



WINE

## Winery Packaging Automation

Line Optimisation | Complete Solutions

**FOODMACH**

Automation | Robotics | Integration | Turnkey Projects

# GO FASTER

Is your packaging line  
optimised to its  
full potential?

We'll help you  
get the most out of:

- Existing equipment
  - Provenance
  - Quality control
- Our comprehensive range of packaging automation

**We give you speed, control  
and absolute flexibility.**

## As a wine bottler, you need:

- a factory layout that maximises productivity
- your existing equipment connected and optimised through an over-arching line control system with usable, real-time data
- a coding solution completely integrated with line control and full traceability
- the capability to handle both local and imported glass, and the associated mix of pallet sizes and dunnage
- robust, gentle conveyors to handle a wide range of bottles, including reverse taper
- local, experienced maintenance, service support and safety compliance training.

## Why Foodmach?

Foodmach has over 40 years of experience in the packaging industry servicing the world's largest beverage companies—with a strong focus on bottling and glass container manufacturing. We have a dedicated team of mechanical, electrical and safety-accredited technicians, engineers and software programmers leading the way in line integration and optimisation in Australia and New Zealand.

Our comprehensive range of packaging automation and in-house expertise means we can help you with every aspect of your production line. Our speciality is line upgrades, where our customised conveying, palletising and depalletising is integrated into existing lines with high-end line control systems. We'll ensure that your overall equipment effectiveness (OEE) is running at peak performance.

## Precise glass handling

Born of our strong history within the glass bottle manufacturing industry, Foodmach's glass handling is recognised as the best in the market.

Our locally designed and built depalletisers cater for the widest range of local and imported glass. We offer entry level machines right through to highly automated systems with a full range of handling for dunnage, trays, straps and labels.

Foodmach's bottle conveyors are robust and elegant. Teamed with our line control experience, they deliver a new level of gentle handling. Challenging applications like reverse-taper bottles benefit greatly from this combination of in-house mechanical and control expertise. You need to see—and in particular, hear (or not)—a Foodmach line to truly understand the difference.

## We're all about simplicity and user-focus

Whatever we give you will be elegant and functional, easy to manage and understand. There is no unnecessary complexity. Using a single, proven, automation and integration specialist takes the headache out of upgrading your operation.

*'We've increased capacity  
on line two by 50%.'*

Manager – Winery Operations  
Yalumba



## LINE OPTIMISATION

We've developed an unrivalled expertise in information-driven manufacturing, whether it be IoT, IIoT, M2M or Industry 4.0 and industry standards such as OMAC PackML. This means we can get all the equipment on your line communicating with a line management system that provides information you can actually use. We do this better than anyone else in our industry—we guarantee it.

## QUALITY ASSURANCE

Our premium range of inspection systems will ensure quality control throughout the bottling process. From continuous inspection of the bottle and seal integrity to residual liquid detection, checking for foreign bodies, fill levels, label quality and case inspection, you can be confident that every bottle and case you make is perfect.

## PROVENANCE

There is increasing pressure on wine producers to provide traceability and implement anti-counterfeiting measures. We'll provide you with:

- Simple and reliable primary/secondary/tertiary coding solutions, with full software integration
- Generic carton coding, with high-quality human-readable coding and compliant barcodes
- Unique QR coding with a photographic database, or any customised anti-counterfeit solution required

## FACTORY RELOCATIONS

Foodmach also specialises in equipment and factory relocation. We're able to oversee the whole relocation process from dismantling, packing and transport to re-installation and commissioning, all to current Australian and International Safety Standards.

## SAFETY VALIDATION & COMPLIANCE

Utilising in-house TÜV Rheinland certified machine safety engineers, Foodmach provides consulting and turnkey safety solutions. Our holistic approach to safety will identify inherent and potential risks in your operation, implement upgrades and document compliance.



For a chat about your needs,  
phone **1800 FOODMACH/**  
**1800 366 362** or email  
[sales@foodmach.com.au](mailto:sales@foodmach.com.au)



# INSPECTION

## Detailed inspections

Have you ever wondered how to inspect the finish of your one-way glass wine bottle with absolute precision? Slumped finishes that no one can see—but will mean a bad seal and air in your wine?

Foodmach's range of inspection systems will safely and accurately reject these bottles with the lowest possible false reject rate.

This includes the “invisible” transparent sealing face fault that can be properly capped but is at serious risk of breakage when the bottle is opened, with glass splinters possibly falling inside.

## No spiders

Many other issues can be identified using our inspection systems, for example:

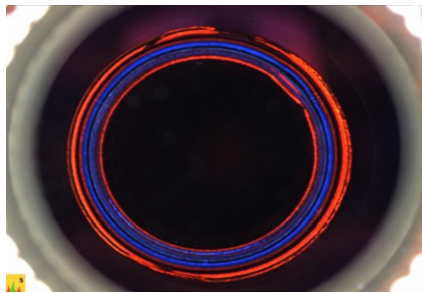
- Precise logo check recognition on the cap. Every fault can be recognised and safely rejected, regardless of the orientation and positioning of the bottles on the conveyor.
- Base inspection to avoid foreign objects (and insects!) with no blind spots and minimum false rejects. Knurling marks are safely recognized and filtered.

