TECH-LONG



BFC (Blowing-Filling-Capping) Combi-bloc







Tech-Long keeps pace with the times, leveraging decades of expertise in blow molding, filling, and capping technologies to innovatively integrate the next generation of combined unit systems. By consolidating blow molding, filling, and capping into a single system, it delivers the most ideal solution for future PET bottled water, carbonated beverages, and hot-fill products. As China's leading liquid packaging equipment manufacturer, this flagship product exemplifies Tech-long's industry dominance.

The Value of BFC Systems for Your Business

Comprehensively Reduce Production Line Operating Costs



Integration

Highly Modular & Integrated Design – Eliminates the need for conveyor belts and buffer platforms between blow molding, filling and capping.



Reduce Personnel

Only 1 operator is needed to run the entire integrated BFC (Blow-Fill-Cap) system.



Reduce Space

Significantly reduces production floor footpoint.



More Energy-Saving

Minimizes power usage by removing unnecessary transfer lines between filling and blow molding.



Faster

The conversion of bottle types on the production line is faster.



More Intelligent

We can provide you with an intelligent device management system.



More Convenient

Automated data collection,Real-time production monitoring, Remote diagnostics & assistance.



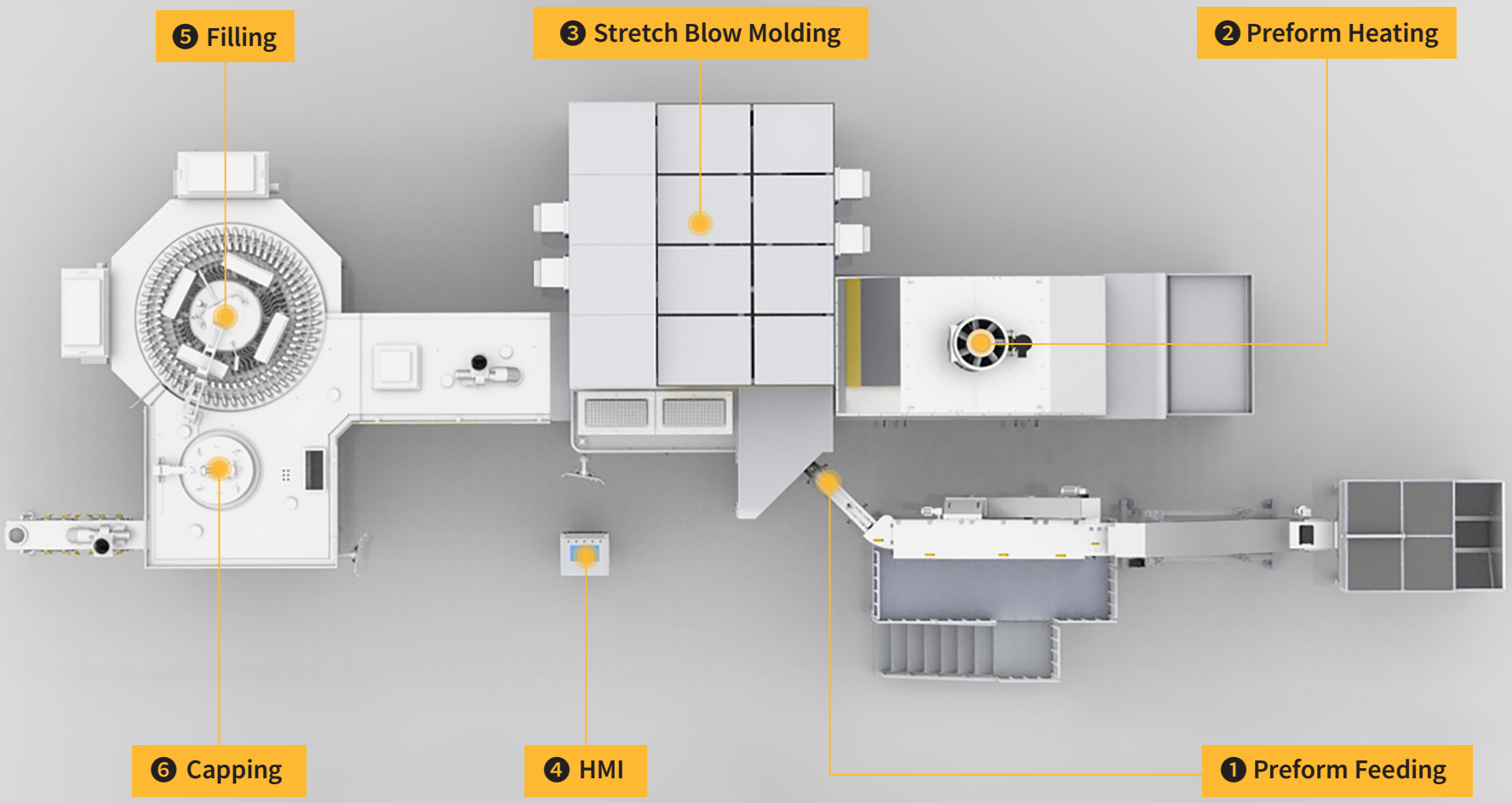
More Efficient

Industry-Leading 98% Overall Equipment Efficiency (OEE).

Value Analysis of BFC

Standalone Machines vs. Integrated Blow-Fill-Cap (BFC) Production Lines			
