

# CPX SERIES PET ROTARY STRETCH BLOW MOLDING MACHINE





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## **Blow Molds Product Range**

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**27-30**



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DURING PRODUCTION OF PET CONTAINERS, ARE **RELIABILITY & ENERGY CONSUMPTION** THE KEY PURCHASING FACTORS ?

”

THE ANSWER IS YES. ONLY THE MOST STABLE PROCESS WINDOW AND LOWEST ENERGY CONSUMPTION CAN ACHIEVE THE MOST EFFICIENT PRODUCTIVITY. THE CONTINUOUS INNOVATION OF TECH-LONG'S BLOWER WILL DIRECTLY BENEFIT YOUR UPTIME AND WILL KEEP YOUR PRODUCTION COST LOW.

## TECH-LONG BLOW MOLDING MACHINE

Tech-Long PET stretch blow molding machine is the first national brand of high speed rotary stretch blow molding machine. This has been a key project of the Torch Program (a program to develop new and high technology) and it fills in the domestic gap in high speed blow molding machines field. Since 2002, Tech-Long developed and manufactured its first high speed blow molding machine, RJM8. It has realized a giant leap from 800BPH (Bottles Per Cavity per Hour) to 2,400BPH with its new CPX G5 blow molding machine series.

Tech-Long's fifth generation of blow molding machine was developed with the most advanced stretch blow molding technology in the world. High pressure air is used to blow and stretch the PET preforms into containers. The CPX series has many advantages including, high level of automation and intelligence, superior and consistent product quality, high production efficiency, low energy consumption making it the perfect machine for PET containers' production for various type of liquid products.