A baby spider on the knurling mark? This will be rejected. Imagine the peace of mind and time you'll save on quality assurance.

## Our partnership approach

Foodmach team members with international expertise in inspection systems will take the time to understand your particular needs. We'll take you through the multiple inspection possibilities and guide you to the right solution for your business.

We supply both the equipment *and* the local service and support. We aim to equip you with everything you require to self-manage, but we're on standby if you need us.



Slump detection using a combination of smart LED illumination and camera technology.



Reliable inspection of finish/thread.

Our coding, labelling and traceability solutions are designed to support overall equipment efficiency and integrate seamlessly with your packaging line control automation. They'll reduce coding errors and improve anti-counterfeit measures. Our traceability software is used in the demanding infant formula export industry, and so is perfectly placed to support all your wine export initiatives. Our equipment is simple to operate and maintain, with a low total cost of ownership.

# CODING & LABELLING





# GLASS HANDLING

## DEPALLETISING & PALLETISING

Foodmach designs and manufactures depalletisers and palletisers for beverage producers. We fully integrate our equipment with existing machinery and deliver the industry's most efficient line management control systems.

Like all our palletising systems, our depalletisers are specifically designed for the user, with simple, intuitive controls, fast changeovers and flexible machine layout options.

Key features of **Foodmach Depalletisers** can include:

- Fast changeovers from one bottle type to another
- Fast changeovers from one pallet and dunnage format to another
  - Ability to handle local and imported glass on a variety of pallets
    - Operator-free operation
    - Robotic dunnage handling
    - Automatic destrapping

## CONVEYING

Your bottling line is only as fast as its conveyors.

Poorly-designed conveying systems have a significant impact on operating speeds and packaging quality, so it's critical to ensure you get the right expertise. We can provide you with customised turn-key conveyor solutions.

You need to see –  
and in particular,  
hear (or not) –  
a Foodmach line  
to truly understand  
the difference.

# CASE STUDY — YALUMBA

Australia's oldest family-owned winery upgraded its bottling lines, integrating new technology with existing equipment to increase production capacity, heighten flexibility and maintain product consistency. The state-of-the-art bottling lines have helped reduce labour costs and minimise occupational health and safety issues.

## The Challenge

- Bottling line upgrade to meet increasing demand and maintain product consistency
- Integrate legacy equipment into a new line control system that combines old and new equipment

## The Solution

- New Foodmach Bottling Line Controls utilising ControlLogix® for fast and flexible bottling
- Foodmach depalletisers running a variety of pallets and dunnage formats, and conveyors for improved glass handling, including reverse taper bottles
- Integrated control provided by ethernet communication
- Mobile, site-wide monitoring providing accurate reporting of plant activity

## Line control transforms Yalumba

Yalumba's heritage-listed Angaston winery was founded in 1849 in South Australia's famous Barossa Valley. Five generations and 168 years later, Yalumba has grown in size and stature, embodying all that has made the Australian wine success story the envy of winemakers the world over.

Yalumba's Angaston site has five bottling lines with the main production on two glass bottling lines which were last updated in the early eighties. The remainder of the lines are used for sparkling, cask and other miscellaneous packaging tasks.

*'While various pieces of equipment were added over time, the layout of the bottling lines were set up more than thirty years ago, and due to obsolescence and reliability issues, we made the decision to pull everything out and start from scratch with the bottling line. We also needed to upgrade the depalletisers that move the glass from pallets onto the line and address our ageing conveyors,'* said John Ide, Manager – Winery Operations, at Yalumba.

*'One of our key goals was to separate our material flow in and out of the line and hence forklift movement in the main operational areas,'* he explains.

The project was taken to tender and Foodmach won it on the strength of its experience in the food and beverage industry, together with its innovative approach and design for bottling lines.

## Old meets new

The first bottling line contained predominantly existing equipment that was relocated with new controls, a new conveyor and new palletisers. Line 2 was a completely new line with a new de-palletiser, filler and packer.

The existing labeller and palletiser were retained.



## Foodmach's key responsibilities

Foodmach was tasked with providing the overall automation and control systems for Yalumba's bottling lines as a whole, including the design and supply of all the conveying, and to manufacture two new glass depalletisers.

Careful consideration of the control interfacing between each machine on the line teamed with appropriate conveyor design and buffering is essential to delivering the highest possible line efficiencies. To this end, we partnered with Rockwell Automation.

## Flexibility and speed

*'Prior to the upgrade, both bottling lines had no integrated automation so basically everything including the conveyors and packers, ran as individual pieces of equipment. We wanted the new lines to be completed integrated,'* Ide says.

