



BELVAC Integration Solutions

Complete Turnkey
Services

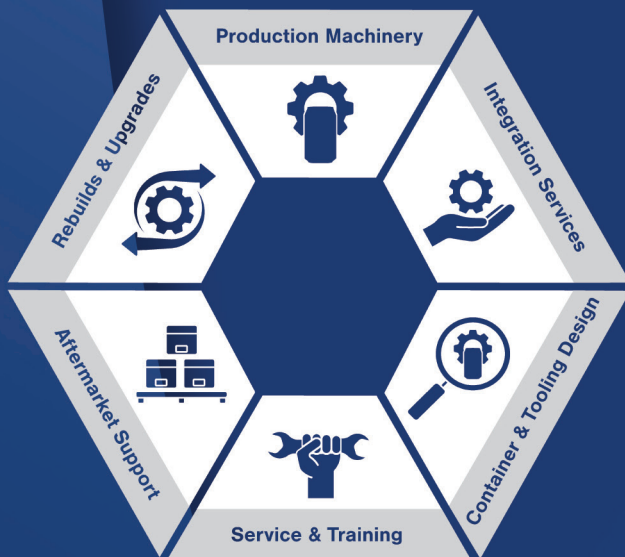


PROVEN TECHNOLOGY *Sustainable Solutions* | FOR OVER 60 years

PROVEN TECHNOLOGY **ENGINEERED** **FOR SUSTAINABLE OPERATIONS**

Belvac was founded in 1962 in Lynchburg, Virginia, specializing in high-quality precision machining. Since then, Belvac has been a leading supplier of metal container manufacturing solutions, consistently driving technological breakthroughs that have reshaped the industry. The company was founded on traditional values of quality, pride, work ethic, and craftsmanship, and entrepreneurial spirit. This unique combination of qualities provided a strong foundation for Belvac to develop innovative production machines that have revolutionized the can making industry.

Belvac's distinguished heritage is marked by revolutionary enhancements in processing speeds and innovative technology, transforming the global can and bottle making industry. As a single-source solution provider, Belvac offers a comprehensive range of proven equipment and machinery for metal cans, bottles, food and aerosol lines.



INTEGRATION SOLUTIONS

DESIGNED WITH CUSTOMERS IN MIND

With over 60 years of experience in the metal container manufacturing industry, Belvac has established itself as a leader in integrating lines for various sectors, including food, beverage, beauty, aerosol, and more.



BEVERAGE CAN LINES



BOTTLE CAN LINES



FOOD CAN LINES

THE BELVAC ADVANTAGE

- Seamless Integration
- Long-term Relationships with Customers
- Comprehensive Solutions Throughout Lifecycle
- Maximized Production Efficiency
- Latest Advanced Technologies
- Single Source Partner
- Future Proof Planning
- Holistic Approach with Seamless Management
- Eco-friendly Solutions
- Flexible Solutions for Customers Goals

UNPARALLELED TURNKEY SOLUTIONS

CONTAINER DESIGN

Belvac's expertise in metal forming is a cornerstone of the Container Engineering process, setting us apart as leaders in the industry. With a dedicated R&D lab and on-site Pilot Line, Belvac is equipped with the capabilities to innovate and refine lightweight cans and bottles that meet the highest standards of performance and efficiency. Belvac's team of skilled engineers and technicians has successfully manufactured industry-leading lightweight containers that provide a significant strategic advantage to customers. By optimizing the design and reducing metal usage, Belvac's solutions enable customers to save hundreds of thousands of dollars on metal costs annually.

LINE DESIGN

Belvac's expert in-house line design team collaborates closely with customers to tailor production lines that align seamlessly with their specific business and operational goals. By focusing on reducing spoilage, downtime, and bottlenecks, the team ensures that each design maximizes efficiency and productivity.

Leveraging discrete simulation programs, Belvac tests each design helping to ensuring it is free from bottlenecks, enhancing the overall flow and reliability of the production process. Additionally, Belvac utilizes advanced Virtual Reality software, allowing clients to virtually walk through a can line in real time. This immersive experience enables customers to better visualize the proposed design, ensuring their needs and expectations are met with precision and clarity.