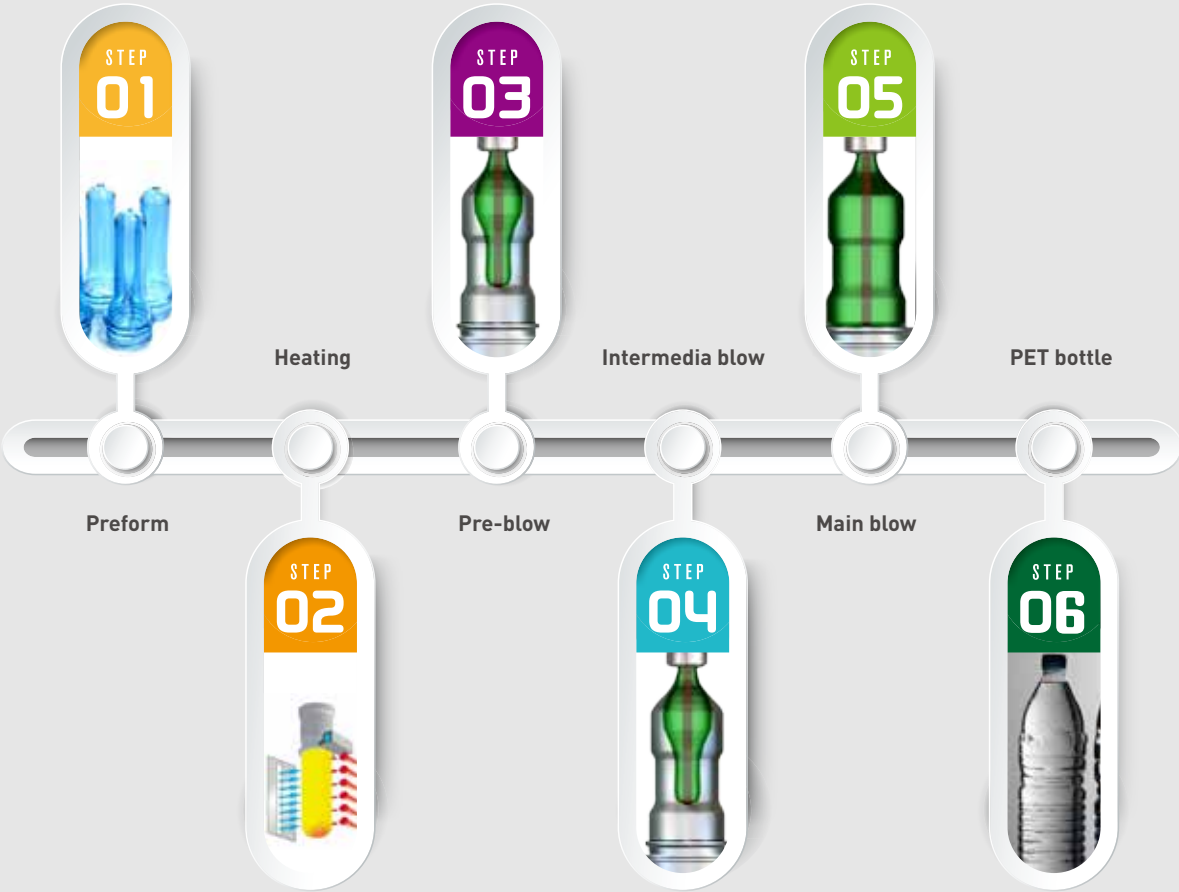


PERFECT PET CONTAINERS, CUSTOMIZED DESIGN PRINCIPLES, WIDE APPLICATION SCOPE

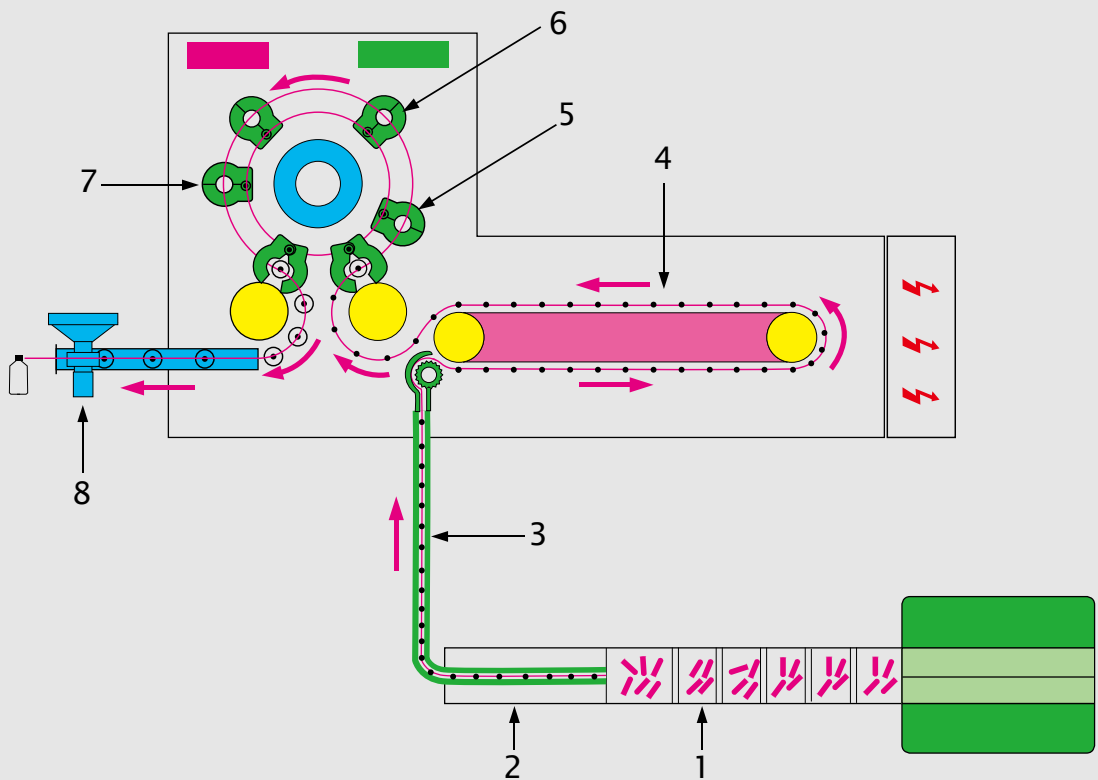
■ drinking water ■ carbonated soft drinks ■ milk and milk-based products ■ edible oil ■ juice & energy drink ■ tea, coffee



# The Stretch Blow Molding Process



# The Working Principles of Tech-Long Blow Molding Machine



1 Preform Infeed

2 Preform Unscrambling

3 Conveying

4 Heating

5 Stretching + Preblowing + Intermedia blow

6 High Pressure Blowing

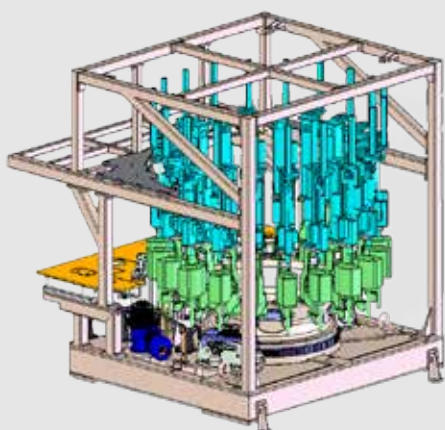
7 End of Blowing Cycle

8 Bottle Discharge



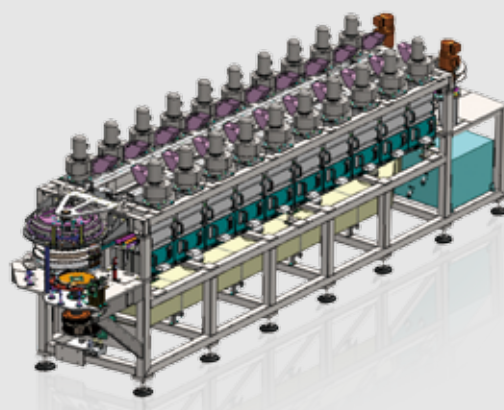
# The Main Components of Tech-Long Blow Molding Machine

■ Blow Wheel   ■ Oven   ■ Preform Unscrambler   ■ Control System   ■ Auxiliary Equipment



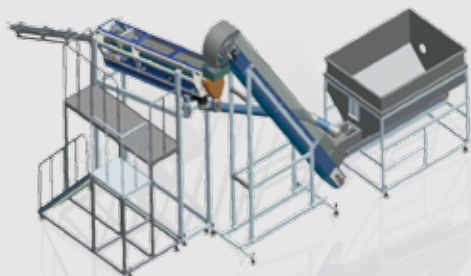
## Blow Wheel

- PLC control for high speed operation
- Manipulator automatically grasp preforms & bottles
- Servo stretching & mechanical sealing
- Six steps blow molding process
- Linkage of bottom mold and open-close mold
- Monitoring water, electricity & air running



## Oven

- The preform loading, heating and neck cooling are realized.
- Stable infrared heating system.
- Multiple heating area, each heating area is individually controlled.
- The stepless regulation of infrared tube voltage.



