

CASE STUDY

Delivering new steam capacity into a live brewery, Perth WA



Boiler and ancillary equipment set up

PROJECT SNAPSHOT

Industry	Beverage manufacturing, brewing
Location	Perth, Western Australia
Solution	2 × 500 kW OBYONE Firtube Steam Boiler Plant
Scope	Supply, installation, commissioning and ongoing service
Duration	April 2024 to August 2024
Delivered by	O'Brien Energy, single-source responsibility

2 × 500 kW Installed steam capacity	800 kg/ hr Steam output per boiler	86% Thermal efficiency with economiser	5 months Project delivery
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THE CHALLENGE

Expanding steam capacity inside a live, constrained brewery

Brewing is a precision operation. Temperature control, steam quality and process consistency are not variables that a production team can afford to leave to chance. When a leading brewery in Perth, Western Australia, made the decision to expand its production line, the need for additional steam capacity was immediate and non-negotiable. The existing boiler plant was already committed to live production. What was needed was a second steam system, properly sized, properly integrated, and delivered without touching what was already running.



Brewery production floor showing scale and complexity of the live operating environment.

The site was a brownfield environment, which meant the installation had to work around existing infrastructure, active production lines and the physical constraints of a facility not designed with expansion in mind. Space was tight, tie-in points required careful coordination, and the client's production schedule left little room for disruption. Getting this wrong was not an option.

THE SOLUTION

A proven firetube steam system, engineered for brewery demands

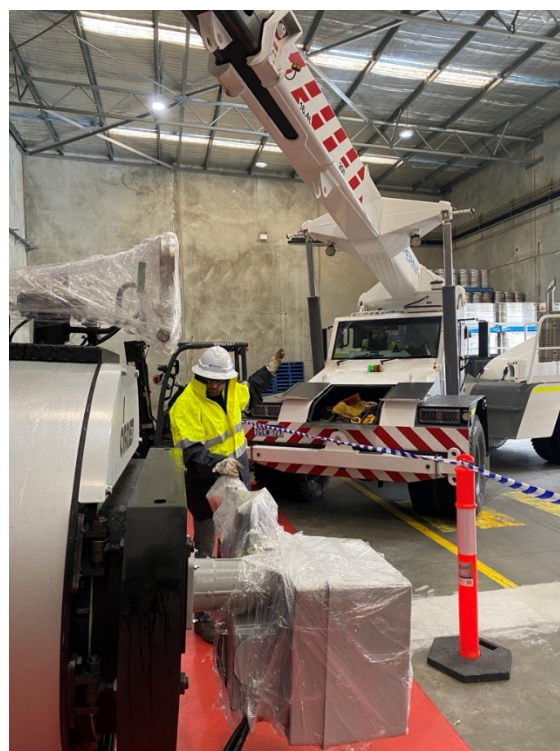
O'Brien Energy designed and delivered a complete industrial steam boiler system for the facility, centred on the OBYONE 500 kW firetube steam boiler, rated at 800 kg/hr of steam output. Two boiler systems were installed and commissioned, sharing a common set of ancillaries including a water softener, feedwater tank and blowdown vessel, sized and integrated as a single cohesive steam plant.

The OBYONE is a proven firetube design, built to EN12953-3:2016 and registered for unattended operation under AS2593-2021. That classification matters in a brewery environment where continuous, hands-off steam generation is not a preference but a requirement. Paired with an ELCO modulating burner running on natural gas, the system delivers thermal efficiency of 86 per cent with economiser and combustion efficiency of 88 per cent, performance figures that translate directly into lower fuel consumption and reduced operating costs over the life of the plant.

The gas infrastructure to support the expanded steam plant also required an upgrade. O'Brien engineered a DN100 copper gas pipework solution spanning approximately 130 metres of effective run length, designed in accordance with AS/NZS 5601.1:2013 and sized to deliver 4,500 MJ/hr of gas supply capacity to both boilers at full load.

Scope of delivery

- Supply of 2 × 500 kW OBYONE firetube steam boilers, each rated at 800 kg/hr steam output
- Shared ancillary system including water softener, feedwater tank and blowdown vessel
- DN100 copper gas pipework upgrade, approximately 130 metres effective run, compliant with AS/NZS 5601.1:2013
- Full mechanical installation and tie-in to existing site infrastructure
- Electrical termination, instrumentation and boiler control system integration
- Complete commissioning including safety verification, pressure testing, control calibration and efficiency optimisation
- Comprehensive documentation including P&ID drawings, commissioning records and compliance certification
- Ongoing boiler service and maintenance support



Crane lift of boiler vessel into facility during installation

HOW WE SOLVED IT

Single-source ownership in a brownfield environment

From the outset, O'Brien took full single-source responsibility for the project, covering design, supply, installation, commissioning and project management. In a brownfield environment, that level of ownership matters. There is no room for gaps between contractors, no ambiguity about who is responsible for what, and no tolerance for integration failures when the production floor is still running next door.

The boiler system was fabricated, delivered and positioned using crane lifts directly into the facility, with the installation team managing all sequencing, safety controls and tie-ins to the existing plant. Commissioning was completed on 29 August 2024, within five months of project commencement, meeting the client's production expansion timeline without disruption to existing operations.

Safety verification, pressure testing, control calibration and efficiency optimisation were all completed as part of the commissioning process, with comprehensive documentation generated to support regulatory compliance and future service management. The boiler system was handed over fully operational, certified and ready for unattended production use from day one.



Boiler system set up at site

OUTCOMES

Steam capacity delivered on time, built to last

The completed steam boiler installation gives the Perth brewery the additional steam capacity it needs to support its expanded production line, with a system engineered for reliability, efficiency and long-term low-maintenance operation. The OBYONE's unattended classification under AS2593-2021 reduces the operational burden on site personnel, while the modulating burner control ensures the system responds accurately to variable demand without wasting fuel.

With a 3-monthly service interval and O'Brien's ongoing maintenance support in place, the client has a steam system that is not only performing at commissioning but built to keep performing. That is the standard every O'Brien installation is held to.

Single-source responsibility. End-to-end.

O'Brien Energy delivers industrial energy solutions across boilers, hot water systems, heat pumps, service, maintenance and energy consulting. With over 20 years of expertise, we take full accountability from design and supply through to installation, commissioning and long-term support. Through our partnership with Oilon, we also offer industrial heat pumps for facilities looking to reduce gas dependence and meet tightening emissions obligations.