



BELVAC Specialty Equipment

The
Shaper

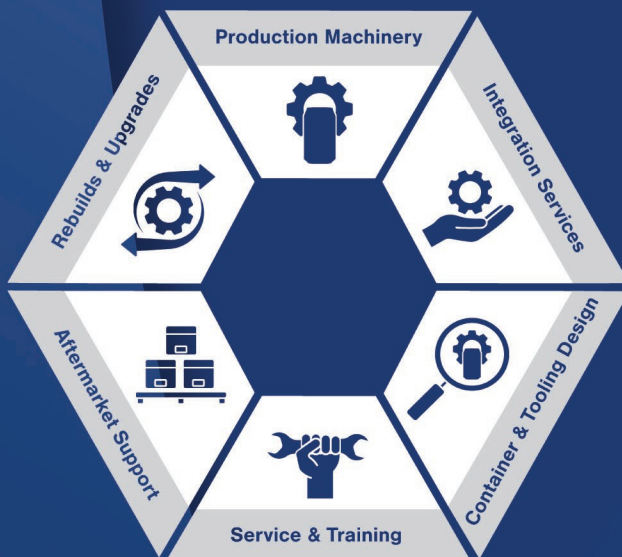


PROVEN TECHNOLOGY *Sustainable Solutions* | FOR OVER 60 years

SPECIALTY CONTAINER SOLUTIONS

Since 2007, Belvac has been at the forefront of revolutionizing specialty container manufacturing. With a commitment to innovation and quality, Belvac has pioneered the development of lightweight, high-speed production processes that have set new benchmarks in the industry. By investing heavily in R&D, Belvac has continually enhanced the quality of its manufacturing while simultaneously increasing production speeds.

Central to Belvac's mission of providing industry-leading solutions is continuous innovation in technology development, exemplified by the Belvac Carrier Ring. This innovative solution is a testament to Belvac's ability to push the boundaries of traditional manufacturing methods, offering differentiated container solutions that help brands stand out.



SPECIALTY 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.



BOTTLE CAN LINES



SHAPES CAN LINES



AEROSOL CAN LINES



SWING CAN & BOTTLE LINES

THE BELVAC ADVANTAGE

- Decades of Bottle Forming and Shaping Experience
- In-house Design Team
- Industry Leading Light Weights
- Production Proven Equipment
- Latest Advanced Technologies
- Consistent Investment into Innovation Projects
- Global Service and Spares Support
- Holistic Approach with Seamless Management
- Sample Container Manufacturing on Pilot Line
- Flexible Solutions for Customers Goals