## Preform Unscrambler

- Programmed preform conveying, infeed and unscrambling

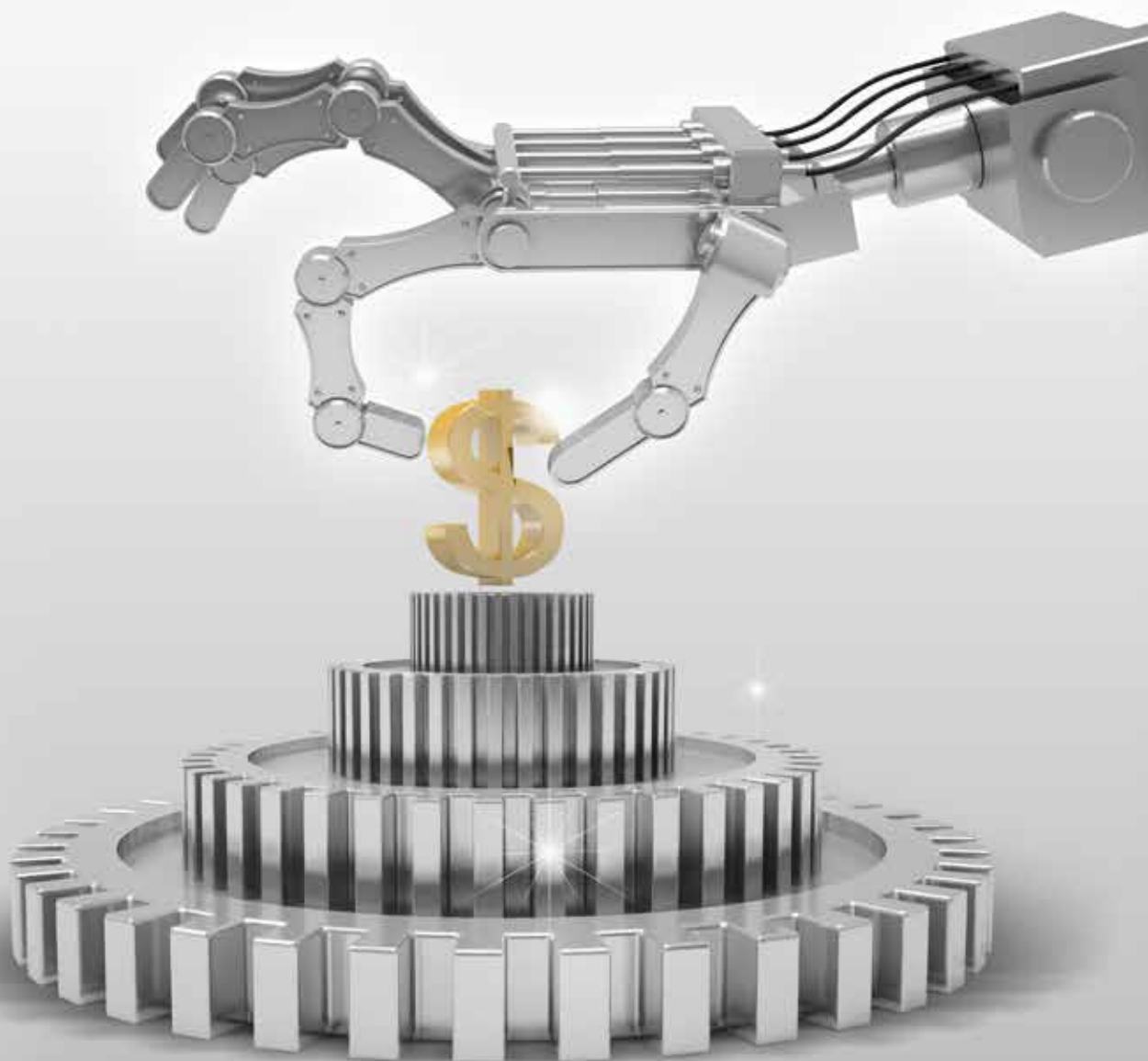
## The Performance of Tech-Long Blow Molding Machine

<b>Bottle Type</b>	PET bottle, used in the packaging of water, juice, carbonated beverage, edible oil, soy sauce, daily cosmetics and so on.	
<b>Single Mold Capacity</b>	Water bottle—2250-2400BPH( $\leq 0.6L$ )	
	Heatset bottle—1800BPH( $\leq 0.6L$ )	
	CSD bottle—2000BPH( $\leq 0.6L$ )	
<b>Bottle Size</b>	0.25L - 10L	
<b>Bottle Variety</b>	(1) CPXD Series	Bottle size 4L-10L
	(2) CPXX Series	Bottle size 0.25L-0.77L
	(3) CPX Series	Bottle size 0.25L-2.5L
	(4) CPXF Series	Square Bottle size 0.25L-2.5L
	(5) CPXM Series	Bottle size 0.25L-3.3L
	(6) Shape Bottle Series	Bottle size 0.25L-2L

# What machine will provide you **the most effective return?**

## **We will provide you a solution:**

As one of the leading supplier in the industry, Tech-Long blow molding machines have been running in a lot of plants around the world. Our technology has reached world leading levels in the PET beverage industry and we are the incontestable leader for high speed blow molders in our domestic market.



## The Advantages of Tech-Long PET Blow Molding Machine

### Low Noise

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- The working noise of blowing process is less than 83dB.
- High pressure air can be fully recycled further reducing the noise because of no or very minimal exhaust.

### High Capacity (Single Mold Capacity)

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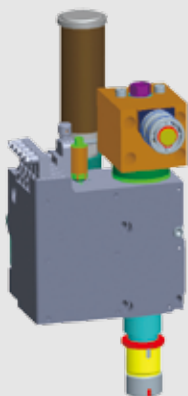
- Water Bottle—2250-2400BPH ( ≤0.6L)
- CSD Bottle—2000BPH ( ≤0.6L)
- Heatset Bottle—1800BPH ( ≤0.6L)



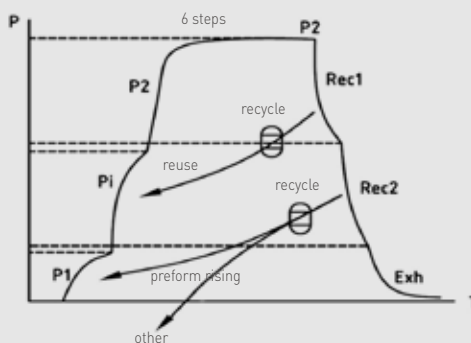
# The Advantages of Tech-Long PET Blow Molding Machine

## Low Energy Consumption

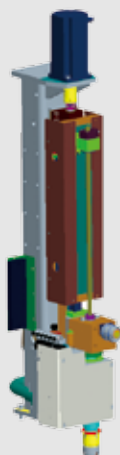
- Reducing the pressure of bottle's high pressure air  
( Large diameter blowing valve, reasonable bottle shape, suitable preform and raw material, and the water bottle's high pressure air can be lowered down to 16-25bar.)



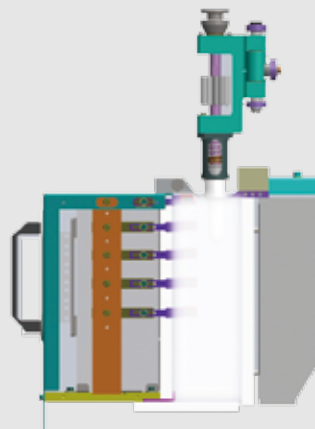
- Brand new blow molding technology can save the high pressure air consumption 40-55%  
( the patented blow molding technology of 6 steps, 3 times blowing and 2 times recycling is adopted.)



- Low pressure air is saved  
( as the conventional pneumatic stretching is replaced by servo stretching, and the pneumatic sealing is replaced by mechanical sealing, the low pressure air is saved.)



- The preform heating consumption is lowered down 10-15%  
( small preform pitch P=38, optimized oven design , semi-closed structure, 3-sides reflecting the infrared, and increasing the oven temperature and preform efficiency.)