INTEGRATION TEAM

Belvac has made substantial investments in assembling a team of top-tier integration personnel dedicated to ensuring the success of your projects. Each project is over seen by a dedicated project manager who will coordinate all aspects with suppliers, ensuring that your project remains on schedule and within budget, streamlining the process for you.



PILOT LINE

Belvac's Pilot Line is an unparalleled asset that enables the creation and testing of new container designs. This state-of-the-art facility allows for the exploration and development of innovative packaging solutions, ensuring that Belvac remains at the forefront of industry advancements.

Available services on the Pilot Line are extensive and designed to maintain and elevate customer's operational efficiency. These services include label validation, down gauging, light weighting, and more.

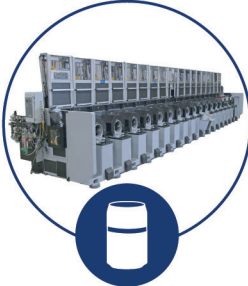


TRAINING AND SERVICE SUPPORT

Belvac provides comprehensive training and service support throughout the entire lifecycle of your production line. An expert team is readily available to assist with machine upgrades, production increases, and troubleshooting challenges, ensuring that your operations run smoothly and efficiently. Belvac specialists conduct thorough line and key area audits, identifying opportunities to enhance production output and efficiency. By partnering with Belvac, you gain access to a wealth of expertise and resources committed to supporting and enhancing your manufacturing capabilities.



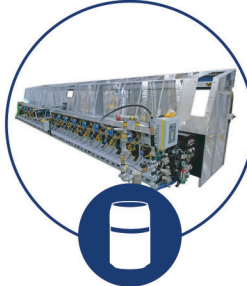
CAN LINE OVERVIEW | *Standard Cans*



595 VE NECKER UP TO 3,000 CPM

Value engineered with a focus on efficiency and cost effectiveness, the 595 VE Necker is designed for longevity and reliability producing consistent quality containers.

- Diameter: 202 to 211
- Height: 3.30" to 7.51"



THE BELVAC NECKER UP TO 3,600 CPM

Optimizing production throughput, container quality and operational expenses, The Belvac Necker is designed to maximize your return on investment.

- Diameter: 202 to 211
- Height: 3.30" to 7.51"



INTERNAL BAKE OVEN UP TO 6,000 CPM

Curing both the interior and exterior coating of the can, the IBO features an on-demand exhaust airflow system ensuring optimal heat retention while minimizing gas consumption.

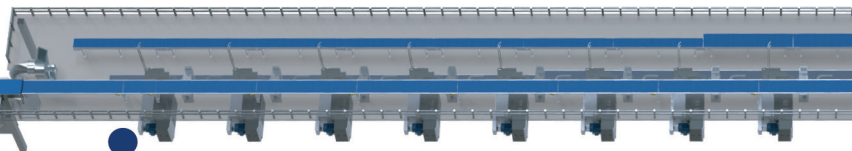
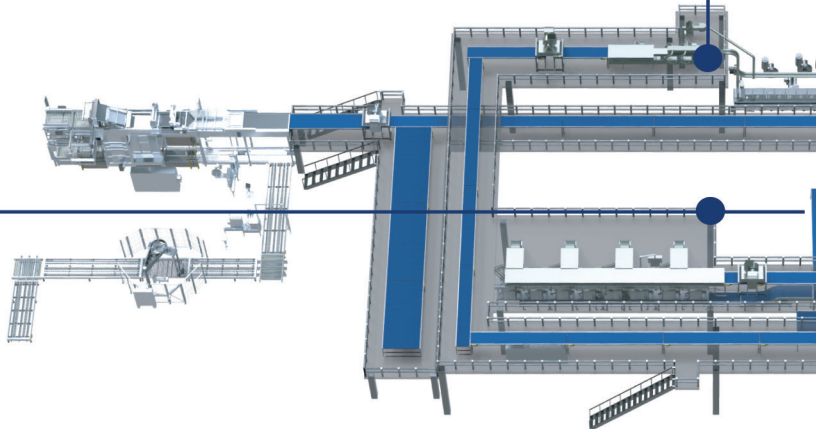
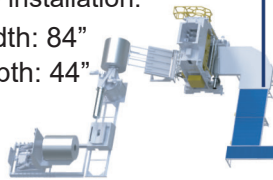
- Diameter: 202 to 307
- Height: 3.30" to 10"



CUPPER UP TO 300 SPM

The low maintenance design features a high precision guidance system, dynamic counter balancing with no vibration, and a decoupled main drive installation.