Project	**24000BPH BFC**	**36000BPH BFC**	**48000BPH BFC**
Conveyor chain savings (between blowing and filling)	250meter	300meter	400meter
Conveyor chain cost savings	$70,000	$83,000	$111,000
Reduction in operating personnel	1	1	1
Decreased labor cost expenditure	$16,000/year	$16,000/year	$16,000/year
Production line space savings	≈20%(200m^2)	≈25%(300m^2)	≈30%(400m^2)
Production line space saves costs	$33,600/year($14/m^2)	$50,400/year($14/m^2)	$67,200/year($14/m^2)
Energy saving cost of conveyor chain	15KW	20KW	25KW
Electricity cost savings (based on 5,000 production hours per year)	$18,000/year	$25,000/year	$30,5,00/year
Total cost savings	≈$138,000	≈$175,000	≈$225,000

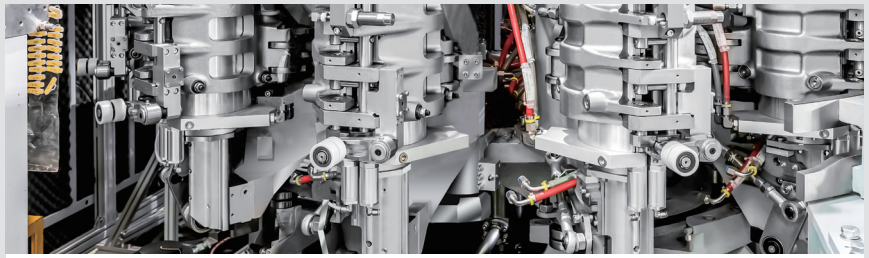
BFC Working Principle



Technical Parameters and Characteristics of BFC

Application Scope	Functions	Suitable bottle type	Bottle Diameter	Bottle Size	Bottle Height
Water (Still & Mineral),Hot-Fill Beverages (Juices, Teas, Dairy), Carbonated Drinks.	Stretch Blow Molding, Liquid Filling ,Capping.	Round Bottle Square Bottle	Φ40 ～ Φ108mm	200 ～ 2000ml	120 ～ 320mm

Technical Features of the Blow Molding Unit



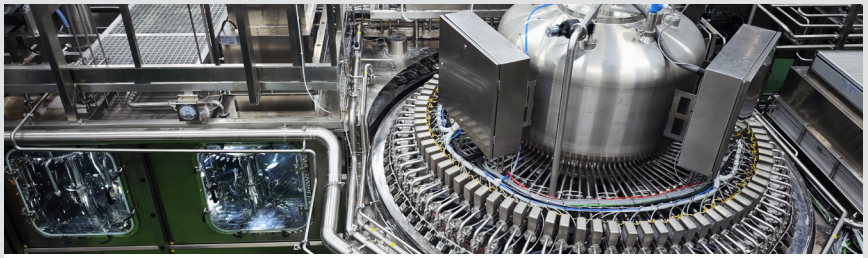
Performance Features:

- High-Speed Stability – Single-mold output reaches 2,800 BPH.
- Optimized Blow Molding Process – Supports multi-bottle formats with flexible adjustments, reducing compressed air consumption by 45-55%.
- Enhanced Heating Technology – Cuts energy consumption by 30-40%.
- Upgraded Drive System – Lowers noise levels by 15-20% while improving hygienic performance.
- Advanced Control System – Delivers ultra-high-speed response for precision operations.