# The Advantages of Tech-Long PET Blow Molding Machine

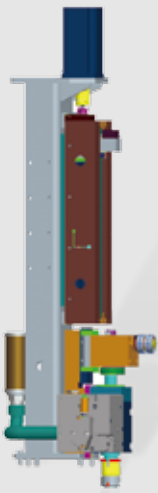
## Energy Saving Application Instance

Capacity 45000BPH, 555ml water bottle, 1-hour electricity consumption comparison			
<b>G4 blow molding machine without high pressure air recycle system</b>			
30bar High pressure air	8bar Low pressure air	The power consumption of oven	Total
Air consumption 912M3/H	Air consumption 403M3/H		
Equivalent power consumption 126.8KWH	Equivalent power consumption 40.3KWH	143KWH	310.1KWH
<b>G5 blow molding machine with new blow molding process</b>			
30bar High pressure air	8bar Low pressure air	The power consumption of oven	Total
Air consumption 480M3/H	Air consumption 0		
Equivalent power consumption 66.7KWH	Equivalent power consumption 0	128KWH	194.7KWH
47.7% ↓	100% ↓	10.5% ↓	Save 115.4KWH

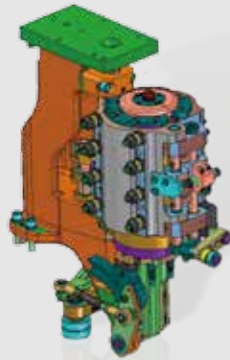
# The Advantages of Tech-Long PET Blow Molding Machine

## Modularized Design

Modularized and standardized design for same function components in different model of blow molding machines



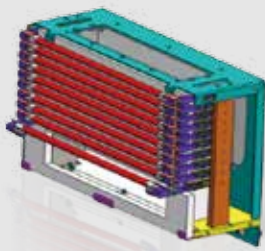
Servo Stretching



Mold Carrier



Oil and Water Distributor



Oven Rack



Manipulator



Oven Chain

# The Advantages of Tech-Long PET Blow Molding Machine

## Quick Bottle Changeovers

The quick change of bottom mold and side mold can shorten its changeover time.  
(Time of changing one set of mould is 2-3 minutes/person)

Model	Time
CPX4	8-12
CPX6	12-18
CPX8	16-24
CPX10	20-30
CPX12	24-36
CPX14	28-42
CPX16	32-48
CPX18	36-54
CPX20	40-60
CPX22	44-66
CPX24	48-72
CPX26	52-78

## Low Maintenance Cost

Every functional part can be easily disassembled and assembled.



TECH-LONG'S **ACCUMULATED FIELD AND ENGINEERING EXPERIENCE** CONTRIBUTED TO MAKE CPX G5 THE BEST CLASS IN STRETCH BLOW MOLDING SEGMENT. TECH-LONG DEVELOPED A COMPLETE RANGE OF PET BLOW MOLDING MACHINE TO COVER ALL MARKET SEGMENTS, WHICH ARE CAPABLE **TO MEET THE DEMAND FOR BEVERAGE AND NON BEVERAGE APPLICATIONS.**

<b>CPXD Series for extra large containers</b>	Bottle Size 4L-10L
<b>CPXX Series for single serve</b>	Bottle Size 0.25L-0.77L
<b>CPX Series for standard shell size</b>	Bottle Size 0.25L -2.5L
<b>CPXF Series for square molds</b>	Bottle Size 2.5L - 3L
<b>CPXM Series for larger shell size</b>	Bottle Size 0.25L -3.3L
<b>Shape Bottle</b>	Bottle Size 0.25L -2L



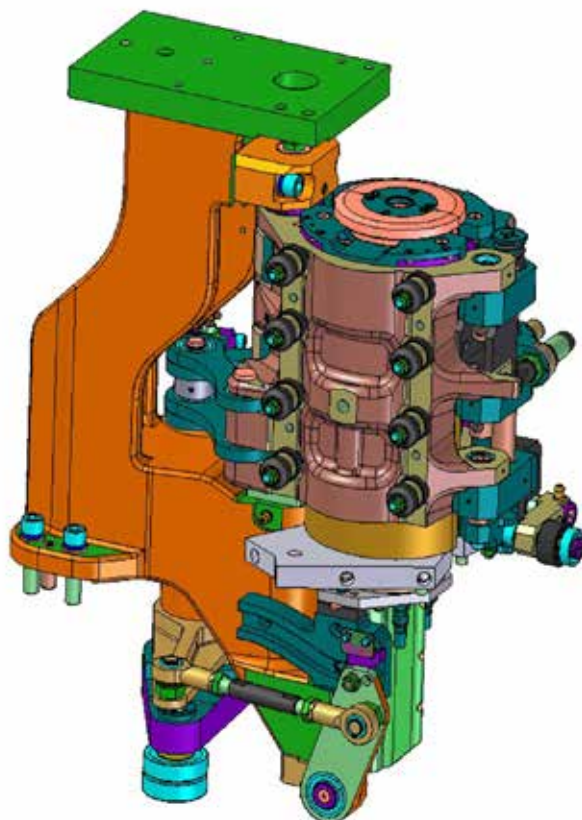
## Blow Molding Machine Range

SERIES	MODEL	CAVITIES	CAPACITY(BPH)			MAXIMUM BOTTLE SIZE	APPLICATION RANGE
			WATER BOTTLE	CSD BOTTLE	HOT FILLING BOTTLE		
Standard Shell Size	CPX4	4	9600	8000	4800-7200	2.5L	Water Beverage Milk And Dairy Edible Oil Food Medical Products Cosmetics Detergent Bottles and So On
	CPX6	6	14400	12000	7200-10800		
	CPX8	8	19200	16000	9600-14400		
	CPX10	10	24000	20000	12000-18000		
	CPX12	12	28800	24000	14400-21600		
	CPX14	14	33600	28000	16800-25200		
	CPX16	16	36000	32000	19200-28800		
	CPX18	18	40500	36000	21600-32400		
	CPX20	20	45000	40000	24000-36000		
	CPX22	22	49500	44000	26400-39600		
	CPX24	24	54000	48000	28800-43200		
CPX26	26	58500	52000	31200-46800			
Large Shell Size	CPXM4A	4	6400	6400	4000-6000	3.3L	Water Bottles and Csd Bottles Less Than 3.3L.
	CPXM6A	6	9600	9600	6000-9000		
	CPXM8A	8	12800	12800	8000-12000		
	CPXM10A	10	16000	16000	10000-15000		
	CPXM12A	12	19200	19200	12000-18000		
	CPXM14A	14	22400	22400	14000-21000		
	CPXM16A	16	25600	25600	16000-24000		
	CPXM18A	18	28800	28800	18000-27000		
	CPXM20A	20	32000	32000	20000-30000		
	CPXM22A	22	35200	35200	22000-33000		
	CPXM24A	24	38400	38400	24000-36000		
CPXM26A	26	41600	41600	26000-39000			
Square Mold	CPXF4A	4	6400	6400	4000-6000	3L	Water Bottles And Juice Bottles Round 2.5L-3L, Bottle With Hand Around 2L
	CPXF6A	6	9600	9600	6000-9000		
	CPXF8A	8	12800	12800	8000-12000		
	CPXF10A	10	16000	16000	10000-15000		
	CPXF12A	12	19200	19200	12000-18000		
	CPXF14A	14	22400	22400	14000-21000		
	CPXF16A	16	25600	25800	16000-24000		
	CPXF18A	18	28800	28800	18000-27000		
	CPXF20A	20	32000	32000	20000-30000		
	CPXF22A	22	35200	35200	22000-33000		
	CPXF24A	24	38400	38400	24000-36000		
CPXF26A	26	41600	41600	26000-39000			



