

That's reliability

–weishaupt–

Case study

Precision heat control
at Pendle Witch Distillery



The right burner for every application.



Clitheroe-based Pendle Witch Distillery is a family-run artisan distillery producing small-batch single-malt whisky, bourbon, and gin and has a focus on efficiency, sustainability, and cost-effectiveness. However, their original still, heated by an electric element, presented significant challenges. Running the electrical system was costly, and site infrastructure was constraining expansion. The distillery's founder and director, David Moore, sought a more effective heating solution with two large KOTHE gin stills specified with Weishaupt burners when operations at the distillery were expanded.

Faced with limited electrical capacity on site and the absence of a gas supply, the distillery needed an alternative. Steam boilers were considered but deemed too expensive in the short term due to high cost of installation and maintenance. Instead, an oil-fired system with Weishaupt WL10/3-D Z burners emerged as the ideal choice.

How Weishaupt provided the solution

Weishaupt, a globally recognised leader in burner technology, provided a solution that met the distillery's need for reliability, energy efficiency, and cost-effectiveness. Weishaupt WL10/3-D Z burners were recommended and installed by KOTHE, the manufacturer of the still. Their key advantage lies in two-stage

(high/low) load control, allowing for precise control of heat application.

'This wasn't just about switching from electric to oil; it was about control. These Weishaupt burners allow us to heat the stills efficiently, maintaining the right temperatures without excessive fuel use,' explained David, himself an industrial heating engineer by trade.

Weishaupt's WL-series compact oil burners are designed for applications that demand both high efficiency and precise heat control. One key advantage is two-stage operation, which enables the burner to adjust heat output smoothly rather than just switching on and off at full load. This reduces energy waste and provides greater control over the distillation process. Additionally, the burners incorporate advanced fuel and air mixing technology that optimises combustion, thereby achieving lower emissions and improved fuel efficiency.

High/low load control has proven particularly beneficial to the Pendle Witch Distillery as it enables gradual heat adjustments, so, once the stills reach the required temperature, the burner output can be lowered to maintain a steady rate of heat without excessive fuel use. This makes the burners an ideal solution for the distillery's needs.

As seen with the KOTHE stills at Pendle Witch Distillery, despite their powerful performance, Weishaupt's WL-series burners benefit from a compact and space-saving design that allows for easy integration into existing distillation systems. Maintenance is also simplified, thanks to a hinged housing that allows for quick servicing, minimising downtime and ensuring uninterrupted operation.

Weishaupt's spokesperson said, 'Instead of a system that simply blasts heat and then shuts off, Pendle Witch Distillery now has a solution



Weishaupt compact WL-series oil burners

that works with them, which means improved energy efficiency and a smoother distillation process.'

What makes this solution better?

The results speak clearly for themselves. The distillery's original 120-litre still, powered by a 38 kW electric heating element, was costly to run. In contrast, the new 400- and 1 200-litre stills, each fitted with a Weishaupt burner, now operate at a fraction of the cost.

'Our smaller still costs more to run than both of our new, much larger stills combined. A single run on the large stills costs around £40, an astonishing reduction in energy costs,' said David Moore.

As he explains, beyond direct savings, the decision to specify Weishaupt oil-fired burners simplified operations. The distillery avoided the need for a complex steam system, which would have required additional piping, pressure vessel testing, and specialist maintenance.

'For us, the ongoing costs of running a steam system that includes the maintenance of valves and pressure vessels, blowdown testing, compliance requirements, etc., would have been an unnecessary burden. With Weishaupt burners, we've eliminated those concerns while maintaining the efficiency we need,' said David.

Results and long-term benefits

Switching to Weishaupt WL10/3-D Z burners has not only reduced energy costs but has also ensured a more stable and scalable heating solution. The investment in the new stills and burners totalled £480 000, but the long-term savings make the return on investment highly favourable.



Maintenance has also been minimal. 'Apart from one issue, when we let the oil supply run too low and created an airlock in the system, Weishaupt's burners have performed brilliantly. They've been super reliable, easy to manage, and don't require the level of regular servicing and maintenance that a steam system would.'

The efficiency of the system means that the Pendle Witch Distillery is now positioned for future growth without concerns over rising energy costs, and it is a position that David Moore wouldn't hesitate in recommending to others. 'If another distillery asked me whether electrically-heated or oil-fired stills were the future, I'd tell them without hesitation to go the route we did. It's efficient, cost-effective, and incredibly reliable,' said David.