Structural Features:

- Servo-Driven Stretch Control – Ensures flexible and precise stretch rod movement.
- Synchronized Base & Side Molds – Minimizes vibration and noise.
- Sealing & Servo Stretch Coordination – Eliminates impact noise and maximizes blow molding efficiency.
- Modular & Standardized Components – Simplifies maintenance and upgrades.
- Quick-Change System – Enables rapid switching between neck finishes and bottle shapes.

Technical Features of the Filling Unit



- Precision Flowmeter Filling System, High-accuracy volumetric filling with zero backflow, Enhanced hygiene & energy efficiency.
- Fully Automated CIP Internal Cleaning.
- Floor-mounted Tempered Glass Safety Doors, Facilitates convenient operation and maintenance from ground level: Mold changing, Equipment surface cleaning,Routine operations.
- Advanced Intelligent Control System, No filling/capping without bottle presence.
- Optional Sloped Base Platform, Self-draining design eliminates water accumulation.
- 3A-Compliant Safety Enclosure,Ergonomic design meeting international safety standards.

Technical Parameters and Characteristics of BFC

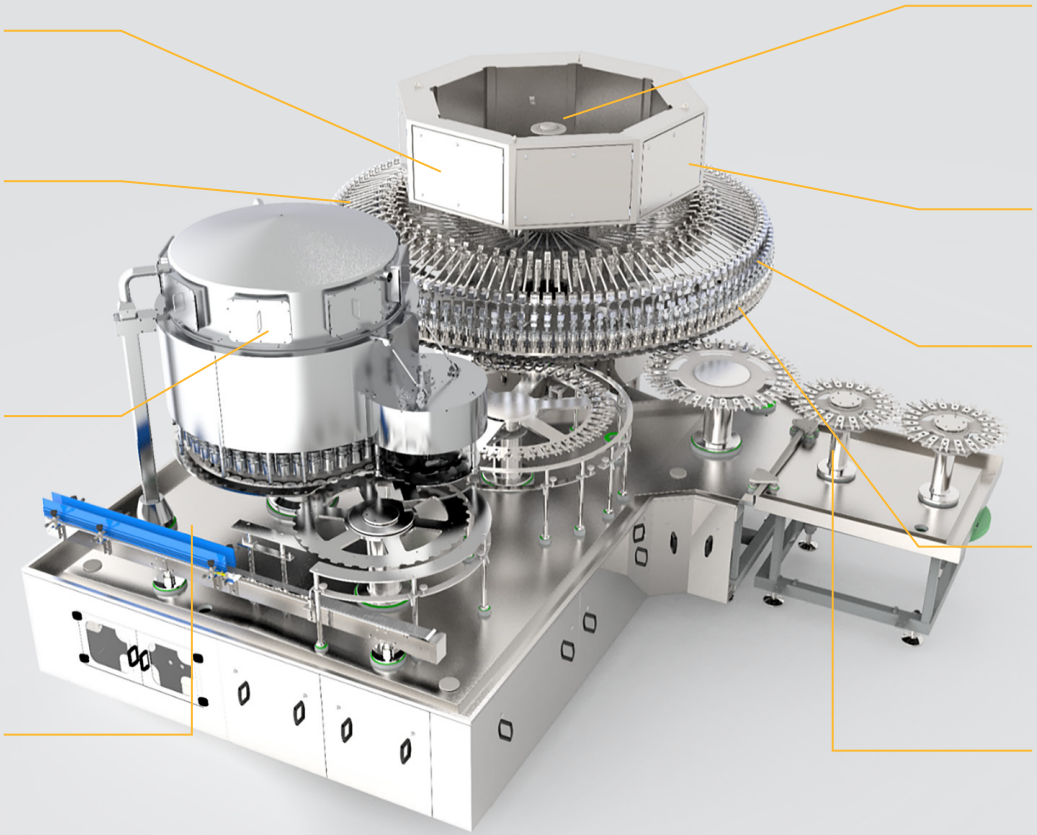
Technical Features of the Filling Unit

4 Comprehensive electrical control system, highly automated.

3 3A sanitary standard design, ensuring food safety.

2 Full-machine COP rinsing, safe and hygienic.

1 Modular standard structure, stable and reliable.



5 Premium brand components , durable and long-lasting.

6 Independent electrical and pneumatic distributors for enhanced safety.

7 Electromagnetic flow meter for precise quantitative control.

8 Fully automatic CIP system, one-touch operation.

9 Bottle-clip transfer system, enabling rapid production changeover.

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