



## HTC Whirlwind and LeanClean

Cleaning cast-iron potable water main



A village in Shropshire where discoloured water was a persistent issue has become one of the first in the UK to benefit from an innovative pipe cleaning technology. Utility Severn Trent Water worked with Aquam to trial its technology by clearing and chlorinating sections of 30-year-old unlined cast iron pipe in Church Preen.

The trial was carried out using its HTC Whirlwind system, which blasts a fine granite dust to remove corrosion and restore the pipe to its original diameter, together with the Leanclean system, which flushes and chlorinates the pipe.

Ian Tindell, Business Development Manager, Aquam UK said: "Church Preen is a rural location served by narrow country lanes, which are used by cows and horses as well as motorists. The 76mm (3-inch) mains pipe ran under a road with heavy rock ground make up. The advantage of using the Whirlwind and Leanclean system is that it can be used from a single access point, which means there is a minimum amount of digging and disruption."

The team from Aquam used Tornado, a vehicle-mounted mobile unit to blast the dried 10mm granite aggregate using the Whirlwind forced vortex. The Tornado unit was sited at a central point, in order to blast clean the pipe in both directions.

- Two-day turnaround minimises customer disruption
- Single access point limits excavation required
- Portable system suits rural location



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The work at Church Preen was carried out in just two days, with minimum disruption to customers. A temporary supply was fitted while work was carried out.

The trial shows the Whirlwind and Leanclean system is a cost-effective way to clean pipes, particularly in hard-to-reach locations.

A spokesman for Severn Trent Water



## Whirlwind pipe cleaning technology

*HTC's Whirlwind is a forced air vortex pipe cleaning system which uses granite aggregate to remove corrosion. In a single operation one kilometre of pipe can be cleared - at lower cost than existing systems and with less disruption to customers.*

*Whirlwind targets tubercles, growths caused by corrosion, which can build up on the interior of cast iron pipes, significantly reducing the diameter. Corroded pipework can lead to issues with water quality and colour, while heavy corrosion can reduce flow and lead to significantly increased pumping costs.*

*Two diesel engines mounted on the rig power blowers use a vortex to create a turbulent airflow. Dry granite aggregate of 10mm diameter is blown along the pipe length, hitting the walls and sweeping away tubercles as it travels - restoring the pipe to its original diameter.*

## The Whirlwind system has a number of advantages over existing pipe cleaning technology:

- ✓ Minimises damage to existing pipework
- ✓ No heavily polluted wastewater to transport and discharge
- ✓ Small quantity of waste aggregate can be used as backfill
- ✓ Safer, enclosed system with no exposed rotating parts
- ✓ Operates at relatively low pressures
- ✓ Can be used on variable pipe diameters and 90° bends
- ✓ Portable equipment

## LeanClean pipe flushing and chlorinating technology

*LeanClean is a forced air vortex pipe cleaning system used to flush and chlorinate the pipe after the abrasive treatment process.*

*The system uses water droplets carrying much higher levels of chlorine at a much lower volume than traditional techniques. Typical contact time required is only 30 minutes, which reduces the amount of air and water used compared with traditional techniques.*

*The Leanclean system can also be used to remove soft deposits such as manganese and biofilm from pipes.*

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