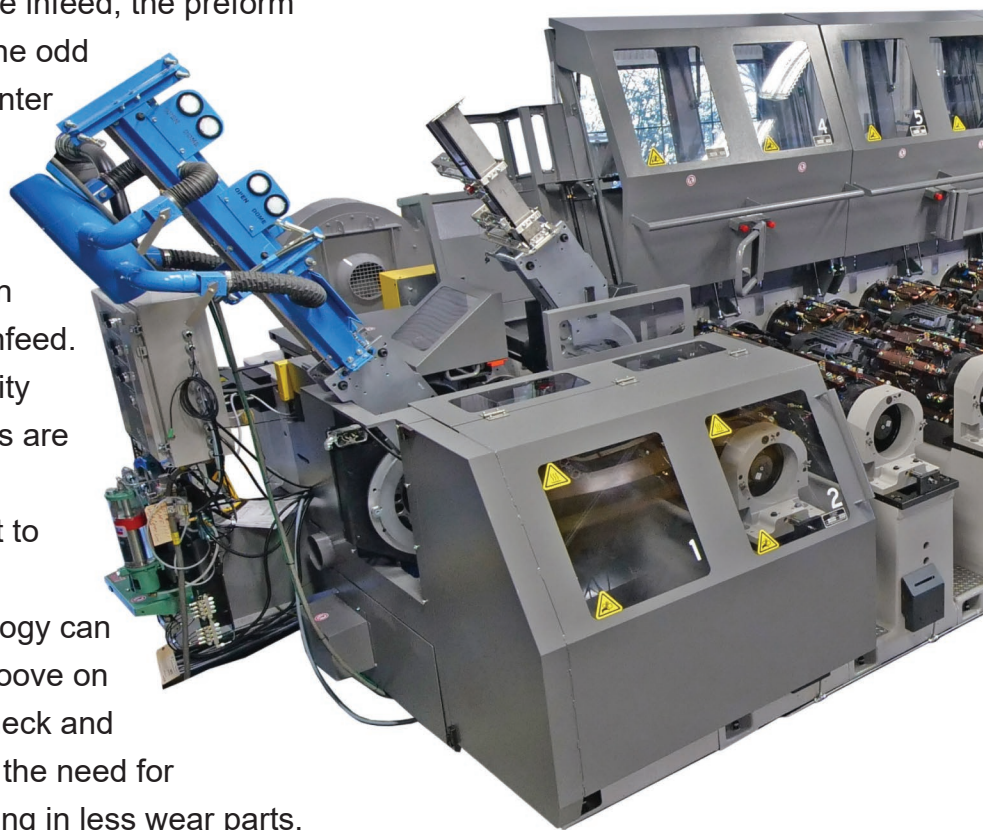
BOTTLE CAN MANUFACTURING SYSTEM

The Bottle Container Manufacturing System is Designed to Produce the Lightest Weight Specialty Containers at High Speeds

The Bottle Container Manufacturing System (BCMS) produces specialty neck configurations for lightweight metal bottles with ROPP and Crown closures. Aerosol with Transfer or Ogival Necks are available as well. Rated up to 600 containers per minute running through a recirculation system, the overall machine footprint is significantly reduced. The BCMS is the optimal solution for high speed, high volume, and lower cost of production reaching speeds up to 600 CPM.

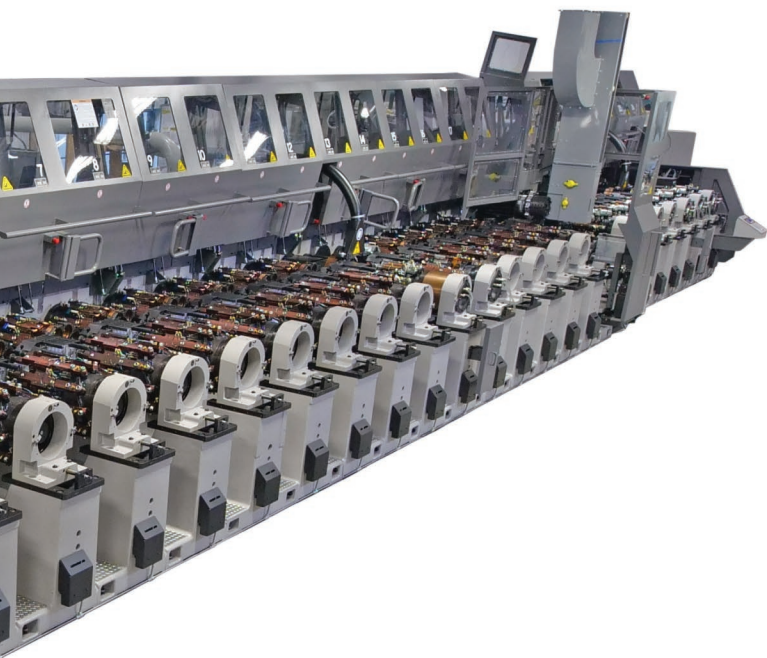
After entering the machine through the infeed, the preform containers are lubricated and fed into the odd pockets on each turret. The preforms enter a series of progressive necking operations, which include trimming stages until they reach the threader. The first pass necked preforms are then recirculated back through the second infeed. The BCMS has pocket-to-pocket integrity through each process turret. The bottles are lubricated a second time and proceed through the even pockets of each turret to complete the bottle forming process.