- Bed Width: 84"
- Bed Depth: 44"



BODYMAKER UP TO 400 CPM

The hypocycloid main drive generates a straight line of motion resulting in low ram deviation producing superior can quality with low tear-off rates and accurate wall thickness.

- BM24: 202 to 211
- BM30: 204 to 307

TRIMMER UP TO 500 CPM

Designed for longevity and reliability, the Trimmer is available in two series the CC93 and CC95 with multiple models each providing burr-free, sliver-free, and step-free trimming.

- Diameter: 202 to 307
- Height: 3.30" to 8.31"





SERVO BELVAC NECKER *UP TO 3,600 CPM*

Utilizing advanced servo motor control, every turret independently rotates, which reduces machine downtime and electrical consumption by up to 15%.

- Diameter: 202 to 211
- Height: 3.30" to 7.51"



810K NECKER *UP TO 1,800 CPM*

Designed to neck large-diameter cans with exceptional precision at industry leading speeds, the 810K Necker has been engineered with a focus on efficiency, longevity, and cost-effectiveness.

- Diameter: 211 to 307
- Height: 3.50" to 8.31"



DECORATOR *UP TO 2,200 CPM*

• The Decorator has been value engineered to reduce machine downtime and can spoilage while also improving image quality and machine throughput.

- Diameter: 202 to 307
- Height: Up to 10"



PIN OVEN *UP TO 2,400 CPM*

• Designed for high accessibility and efficient operation, the Pin Oven features uniformity while maximizing can stability throughout the curing process.

- Diameter: 202 to 211
- Height: 3.30" to 7.51"



CAN WASHER *UP TO 6,000 CPM*

Engineered for energy efficiency, wastewater reduction and process optimization, the eight stage modular machine features a robust stainless-steel base frame and structure.

- Diameter: 202 to 307
- Height: 3.30" to 10"



DRY-OFF OVEN *UP TO 6,000 CPM*

Designed for efficiency and sustainability featuring cutting-edge technology that results in reduced operational costs and enhanced performance.

- Diameter: 202 to 307
- Height: 3.30" to 10"



CAN LINE OVERVIEW | *Bottle Cans*

THE SHAPER UP TO 1,200 CPM

The Shaper effortlessly adds distinction to containers through sidewall shaping up to 200 mm from the cut edge and 16 mm above the chime of the container.

- Diameter: 1.772" to 2.875"
- Height: 3.75" to 10"

THE BCMS UP TO 600 BPM

Creating lightweight D&I bottles with ROPP, Crown and Aerosol closures (Carrier Ring capable), the BCMS is the optimal solution for high speed, high volume bottle production.

- Diameter: 1.771" to 3.07"
- Height: 3.30" to 7.51"

INTERNAL BAKE OVEN UP TO 6,000 CPM

Curing both the interior and exterior coating of the can, the IBO features an on-demand exhaust airflow system ensuring optimal heat retention while minimizing gas consumption.

- Diameter: 202 to 307
- Height: 3.30" to 10"

CUPPER UP TO 300 SPM

The low maintenance design features a high precision guidance system, dynamic counter balancing with no vibration, and a decoupled main drive installation.

- Bed Width: 84"
- Bed Depth: 44"

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- BM24: 202 to 211
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PIN OVEN *UP TO 2,400 CPM*

Designed for high accessibility and efficient operation, the Pin Oven features uniformity while maximizing can stability throughout the curing process.

- Diameter: 202 to 211
- Height: 3.30" to 7.51"



DECORATOR *UP TO 2,200 CPM*

The Decorator has been value engineered to reduce machine downtime and can spoilage while also improving image quality and machine throughput.