SERIES	MODEL	NUMBER OF MOLD CAVITIES	CAPACITY		MAXIMUM BOTTLE SIZE	APPLICATION RANGE
			WATER BOTTLE	CSD BOTTLE		
Single Serve	CPXX16A	16	38400	32000	0.77L	Water, Beverage, Milk and Dairy, Edible Oil, Food, Medical Products, Cosmetics, Detergent Bottles and So On.
	CPXX18A	18	43200	36000		
	CPXX20A	20	48000	40000		
	CPXX22A	22	49500	44000		
	CPXX24A	24	54000	48000		
	CPXX26A	26	58500	52000		
	CPXX28A	28	63000	56000		
	CPXX30A	30	67500	60000		
	CPXX32A	32	72000	64000		
	CPXX34A	34	76500	68000		
			81000	72000		
			WATER BOTTLE(4-6L)	Oil Bottle(10L)		
Extra Large Shell Size	RJM2A	2	2000	1200	Φ200x410 4-10L	Water Bottles, Beverage Bottles, Edible Oil Bottle and So On.
	CPXD4	4	5600	3000		
	CPXD6	6	8400	4500		
	CPXD8	8	11200	6000		
	CPXD10	10	14000	7500		
SERIES	MODEL	NUMBER OF MOLD CAVITIES	BOTTLE SIZE(≤600ml)		MAXIMUM BOTTLE SIZE	APPLICATION RANGE
			CAPACITY			
Shape Bottle	CPX4T	4	8000		2L	Beverage Milk and Milk Based Products, Edible Oil, Food, Medicine, Cosmetics, Detergent
	CPX6T	6	12000			
	CPX8T	8	16000			
	CPX10T	10	20000			
	CPX12T	12	24000			
	CPX14T	14	28000			
	CPX16T	16	32000			
	CPX18T	18	36000			
	CPX20T	20	40000			
	CPX22T	22	44000			
	CPX24T	24	48000			
	CPX26T	26	52000			

## CPX Series for Standard Shell Size



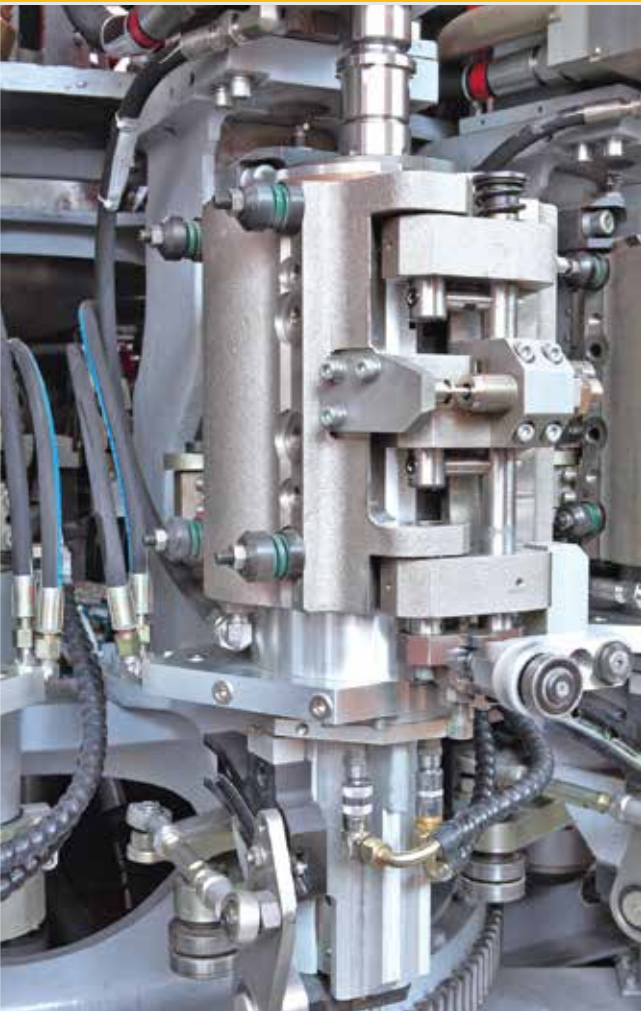
Tech-Long developed the world most advanced stretch blow molding technology, the CPX series. It uses high air pressure to blow mold the preform into a container using technology breakthrough to reduce air and energy consumption. The quick change over allow to run various bottle size on the same platform. The blower can be used as a stand alone machine to make containers or combined with a filler to make a mono-bloc Blow Fill Cap machine.

The standard CPX range can handle bottle sizes from 0.2L to 2.5L for all type of beverage and non beverage applications at speeds up to 58,500 BPH.

