

Where innovation meets tradition in Spirits production

Modernising traditional processes in a world class Craft Distillery expansion

ARCHIE ROSE DISTILLING CO.

Founded in 2014 and located in Sydney, Australia – just a few kilometres south of the city – Archie Rose Distilling Co. is Australia's most highly awarded distillery. They strive to re-define Australia's rich tradition in distilling by producing a diverse range of whiskies, gins, vodkas and rums, as well as one-off collaborations, limited releases and spirits experiences.

Guided by a belief in transparency, Archie Rose Distilling Co. openly share the ethos behind what, how and why they do things with an unwavering drive to universally expand people's knowledge and appreciation of spirits and hospitality. Their products are a direct result of continual inspiration from the quality and diversity of the crops and produce grown across Australia, forging an authentic new tradition that's boldly innovative and true to its roots.



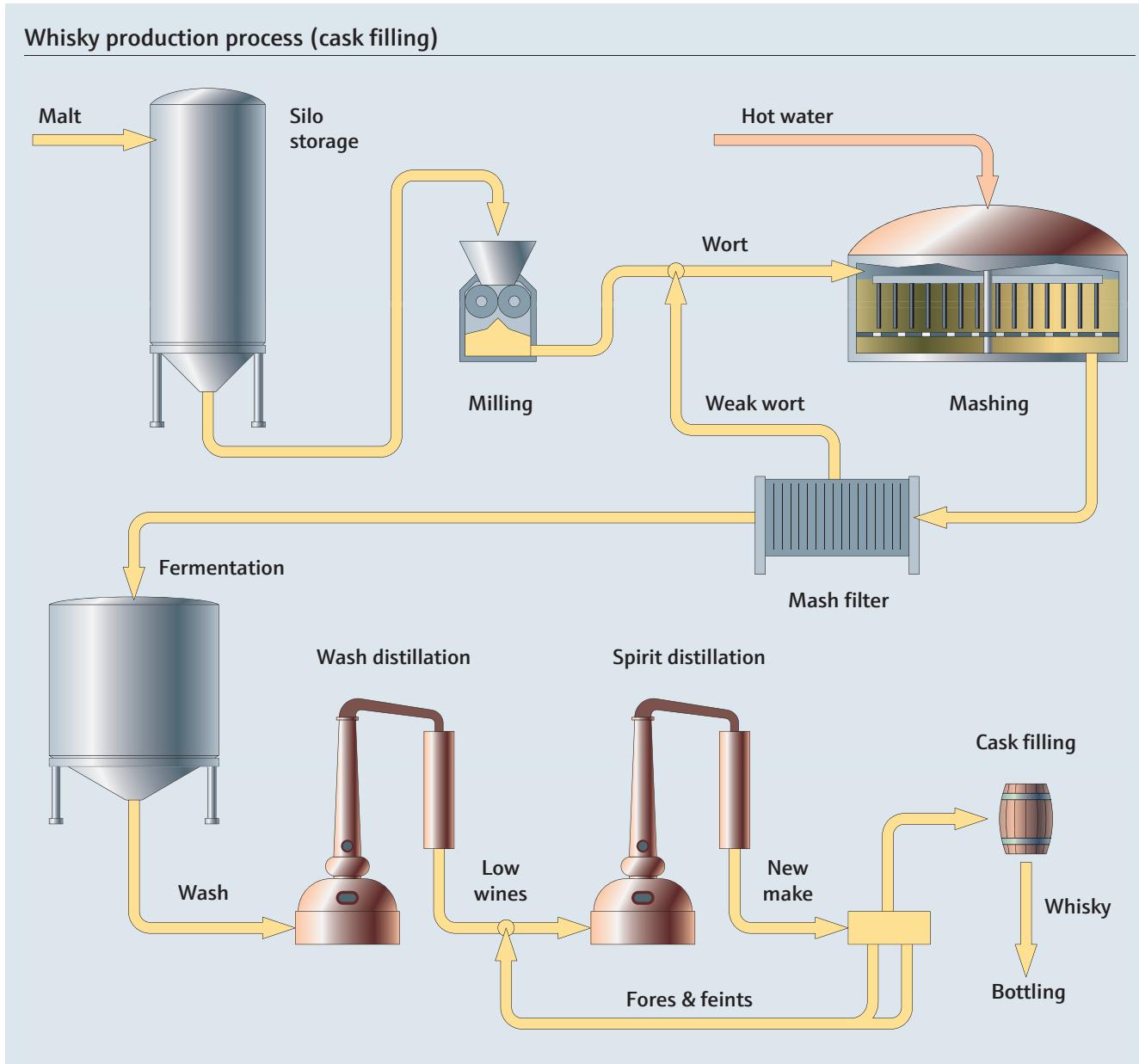
Stills on site at Archie Rose Distilling Co.