- Diameter: 202 to 305
- Height: Up to 10"

DRY-OFF OVEN *UP TO 6,000 CPM*

Designed for efficiency and sustainability featuring cutting-edge technology that results in reduced operational costs and enhanced performance.

- Diameter: 202 to 307
- Height: 3.30" to 10"



TRIMMER *UP TO 500 CPM*

Designed for longevity and reliability, the Trimmer is available in two series the CC93 and CC95 with multiple models each providing burr-free, sliver-free, and step-free trimming.

- Diameter: 202 to 307
- Height: 3.30" to 8.31"



CAN WASHER *UP TO 6,000 CPM*

Engineered for energy efficiency, wastewater reduction and process optimization, the eight stage modular machine features a robust stainless-steel base frame and structure.

- Diameter: 202 to 307
- Height: 3.30" to 10"

INNOVATIVE TURNKEY SOLUTIONS

1 FEASIBILITY &
CONCEPTUALIZATION

2 DETAILED DESIGN
& ENGINEERING

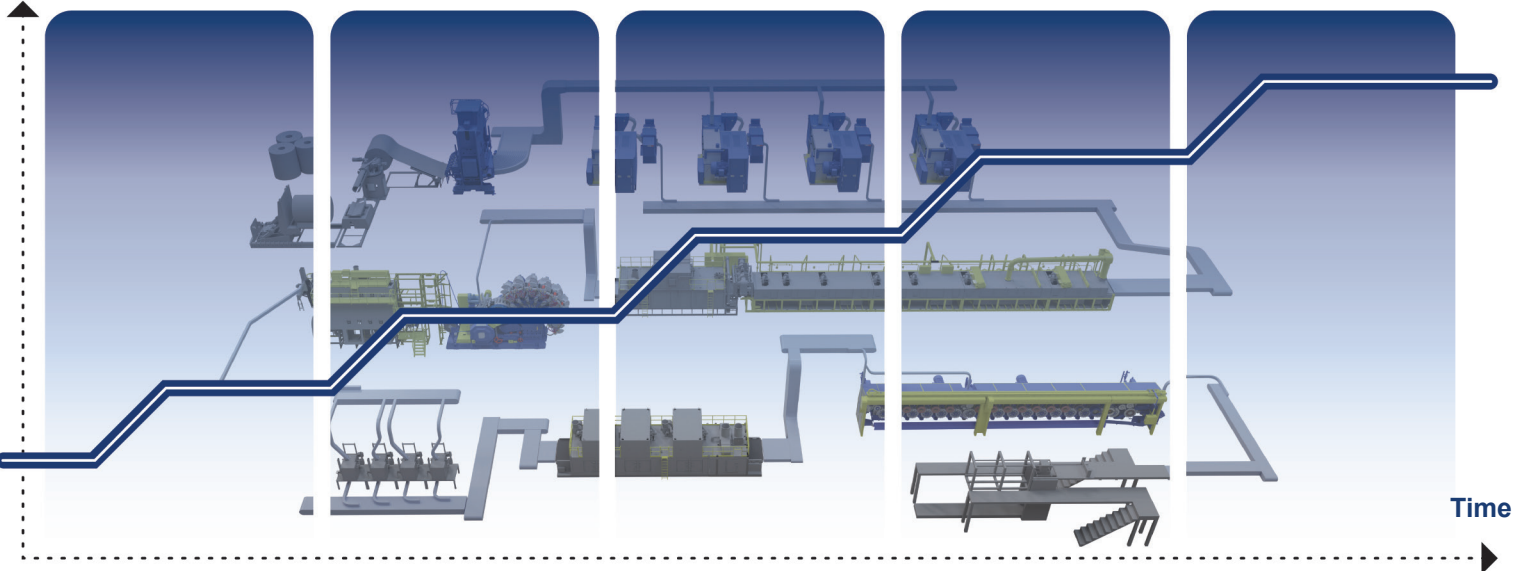
3 INSTALLATION
& TRAINING

4 COMMISSIONING
& OPTIMIZATION

5 LIFECYCLE
SUPPORT



Performance



FEASIBILITY & CONCEPTUALIZATION

- Can Manufacturing Process
- Production Volumes
- Preliminary Production Line Drawings
- Building & Facility Requirements
- Workforce Requirements
- Capital Cost
- Operational Cost
- Container Cost Analysis
- Installation, Startup & Commissioning Plans
- Preliminary Project Schedule