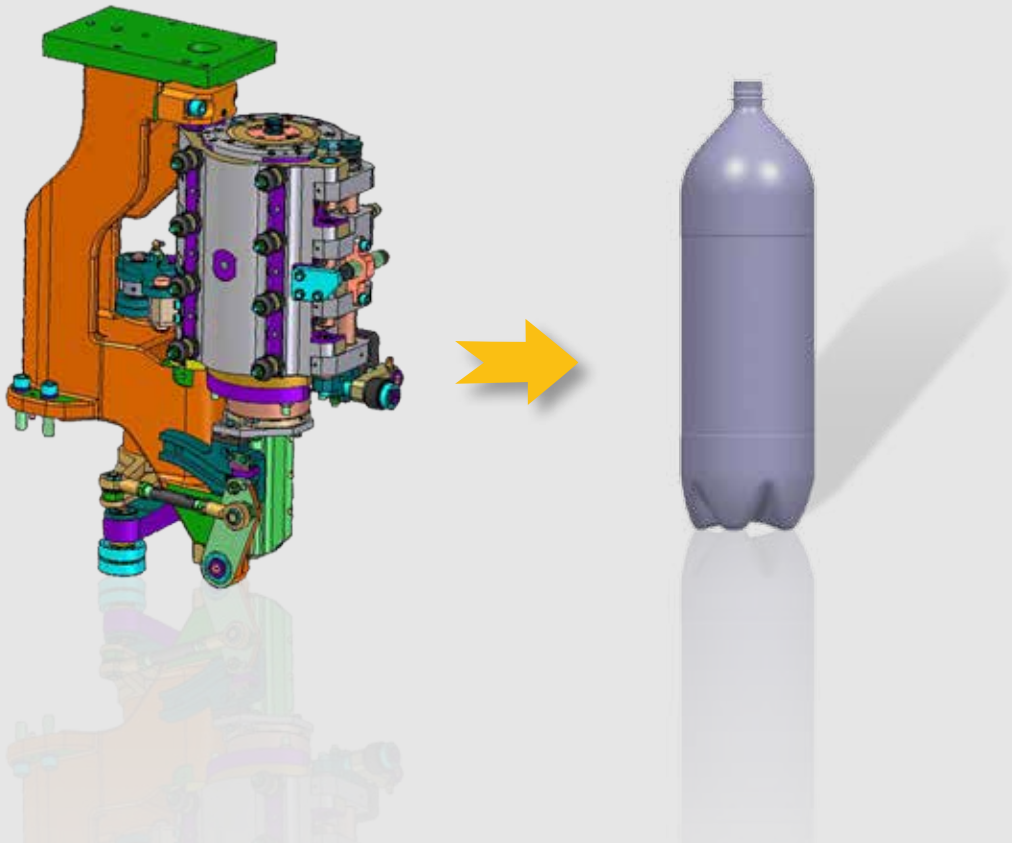
### Technical Features

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- Automation and high intelligent level
- Superior and stable product quality
- High output: the output of single mould is 2250-2400 bottles per cavity per hour
- Low energy consumption: air and power consumptions are lowered down
- Sanitary and without intermediate contamination
- Low production cost
- Simple Operation & Maintenance, safety



## CPXM Series for Larger Shell Size



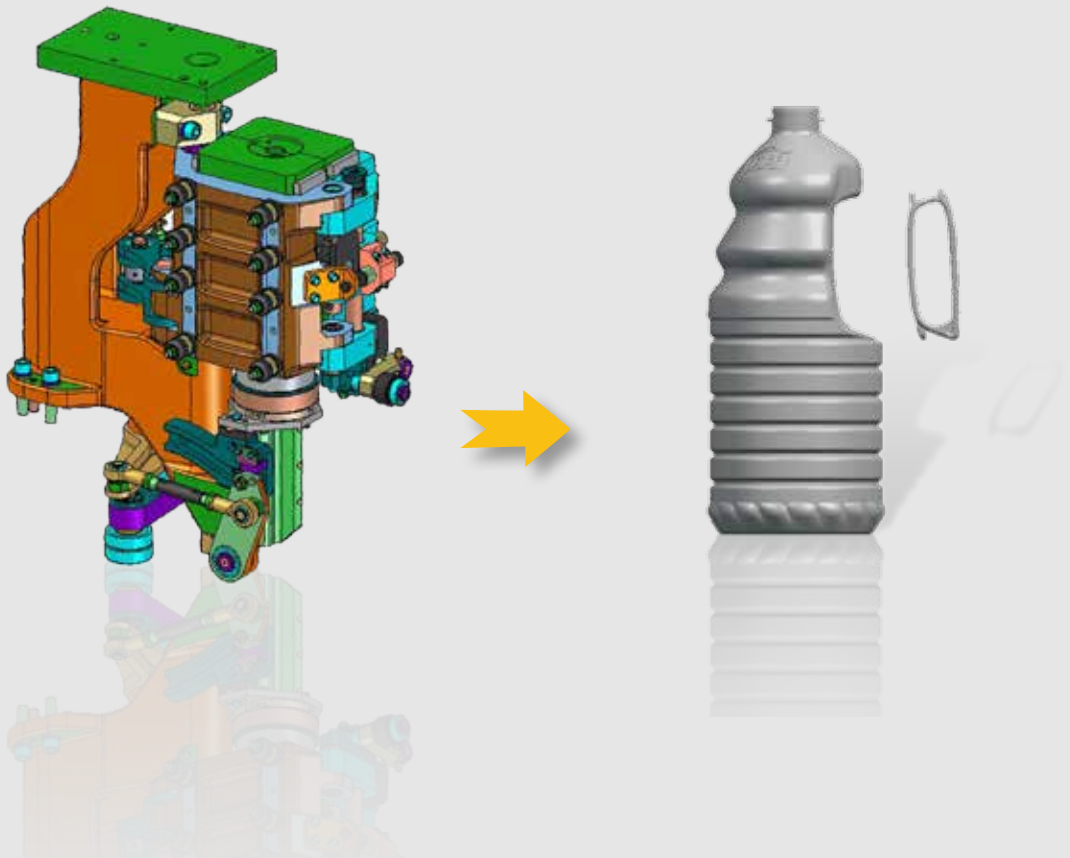
The CPXM series was developed with the same advanced technology as the standard CPX series machine, The mold carrier was designed to run larger mold size, allowing up to a 3.3L bottle size.

