Press Release

PILLER MVR technology cuts energy consumption at Chivas Brothers by 48 percent

[Moringen, September 11, 2026]

Industrial heat pump technology makes previously unused process heat available for whisky distillation and reduces CO_2 emissions at the Glentauchers site by 53 percent.

Traditional whisky production and modern heat recovery can be successfully combined: Chivas Brothers, the Scotch whisky business of Pernod Ricard, is using MVR technology from Piller Blowers & Compressors to decarbonize its distillation process. At the Glentauchers site in Speyside, Scotland, total energy consumption was reduced by **48 percent** as part of an enhanced heat recovery system. At the same time, CO_2 emissions fell by **53 percent**.

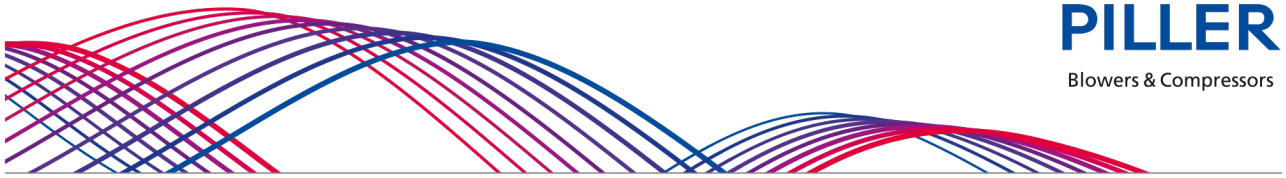
Malt whisky distillation is traditionally an energy-intensive process. Copper stills are heated with steam over several hours. After the alcohol-containing product vapor has condensed, a large share of the energy contained in it is conventionally released into the environment via cooling towers. This is exactly where the solution developed by Chivas Brothers and PILLER comes in: using **Mechanical Vapor Recompression (MVR)**, this heat is recovered and made available again for the distillation process.

The heat pump system essentially consists of a vertical condenser and **three PILLER VapoFans arranged in series**. The condenser uses the latent heat of the product vapor to generate low-pressure steam. The VapoFans then increase the pressure and temperature of the steam so that it can be fed back to the still's reboiler as heating energy.

The efficiency of the system is also reflected in its performance data: for one pot still, around **1 MW of heating duty is provided with approximately 90 kW of electrical power** for compression. Over a complete distillation cycle, the heat pump solution achieves an average **COP of around 12**. Depending on process conditions, the COP varies from approximately 9 at the beginning of a batch to around 20 towards the end.

"The particular challenge in whisky distillation lies in the continuously changing process conditions. The VapoFans flexibly adapt their performance to actual demand and provide the required compression at every stage of the process," explains Name, Titel at PILLER Blowers & Compressors.

Following a successful pilot project in 2021, Chivas Brothers installed two additional MVR heat pumps on wash stills at the Glentauchers site. As a result, total energy consumption decreased from **27 MJ/LA to 14 MJ/LA**. Annual CO_2 emissions at full production were reduced from **8,290 to 3,970 tonnes**.



The case demonstrates the potential of industrial heat pump technology for energy-intensive production processes: instead of releasing heat unused after a process step, Mechanical Vapor Recompression raises the existing energy to a pressure and temperature level at which it can be used again. This can significantly reduce fossil energy consumption and the associated CO_2 emissions.

Chivas Brothers plans to deploy the heat recovery technology at further suitable sites. According to the case study, this is expected to reduce average heating energy demand from 5.82 to 4.00 kWh per litre. This could lower projected CO_2 emissions by more than **30,000 tonnes per year**.

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About Piller Blowers & Compressors

Since 1909, PILLER has been one of the world's leading manufacturers of fluid machinery for the process industry. With over 100 years of experience, the family-owned company in Moringen, Germany, develops customized solutions for demanding applications with high thermal and mechanical requirements, such as evaporation, crystallization, and distillation.

Industries such as food & beverage, chemicals, pharmaceuticals, and pulp & paper benefit from high efficiency, reliability, and durability. Thanks to innovative heat recovery systems, PILLER machines can reduce primary energy consumption by up to 97 %, energy costs for process steam by up to 93 %, and CO_2 emissions by up to 93 %.

With approximately 540 employees, international subsidiaries, and a comprehensive range of services, PILLER supports its customers throughout the entire plant lifecycle, always striving to further advance efficiency and sustainability.

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Pictures

Image: Chivas Brothers
The Glentauchers Distillery has a production capacity of 4 million liters of alcohol per year and is equipped with 3 forerun stills and 3 afterrun stills.

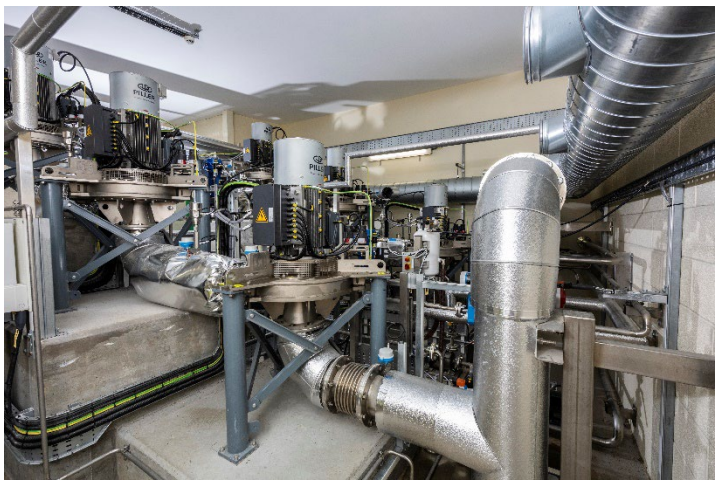

Image: PILLER©
Thanks to the significant reduction in the thermal energy required for distillation, the distillery's CO_2 emissions were reduced by 53%.