DETAILED DESIGN & ENGINEERING

- Container Engineering and Design
- Facility/ Support Room Arrangements
- Detailed Line Layouts
- Floor and Mezzanine Loading Requirements
- Mechanical and Electrical Detailed Drawings
- General Contractor Bid Documents
- Finalize Scope and Contract

INSTALLATION & TRAINING

- Equipment Pre-delivery Inspections
- Delivery of Machinery and Services
- Supervision of Installation
- Initial training Programs
- Start-up Support Coordination
- Spare Parts Delivery
- Support Room Setup

COMMISSIONING & OPTIMIZATION

- Check-out and Testing Services
- Debug
- Commissioning
- Training
- On-site Manning

LIFECYCLE SUPPORT

- Preventative Maintenance Programs
- Advanced Training
- Spare Parts Support
- Kit and Upgrade Support
- Service Engineer Support
- Operational Audits
- Label Validation
- Light Weighting Initiatives

CONTAINER DESIGN PROCESS

Beginning with a clear goal, Belvac begins with providing an overview of our services and the Container Engineering Process while simultaneously determining your specific requirements and framework conditions.

PROJECT REVIEW *PHASE ONE*



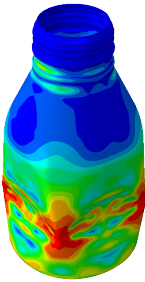
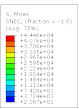
Images and modeling can provide a valuable tool for making technical comparisons or creating a common understanding of customer's requirements. In line with the project specifications, Belvac develops a wide range of options to help you visual and understand your packaging concept.

VISUALIZATION *PHASE THREE*



PHASE TWO CONCEPT DESIGN

With a clear path ahead, Belvac's Container Engineering team begins developing precise concepts unique to the scope of your project. Whether you're looking to down gauge or create an entirely new individual packaging concept, our expert team is here to help.



Utilizing Belvac's on-site can making Pilot Line, our expert team can manufacture test samples to perform further container testing. Belvac also tests the container's Tooling designs in real production conditions.

PROTOTYPE SAMPLING PHASE FIVE



PHASE FOUR FEA SIMULATION

Utilizing an expert team of Engineers, Belvac performs a Finite Element Analysis (FEA) which tests the package under various conditions ensuring its viability and structural integrity.



PHASE SIX QUALITY ANALYSIS TESTING

To ensure quality of the container designs, Belvac carries out defined testing procedures in our QA lab which is adjacent to our on-site Pilot Line. The progress and results of the test are documented with precision and transparency.

PROJECT RECORP NZ

AUCKLAND, NEW ZEALAND



PROJECT TIMELINE

- Beginning: December 2022
- Completion: October 2023



THE OPPORTUNITY

Recognizing a growing demand for cans in New Zealand, Recorp NZ saw a key market opportunity for a supplier that could support brands of all sizes. By positioning itself as a full-range supplier, its goal is to meet the needs of customers of all sizes, offering a diverse array of can sizes with low minimum order quantities.



Building a business around flexibility, Recorp NZ needed a production line that could also support these requirements. Entering a highly competitive market with low tolerances, the company understood its approach would be challenging. Recorp NZ's top priority was finding a supplier who recognized these distinct needs.



ecorp



PROJECT DESCRIPTION

- Greenfield Can Manufacturing Plant
- Beverage Can Bodies
- 1800 CPM Expandable to 2400 CPM
- 550 million annual capacity
- Designed to Support Low MOQs to Capture the Underserved Craft Brewer Market
- 202 and 200 End Capabilities on 211 Body

PROJECT SCOPE

- All Production Equipment
- Container Design
- Tooling Design
- Line Engineering
- Project Management
- Equipment, Conveyance and Support Systems Installation
- Mechanical and Electrical Design and Installation
- Personnel Training
- Startup and Commissioning
- Production Ramp-up