### Technical Features

It is mainly used to blow the water bottles and CSD bottles less than 3.3L

Single cavity capacity is 1600 bottles per cavity per hour

## CPXF Series for Square Molds



The CPXF series was developed with the same advanced technology as the standard CPX series machine, The mold carrier was designed to run square mold size allowing up to a 3L bottle size or 2L with inserted handles

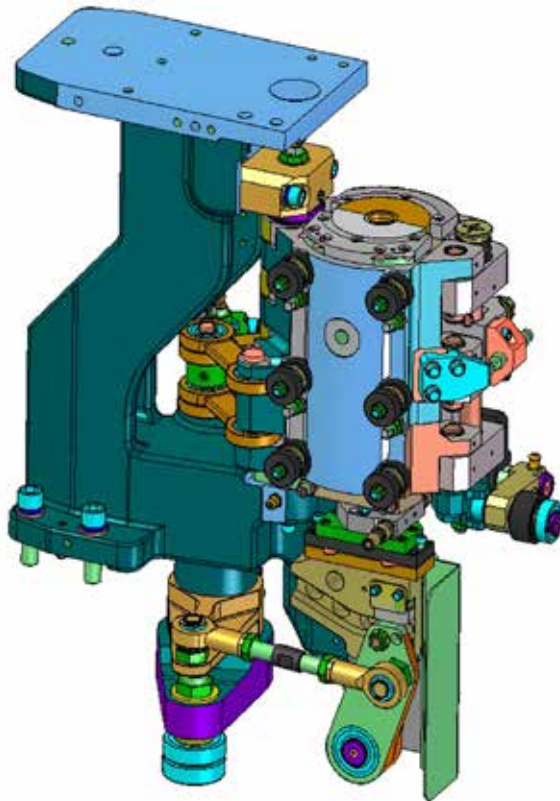
### Technical Features

It is mainly used to blow the big diameter water bottle whose volume is 2.5-3L, juice bottle and PET Bottle with handle

Single cavity capacity is 1600 bottles per cavity per hour.



## CPXX Series for Single Serve

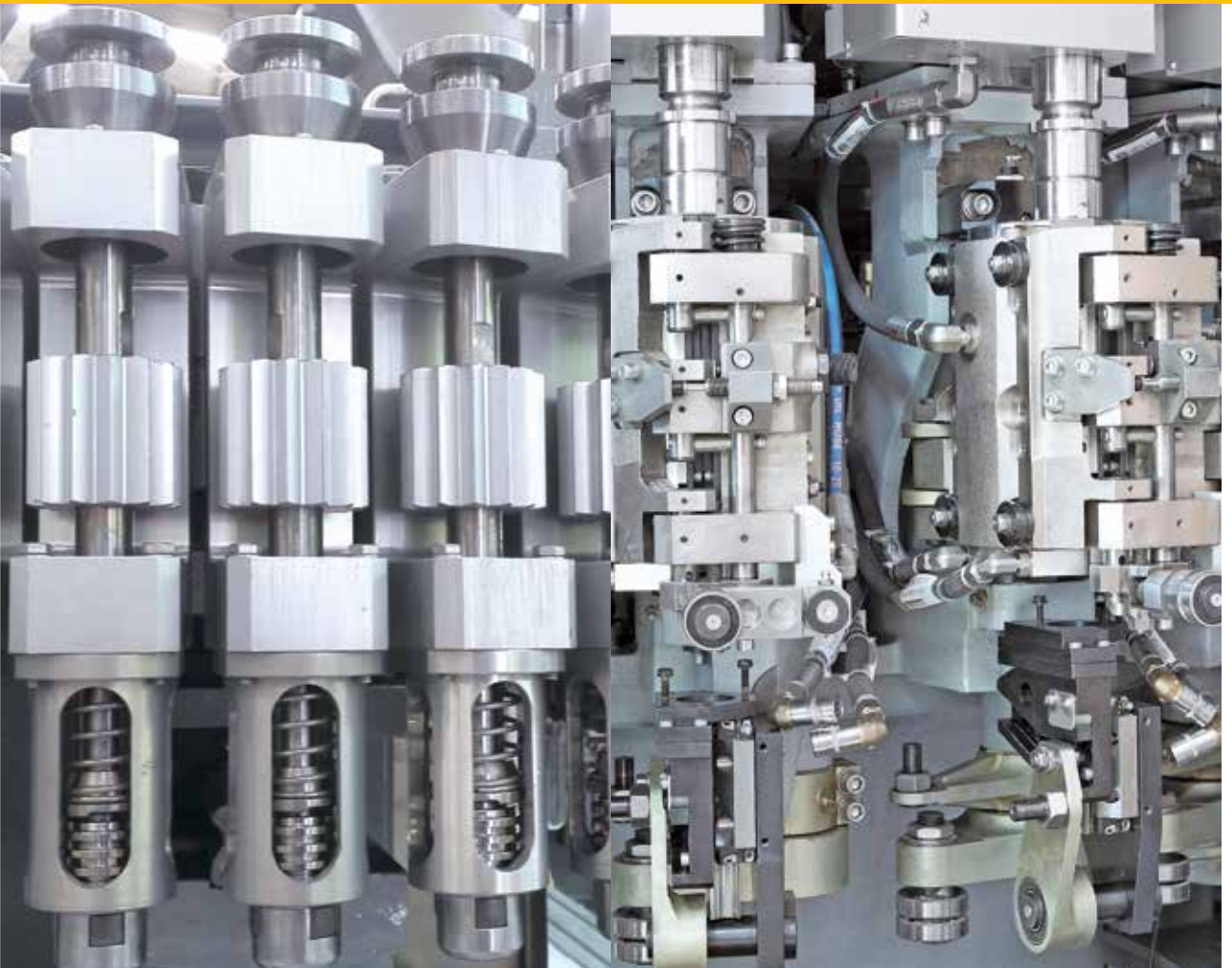


The CPXX series was developed with the same advanced technology as the standard CPX series machine. The mold holder was designed to run smaller bottle sizes up to 770ml allowing for optimizing with more stations versus the standard CPX machine frame. CPXX series can handle the bottle sizes from 0.25L-0.77L up to a maximal output of 81,000BPH.