A model for other distilleries

Pendle Witch Distillery's adoption of Weishaupt two-stage burners demonstrates how targeted technical upgrades can deliver measurable improvements in efficiency and scalability without compromising operational simplicity. By specifying the right heating solution and opting for WL10/3-D Z burners, the distillery created a system that balances performance, cost, and ease of operation.

Summarising, a Weishaupt spokesperson said, 'For any distillery looking to scale production without dramatically increasing costs, this installation provides a clear example of how strategic choices can transform operations. The WL10 burners are doing exactly what the distillery asked of them and that is of genuine value in this or any industry.'

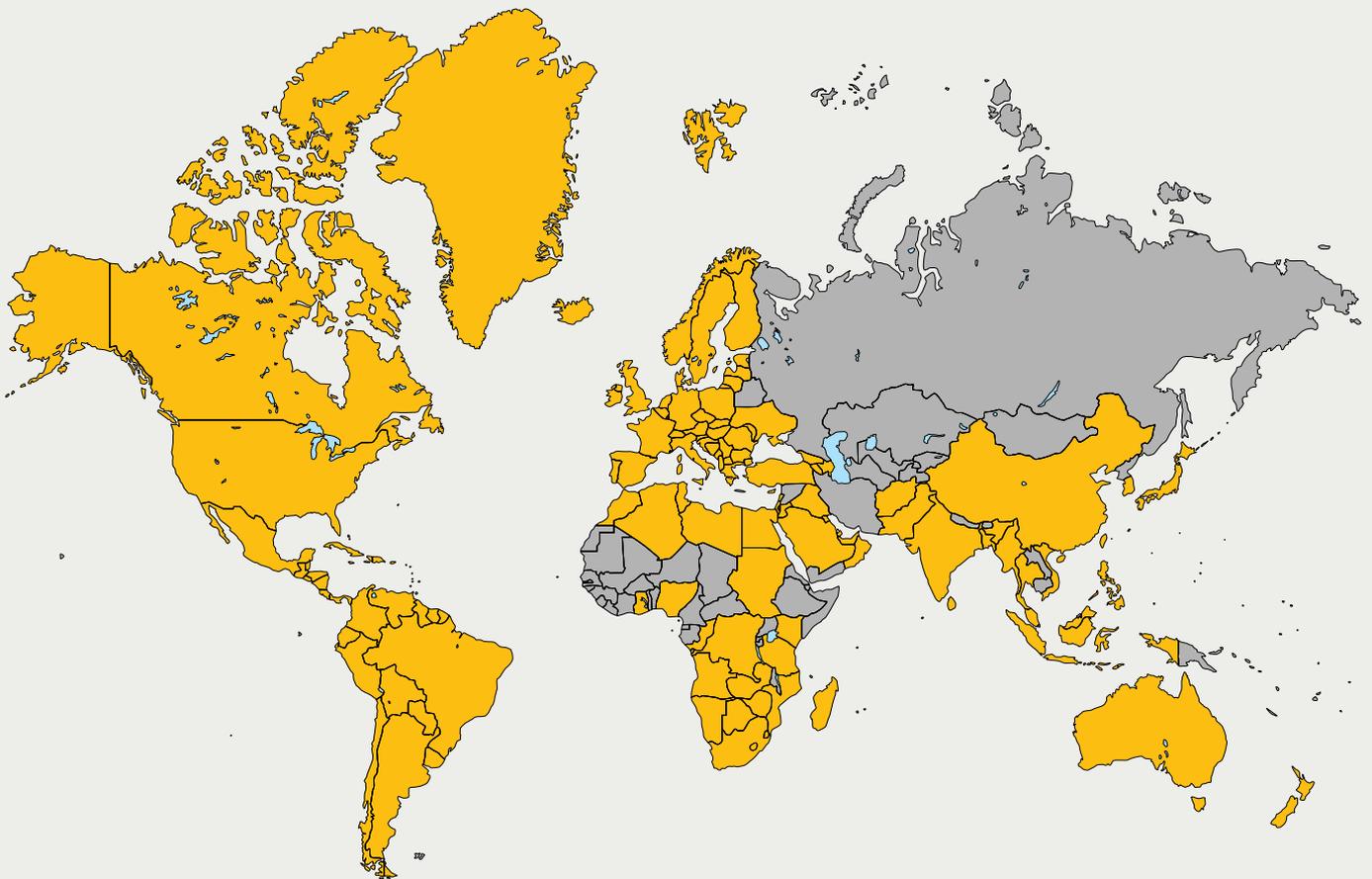
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