PROJECT THAI BEVERAGE CAN

BANGKOK, THAILAND



PROJECT TIMELINE

- Beginning: April 2022
- Completion: June 2023



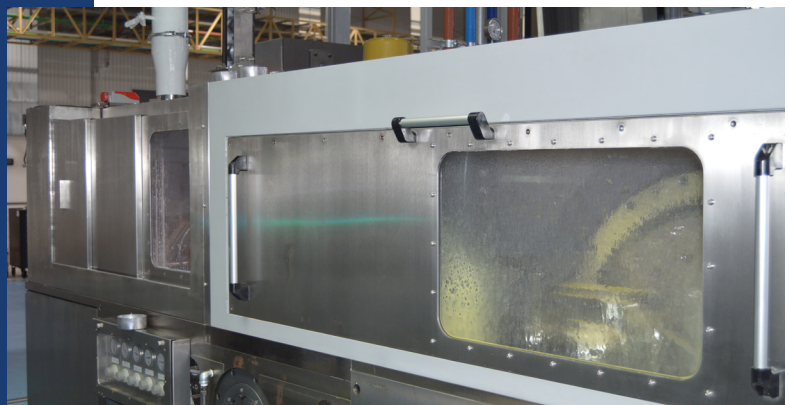
THE OPPORTUNITY

Belvac collaborated with industry partners to help TBC integrate a greenfield project in Bangkok, Thailand.

In response to the increasing demand for differentiated solutions in the South East Asian market, TBC identified a strategic opportunity for a greenfield project featuring a swing line with both bottle can forming and can manufacturing capabilities.



This innovative capability to swing production between the two products has positioned TBC to effectively address evolving market needs. Initially, this strategic decision enabled TBC to produce and distribute standard cans as the market matured. As demand for bottle cans has grown, TBC has successfully ramped up their production capacity to meet the expanding market requirements.





PROJECT DESCRIPTION

- Greenfield Can Manufacturing Plant
- Beverage Can Bodies and Bottles
- Swing Production Between Cans and Bottles
- 600 BPM (250m Bottles Annually)
- 2400 CPM (700m Cans Annually)
- Two Bottle Sizes: 310ml and 500ml
- ROPP End Closure

PROJECT SCOPE

- Production Equipment
- Container Design
- Tooling Design
- Line Engineering Support
- Project Management
- Equipment Installation Support
- Personnel Training
- Bottle Manufacturing Training and Support
- Startup and Commissioning Support
- Commercialization Support
- Bottle Production Ramp-up

BELVAC'S PILOT LINE

Belvac's innovative Pilot Line serves as a crucial bridge between initial design concepts and full-scale production, offering an indispensable resource for companies aiming to fine-tune their manufacturing processes.

SCALE WITH CONFIDENCE

- Small-Scale Production Mimicking Real-World Manufacturing Conditions
- Enables Businesses to Identify Potential Issues Before Committing to a Full-Scale Rollout
- Mitigates Risks with Large-Scale Production Investments
- Ensures While Scaling Up, Processes are Efficient and Effective as Possible

DESIGNED WITH FLEXIBILITY

- Supports the Design and Testing of New Containers and Tooling
- Production of Market-Ready Samples for Conducting Thorough Consumer Research
- Engineered to Support Extensive Research and Development Testing
- Experiment with Different Coatings, Inks, and Light Weighting Materials

By facilitating such comprehensive testing, the Pilot Line ensures that Belvac's customers can optimize every aspect of their product, from durability and aesthetics to cost-effectiveness and sustainability.





PILOT LINE SERVICES

COATINGS & INKS TESTING

- Varnish Coating
- Inside Spray Coating
- Inks Coating
- Washer Chemicals
- Bottom Rim Coating
- Label Validation

COIL & CONTAINER TESTING

- Coil Specifications
- Cup Lubrication
- Midwall and Topwall Thicknesses
- Dome Profile
- Tooling Profile and Material
- Annealing
- Temperature Profiles

COMPREHENSIVE PACKAGES

- Container Engineering and Development
- Low Volume Test Samples
- Down Gauging Packages
- Lab Services
- Onsite Training
- General Research and Development

Ready to Learn More About Belvac's Integration Services?

Contact our team today at sales@belvac.com to discover how Belvac can help integrate your next project.