The advanced patent forming technology can create a Roll on Pilfer Band (ROPB) groove on a single module versus the traditional neck and expansions processes. This eliminates the need for expansion cameras and blow-off resulting in less wear parts, loss of process air, and lower spoilage.



Coupling the BCMS and Belvac's Container Engineering Services, brands are able to differentiate products with exclusively designed market samples, manufactured on Belvac's pilot line. Belvac supports from concept to production ensuring containers meet performance specifications. Services include the design and engineering of process tooling for the entire canmaking line, which includes Cupper, Bodymaker, and Necker tooling.

Traditional Inspection Systems including light testing and vision systems which track color dot, Bodymaker ID, can be coupled with advanced Inspection Systems including thread, curl, and expander. All are available upgrades to maximize machinery efficiencies. The BCMS features quick access guarding designed for ease of entry to the working side of the machine.



SCAN ME



The BCMS forms containers with a body diameter range of 45mm up to 83.8 mm and a height range of 127mm up to 254mm. Pry-off and/or ROPP closure finish available from 28mm to 42 mm in diameter. The BCMS will create a container with a maximum neck length of 69.85mm with a maximum shoulder dimension of 75.95mm. When the container is preshaped on the Belvac Shaper, the maximum forming capability will extend up to 200mm from the top edge. The minimum neck length is 5.8 mm.

HIGH SPEED OPERATIONS

- High Speed Operations up to 600 BPM
- Produces the Lightest Weight Containers
- Crown, ROPP, Aerosol Closures
- Shaped Can Capable

ADVANCED BOTTLE FORMING

- Can Height Range of 127 mm to 254 mm
- Body Diameter Range of 45 mm to 83.8 mm
- Carrier Ring Forming Capable

FLEXIBLE FEATURES

- Advanced Recirculation Feature to Reduce Overall Machine Footprint
- Pocket-to-pocket Integrity Through Each Process Turret
- Quick-change Capabilities
- Inspection Systems

BCMS TECHNICAL DATA

MACHINE DIMENSIONS PER MODULE

Length	31	in	787.4	mm
Width (Non-Cradle Mount)	130	in	3302	mm
Width (Cradle Mount)	155	in	3937	mm
Height	107	in	2718	mm

