate in a continuous circle, 180 degrees at a time.

As the centrepiece of the Millennium Link project the Falkirk Wheel is part of the largest canal restoration project currently under way in the UK. It is expected that over the coming years, the regenerated network will attract increasing numbers of boaters, and visitors to the area with the waterways acting as a catalyst for further economic regeneration and the revitalisation of communities across central Scotland.

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The wheel is rotated by ten hydraulically driven gearboxes, via the geared slewing bearing. It turns at a rate of around 0.125 rpm, which sees it lift and lower boats at an average rate of 4 m per minute. With consideration given to the time taken for loading boats, the wheel is expected to complete a half turn about once every 15 minutes

