



Supporting a UK first – application of jet mixing coagulant at a WTW.

SUMMARY

Dŵr Cymru Welsh Water implemented the first UK water industry application of jet mixing for coagulant mixing at a water treatment works, revolutionising the removal of manganese and iron.

As part of this pioneering approach, a high-security kiosk was designed and installed to house critical MCC and DfMA pump-skid infrastructure, ensuring efficiency and long-term operational resilience.

LOCATION: Sluvad WTW, Torfaen

PRODUCT USED: LPCB SR4 (D10) GRP
– Semi-gloss finish

KIOSK SIZE: 6.5m x 5.5m x 3.0m high

DATE: 2024

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The duty/standby pump skid was manufactured and delivered as a DfMA product, allowing for streamlined installation within a 5.5m x 6.5m x 3.0m security-rated kiosk. The system featured pump suction and discharge manifold pipework constructed from 316L stainless steel, supported by a galvanized mild steel skid structure to ensure durability and reliability.

A bottom-entry Form 4 MCC was also integrated into the kiosk, positioned above a precast concrete service trench that facilitates easy access for maintenance and operational adjustments.

Internally, the kiosk was fully ply-boarded to support the mounting of essential equipment, while electrical installations included extraction fans, thermostats, and spur units to maintain optimal environmental conditions. Due to its substantial width and weight, logistics and installation were managed by Panel Form, ensuring a secure and efficient delivery process.

By incorporating this innovative jet mixing technology and secure infrastructure, the project successfully enhanced water treatment processes, improving water quality and operational efficiency while setting a new industry benchmark for coagulant mixing applications.