PRODUCTION SPEED

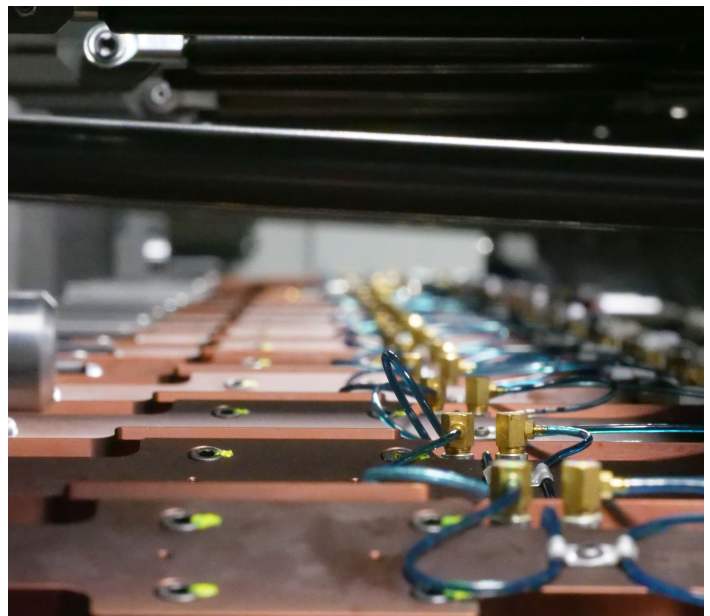
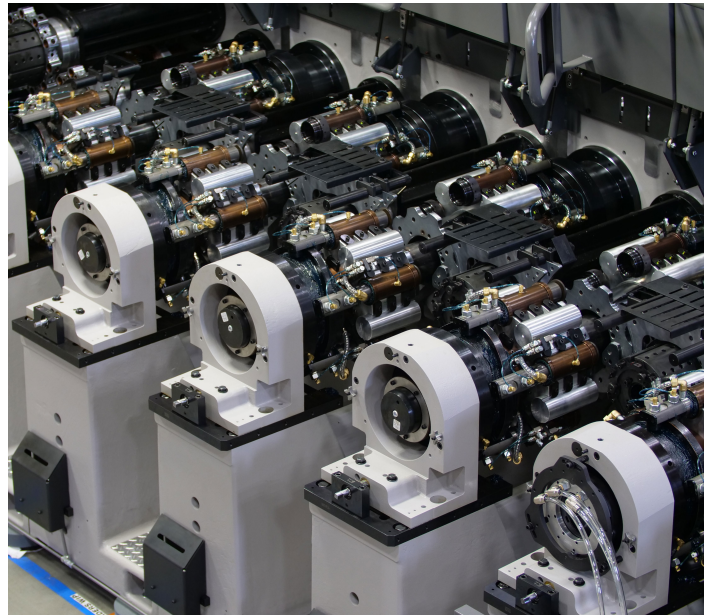
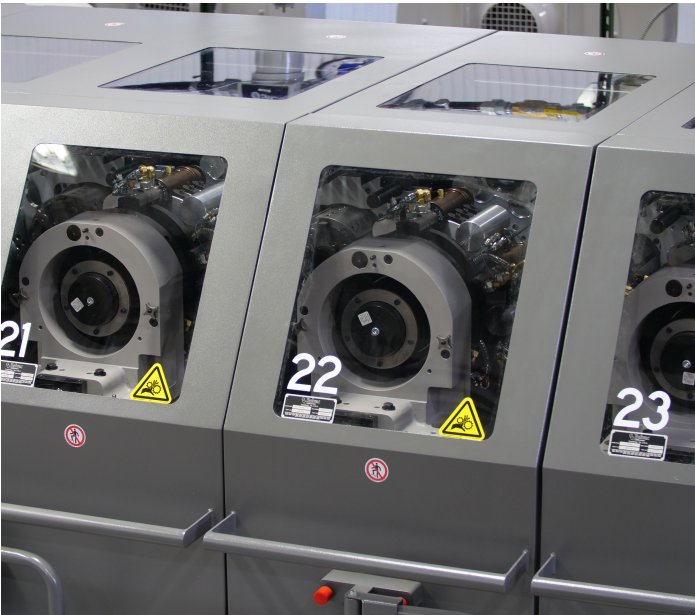
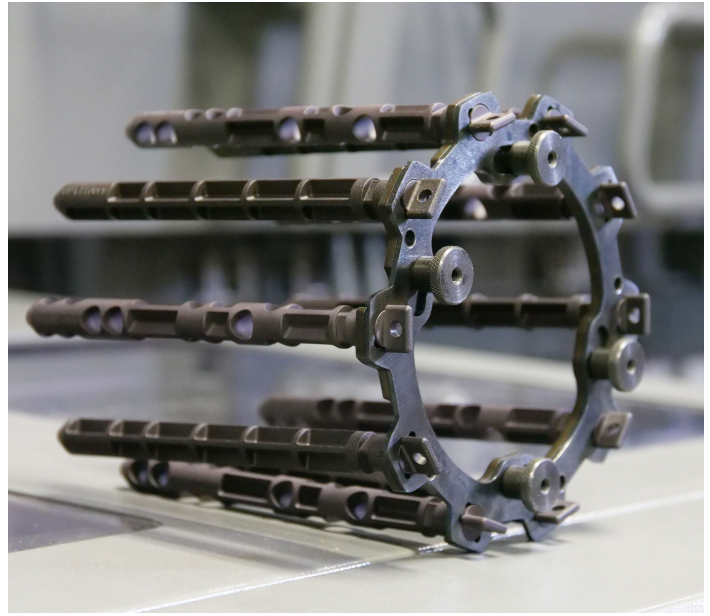
Shaped Cans	500 CPM	100 RPM Max Turret Speed
Unshaped Cans	600 CPM	120 RPM Max Turret Speed