Challenge: As an award-winning player in the market, driven by a unique mindset, Archie Rose recognised the increasing demand for their premium spirit portfolio, and the need to upscale their production capability.

In 2019 an ambitious plan was conceived, the expansion of their current craft distillery to a world scale, state of the art distillery to cater for the growing demand for years to come. The company was attempting to modernise a century old proven method of whiskey production, and completely turn the way that gin production is thought about on its head.

Modernisation at scale comes with many challenges, foremost, process control so that distillery is not just running within specification and safely, but that resources were being used efficiently to extract the most from each process step and individual stream, to deliver the premium product they are known for.

Process details: The ancient craft of producing high-quality spirits is a combination of raw materials, distiller experience and a well-controlled process. From preparation to bottling, the monitoring and control of process parameters is key to ensure not only the consistency of the final product, but also the safety of the product and the staff. This is especially crucial in areas where the presence of



A traditional spirit making process, from raw malt to whisky

flammable substances is present, such as during distillation and storage, creating a high-risk situation that must be carefully managed.

From a process control perspective, instrumentation plays an important role in guaranteeing optimal conditions for each step, examples include:

- **Distillation** – The heart of the process, where the ethanol streams are monitored using mass flowmeters for an accurate identification of the distillation runs (head, heart and tail), crucial for a high-quality consistent product. As well as precise temperature to ensure the correct rate of distillation and flavour profiles
- **Storage & Blending** – Level measurement and metering of final products as well as level switches to avoid over filling (max level) or pumps running dry (min level).

Our solution: The solution offered from Endress+Hauser was designed to meet Archie Rose's requirements; to improve process control, energy efficiency, product consistency and ensure employee safety. To achieve this, various levels of instrumentation were supplied:

- Operational safety of pumps, tanks and processes using level switches to avoid overfills and prevent pumps running dry, and play an integral part in the safety instrumented functions.
- Flowmeters for both volume control and efficient water consumption across different steps of the process
- Inline control quality control parameters of alcohol streams to identify the ethanol content and ensure the yield of the fermentation
- Full compliance of instruments with hygienic and IECEx Approval as required by industry standards. These

standards certify both the quality of the product to the consumer and safety of distillery staff.

Results: Endress+Hauser delivered a whole project package from a single-source supplier saving a considerable amount of time in the engineering phase. All hygienic instrumentation follows international standards (EHEDG and FDA) to ensure product quality with additional Ex approved devices ensure safety of staff and equipment. Archie Rose now have a consistent process from raw material reception to bottling.

To mitigate risks during the start-up phase, Archie Rose relied on Endress+Hauser service team to perform the commissioning of all the devices, ensuring the right setup from the beginning and taking advantage of extended warranty.

All Archie Roses' instrumentation is stored in an Asset Management system (W@M Portal) which provides, an overview of the installed base, automatic documentation handling (including certificates and reports), a task scheduler to easily plan and execute work orders and a logbook for traceability of calibration, repair and maintenance events.



Spirits storage tanks with Endress+Hauser with Micropilot FMR52 for level monitoring



Maceration tanks with Endress+Hauser [Micropilot FMR52](#) for level monitoring and control



Chill filtering skids

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