By controlling both lines with Allen-Bradley® ControlLogix®, this high level of integrated control and automation could be achieved through Ethernet communications.

In line one the control system feeds back information about the line's speed and, based on this information, the equipment is able to speed up or slow down.

The capacity of ControlLogix® for this backward integration to the legacy PLCs added significant value to the solution.

The second line was controlled slightly differently in that the filler speed was established and the line itself will speed up or slow down to match whatever it needs to do the conveying. That is, the

filler stays fixed at a determined speed and the conveying ramps up or down to suit, whereas with line one the conveying is at a fixed speed and the machines ramp up or down to suit.

*John Ide: 'This suits our needs because line one is a very flexible line where we can bottle varying amounts and liquids including sparkling, cork, screwcap and crown-sealed bottles, but Line 2 is our high volume line and needs to run at speed. Line one can fill between 6000-9000 bottles per hour while Line 2 is set to fill 12,000 bottles per hour of 750ml screw cap bottles.'*

## Fuss-free integration

The new de-palletiser, manufactured locally by Foodmach, uses servo drives to run the lift motor and sweep where it moves the bottles in a single layer.

*John Ide: 'The de-palletising is a fully automated process which has helped reduce the manual labour at the plant. At the end of the second line, we have a Foodmach Robomatrix® that arranges pallet formation automatically. The control for both lines allows the system to monitor the intake and output of the entire line, speeding it up or slowing it down depending on whether there are any issues, hold ups or backlogs.'*

## Producing quality wines

To maintain the flavour and freshness of each bottle of Yalumba wine, dissolved oxygen meters with alarms have been integrated into the bottling line to avoid oxidation. Line 1 contains a carbon dioxide (CO<sub>2</sub>) meter to measure dissolved CO<sub>2</sub> in sparkling wine.

The quality systems are integrated with the SCADA system so data is collected directly with FactoryTalk Transaction Manager. This provides information on the product being bottled through the filtration skid and stores all relevant information about the batch in FactoryTalk Historian for future reference and quality control, thus reducing the risk associated with manual reporting.

The wine bottling and labelling are carried out in an insulated room that is controlled by an air conditioning system. CompactLogix® controls the system so that parameters such as relative humidity, dewpoint and room temperature are monitored on the SCADA system.

**Adapted from original article in PKN News Sept/Oct 2017.**

## The Results

- High-level integrated control and automation—bottling production in Line 2 increasing by 50%
- New bottling lines have reduced power consumption by 10%
- Improved safety and reduced labour

*'We've reduced our labour costs and improved safety.'*

Manager – Winery Operations, Yalumba



# WHAT CAN WE DO FOR YOU?



## PALLETISING

### Our Award-winning Range

**Robomatrix®** High Speed

Compact **Robomatrix®**

Pick & Place

Robot Pick & Place Depalletiser

Mechanical High Level Depalletiser

Mechanical Low Level Depalletiser



## CONVEYING

The latest in conveyor technologies, custom-built to handle any type of product or packaging:

Container Conveying  
(PET bottles, glass and cans)

Case & Tray Conveying  
(cartons, multi-packs,  
shrink-packs, open trays)

Pallet Conveying



## ENGINEERING & PROJECTS

Engineering Diagnostics & Design

System Design 3D Simulation

Automation & Control Systems

Equipment Manufacture

Installation & Commissioning  
(mechanical, electrical & software)

Total Project Management

Line Efficiency Audits



## PACKAGING TECHNOLOGIES

Inspection Systems

Collaborative Robots

Conventional Robots

Fillers

Labelling and Coding

Case Packers

Pallet Wrappers



## SAFETY

Risk Assessments

Safety Upgrades

Compliance

Reporting



## CUSTOMER SUPPORT

Maintenance Support  
(major service, system audit, robotics)

Operator & Maintenance Training

Remote Phone Support

Spare Parts Service

24/7 Support Programs  
(mechanical, electrical & software)



## LINE INTEGRATION

Systems Integration

Line Control

Line MES

OMAC PackML



## RELOCATION SERVICES

Factory

Equipment

End to End Service

## CONTACT US

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**At Foodmach,  
our challenge is to put you  
behind the wheel of the fastest, most  
powerful production line solution possible.**

One that gives you real-time information and gets you to the finish line first. We guarantee you speed – speed of service and delivery because we're local manufacturers and do everything in-house, and higher operational speeds through better technology tailored to your exact requirements.

And we guarantee control – better project management control through a single point of contact and better machine control through the industry's most user-focused operation and software solutions. We integrate all the equipment on your line and give you more live data than ever before.

Control over operational safety too, because we're the safety experts and we make the safest machines in the business. We'll even relocate your entire factory and get you safety compliant.

**Foodmach is the fastest way to get control  
of your packaging line.**

**speed + control | ability**