CONTAINER SPECIFICATIONS

Can Diameter Range	1.771	in	3.07	in
	45	mm	83.8	mm
Can Height Range	5	in	10	in
	127	mm	254	mm
Neck Length Range	0.23	in	2.75	in
	127	mm	254	mm
Closure Range	1.102	in	1.654	in
	28	mm	42	mm
Maximum Neck Shoulder Dimension	2.99	in	75.95	mm
Shaped Can Capable	Yes			
Applicable Materials	Aluminum, Steel			

ASSEMBLY SPECIFICATIONS

Active Pockets with Recirculation	5
Cam Working Arc	180 Degrees
Main Shaft Assembly Style	Horizontal
Main Drive Motor and Gearbox	Single/ Multiple Drive and Gearbox (Configuration Dependent)
Drive System	Spur Gear, Inline Steel Oil Bath Lubed
Waxer	Standard Rollerless Hot Wax or Oil



THE SHAPER

*Through Deep Necking and Expansion,
The Shaper Effortlessly Adds Distinction
to Cans & Bottles up to 1200 CPM*

The Belvac Shaper creates deep necks and expansions resulting in unique container shapes at speeds up to 1200 CPM. The Shaper effortlessly adds distinction to both cans and bottles by shaping the sidewall of the container up to 200mm from the cut edge and 16mm above the chime of the can. Can height ranges from 95.3 mm up to 254 mm, and the diameter ranges from 45.0 mm to 83.8 mm. Both height and diameter adjustments have quick-change capabilities. The modular design of the Shaper features an automatic cam lubrication, and optional waxer designed for mineral oil or hot wax application.

The Shaper utilizes an advanced servo motor system that removes the traditional gears and oil bath while allowing each turret and transfer to rotate independently, ideal for quick tooling changeovers.



When equipped to recirculate, the foot print is significantly reduced, change-overs are faster, and there are less wear parts. Compressed air, vacuum blowers and push pads utility requirements are also greatly reduced due to recirculation.

The Shaper demonstrates pocket-to-pocket integrity as the can moves through the necking process. The number of turrets required is a function of the progressions necessary.



SCAN ME



HIGH SPEED OPERATIONS

- High Speed Operations up to 1200 CPM
- Produces the Lightest Weight Shaped Containers
- Advanced Recirculation Feature to Reduce Overall Machine Footprint

ADVANCED BOTTLE SHAPING

- Shapes up to 200 mm from the Cut Edge
- Shapes up to 16 mm from the Chime Profile
- Heights from 95.3 mm to 254 mm
- Body Size from 45 mm to 83.8 mm

SUPERIOR DESIGN

- Flexible HMI Panel
- Quick-change Capabilities
- Advanced Servo Motor System
- Independent Turret Rotation
- Pocket-to-pocket Integrity
- Shapes Both Cans and Bottles

SHAPER TECHNICAL DATA

MACHINE DIMENSIONS PER MODULE

Length	45.5	in	1156	mm
Width	106	in	2692	mm
Height	111	in	2819	mm

PRODUCTION SPEED

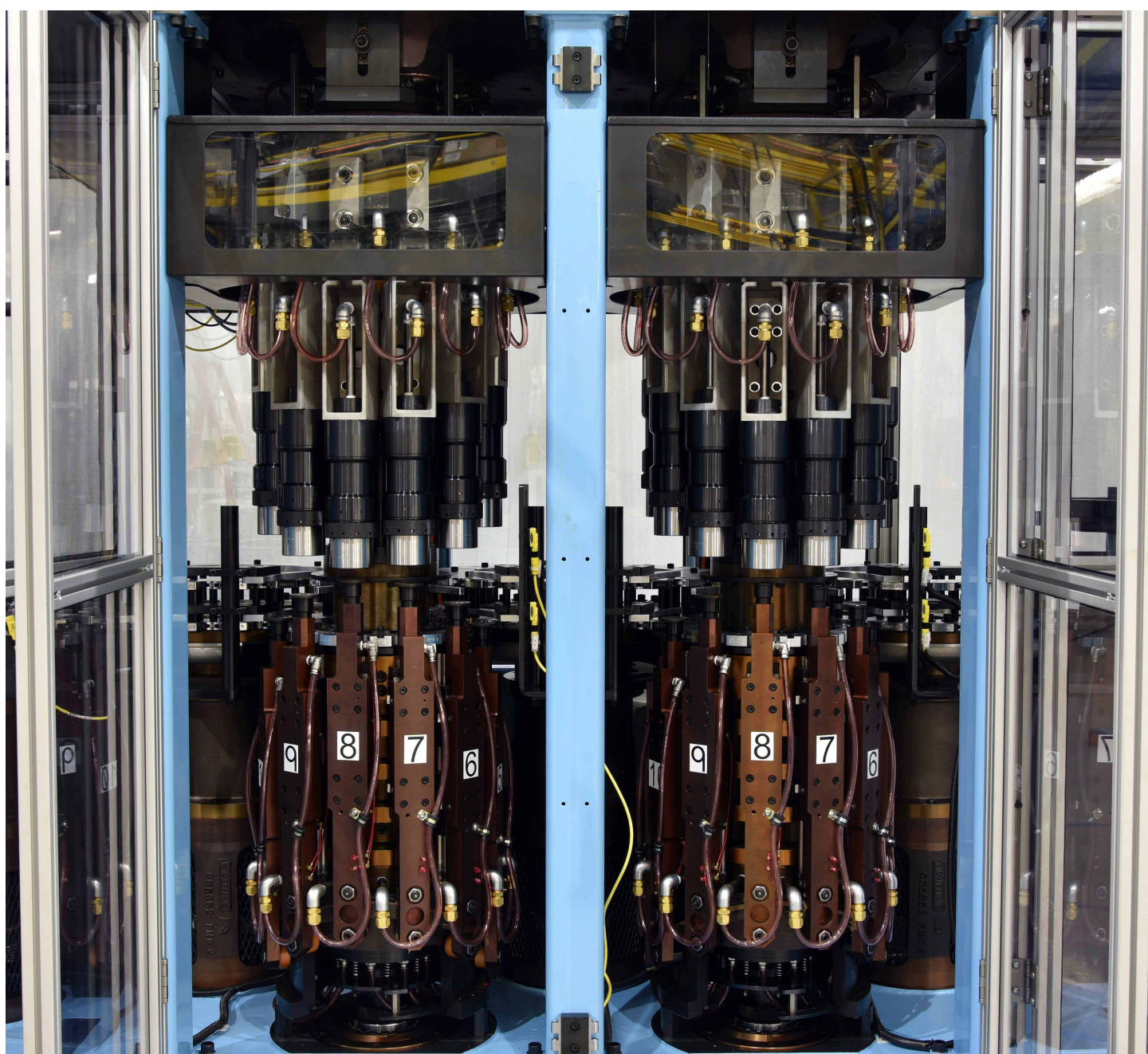
Linear	1200 CPM	100 RPM Max Turret Speed
Recirculation	600 CPM	100 RPM Max Turret Speed

CONTAINER SPECIFICATIONS

Can Diameter Range	1.772	in	2.875	in
	45	mm	73	mm
Can Height Range	3.75	in	10	in
	95.3	mm	254	mm
Maximum Neck Shoulder Dimension	0.63	in	7.87	mm
	16	mm	200	mm
Applicable Materials	Aluminum, Steel			

ASSEMBLY SPECIFICATIONS

Working/ Transfer Pockets	12/20
Active Pockets with Recirculation	6
Cam Working Arc	270 Degrees
Main Shaft Assembly Style	Horizontal
Main Drive Motor and Gearbox	Servo
Drive System	Spur Gear, Inline Steel Oil Bath Lubed
Waxer	Optional 450 QC Waxer



Revolutionize Your Packaging With The Belvac Carrier Ring Aluminum Bottle

Experience unparalleled flexibility and efficiency in your packaging line with the innovative lightweight Belvac Carrier Ring Bottle. This unique bottle redefines packaging convenience, allowing for seamless integration into existing plastic filling lines. What sets it apart is the integrated transport ring, making it a direct PET substitute package. This feature unlocks the ability to fill aluminum bottles alongside other plastic packages on PET lines.



A WORLD OF BENEFITS



TRANSITION WITH EASE

Embrace cost-effective operations without the need for extensive overhauls. The Belvac Carrier Ring Bottle fits effortlessly into your existing setup, minimizing transition costs and infrastructure waste. It is the smarter choice for businesses aiming to adapt sustainable packaging with minimal infrastructure disruption.



ACHIEVE SUSTAINABILITY GOALS

Step up your environmental responsibility game. By choosing these recyclable aluminum bottles, you contribute to reducing packaging waste, thus exceeding your corporate sustainability targets. It is a win for your brand and the planet.



ENHANCE CONSUMER LOYALTY

Make a lasting impression on your consumers with packaging that stands out. The Belvac Carrier Ring Bottle not only increases the marketability of your packages but also fosters brand loyalty among eco-conscious consumers. It is your ticket to a stronger market presence and loyal customer base.



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.

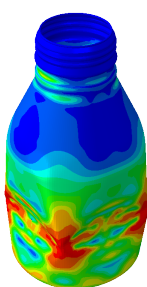
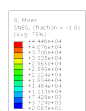
VISUALIZATION *PHASE THREE*



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.

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



Service Support Available Globally

Belvac supports customers worldwide with a comprehensive range of services designed to maintain uninterrupted and efficient specialty container manufacturing operations throughout the entire service life of equipment. Belvac's dedication to excellence is evident not only in an extensive offering of original spare parts and retrofits but also within a knowledgeable Service team who delivers expert problem-solving solutions. Whether you are in need of maintenance support, spare parts, machine rebuilds, or kits & upgrades, Belvac's global reach ensures assistance and support are available whenever and wherever needed.

SERVICE SOLUTIONS

- **Detailed Evaluation by Qualified Technicians:** Belvac's technicians identify maintenance deficits, wear, or potential damage early.
- **Early Detection of Maintenance Deficits:** Prevent unplanned downtime and extend equipment lifespan by addressing issues early.
- **Regular Maintenance:** Regular assessments ensure optimal machinery efficiency and minimal interruptions.
- **Problem-Solving Solutions:** Immediate, effective solutions to operational challenges for seamless production.
- **Rebuild and Retrofits:** Whether you are looking to rebuild an entire machine or an assembly, services to support your specific needs are available on-site or at select Belvac locations.

TRAINING PROGRAMS

- **Vital for Machinery and Operational Success:** Proper training is crucial for effective use of Belvac machinery.
- **Customized Training Programs:** Tailored training available on-site or at Belvac locations.
- **Hands-On and Personalized Training:** Blend of classroom and hands-on training with small class sizes for extensive practical experience.

SPARE PARTS AND KITS

- **Manufactured to the Highest Quality Standards:** Spare parts meet stringent quality criteria for superior performance and longevity.
- **Ensure Reliability:** Original parts maintain equipment reliability and operational efficiency.
- **Safeguard Value:** Protect equipment value and ensure a sound return on investment with our high-quality parts.
- **Enhance Your Efficiencies:** Belvac offers a large variety of kits & upgrades for all style Neckers.



Interested in learning more about Belvac's service, spares and kits & upgrades offerings?

Email us at sales@belvac.com to speak about your equipment today.

Ready to Learn More About Belvac's Front End Equipment?

Contact our team today at sales@belvac.com to discover how Belvac can help enhance your specialty can manufacturing operations.