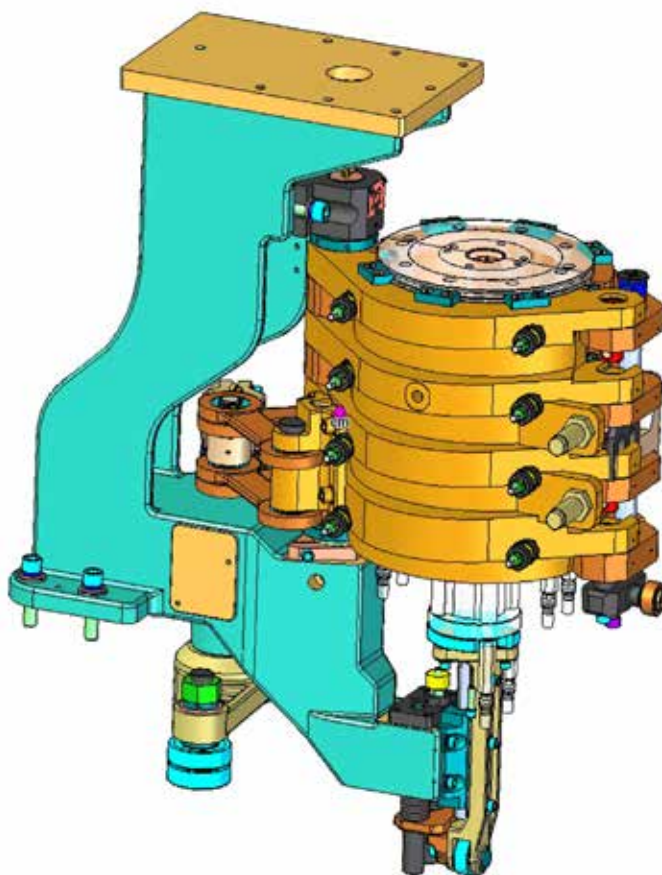
The blower can be used as a stand alone machine to make containers independently or before the filling line or combined with a filler to make a mono-bloc Blow Fill Cap machine.

### Technical Features

- High production efficiency
- Same output per hour as standard machine(CPX SERIE) with smaller footprint
- Reduced Capex
- The best option for single serve application



## CPXD Series for Extra Large Shell Size



The CPXD series was developed with the same advanced technology as the standard CPX series machine. The mold carrier was designed to run larger mold sizes. The CPXD series can handle the bottle sizes from 4L-10L up to a maximal output of 14,000BPH.

The blower can be used as a standalone machine to make containers independently or before the filling line or combined with to a filler to make a mono-bloc Blow Fill Cap machine.

### Technical Features

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- High production efficiency with HP air recovery system, recycling more than 30% of HP air
- Low pressure air free
- High degree of automation and intelligence
- Superior and stable product quality

AS A COMPLETE TURNKEY SOLUTIONSUPPLIER, WE UNDERSTAND EVERY KEY PARAMETERS TO IMPROVE UPTIME AND LINE EFFICIENCY. WE WILL PROVIDE YOU WITH **THE BEST SOLUTION.**



We are not just a standalone machine supplier. We are a solution provider. We provide the best line design and manufacturing concept to make your line as efficient and flexible as possible. We manufacture the most optimized bottle design and molds for your line and product requirements.

## How to Manufacture the Finest PET Bottles?



### **BOTTLE DESIGN**

Tech-Long professional bottle design team can design the best bottle to attract the customers attention immediately.

### **There is a high level of interaction between the blow molding machine and its blow molds.**

Based on its extended experience of blow molding process, Tech-Long molds can meet the most rigorous mechanical and speed requirements. All the molds pass a strict inspection









**High Standard of manufacturing precision and quality control.**

Tech-Long has one of the most professional PET Inspection Center in this industry and has tested various PET bottle design during the production, transportation, retail and consumption. Tech-Long has a wide experience in PET bottle and mold design to help you design the best solution to optimize cost, efficiency and product integrity.



## Blow Molds Products Range

DESCRIPTION	PET Cold Filling Mold	PET Cold Filling Mold	PET Hot Filling Mold	PET Cold Filling Mold
TYPE	CPXX Aluminum Mould	CPX Aluminum Mould	CPX Stainless Steel Mould	CPXD Aluminum Mould
				
MATERIAL	Aluminum/ Stainless Steel	Aluminum/ Stainless Steel	Aluminum/ Stainless Steel	Aluminum/ Stainless Steel
APPLICABLE MACHINE TYPE	TL: CPXX Cold	TL: CPX Cold	TL: CPX Hot	TL: CPXD
MAINLY APPLICABLE BOTTLE TYPE	aseptic or cold filling container of water, carbonated beverage, oil and so on. Bottle size is less than 0.77L	Taseptic or cold filling container of water, carbonated beverage, oil and so on. Bottle size is less than 2.5L	hot filling container of juice, tea drinks and so on Bottle size is less than 2L	cold filling container of water, edible oil and so on. Bottle size is around 4L-10L
WEIGHT (ABOUT)	10KG	22KG	38KG	50KG
SIZE	Ø100×313	Ø150×382	Ø150×382	Ø280×473

# Our broad experience in the industry makes us the best partner to design or optimize your PET turnkey solution.

**YOUR ENTERPRISE IS UNBEATABLE, WHILE OUR STRENGTH IS OBVIOUS. AS THE LEADING COMPANY IN THE INDUSTRY, TECH-LONG OWNS ABUNDANT CONFIDENCE AND STRENGTH TO CUSTOMIZE TURNKEY SOLUTION FOR YOU.**

## **LONG-TESTED TURNKEY SOLUTION**

Tech-Long's high speed liquid packaging production line, including water treatment, beverage pre-processing, blower-filler-capper monobloc, injection moulding, blow molding, filling, conveying, labelling, packaging and so on. Over the years, hundreds of water lines have been successfully applied, and the rate of the complete line's production efficiency is higher than 85%, while the rate of the finished products is higher than 99.5%.

Based on the advantage of the liquid product packaging system, Tech-Long knows every technology of packaging system very well. And based on what mentioned above, Tech-Long developed automatic application turkey solution which constructed mainly by free technology. As the new industrial revolution's coming, Tech-Long will change its production mode and build automatic system to offer your turnkey solution in the best way, in order to offer you the turnkey solution in the best way that facing to the future.

## **CONTINUOUS INNOVATION ABILITY**

Listening to the clients' needs and focusing on the trend of the market, Tech-Long has always believed in the power of the products' innovation. And we will never give up innovation.

Tech-Long owns the only national qualified enterprise technological center in the industry, the combination of national and local

engineering research center, as well as over 360 professional technological and developing staffs. The rich technological developing techniques and superior professional talents are the source of continuous innovation. Until now, Tech-Long has already achieved over 300 technological patents and developed 3 to 5 new products per year.

## **AFTER-SALES SERVICE SYSTEM & SERVICE HOTLINE**

Tech-Long will be by your side since you purchase Tech-Long's products. In a word, what you buy is not only the products, but also Tech-Long's service.

Tech-Long has the standard machines and local service as well as more than 30 million spare parts. No matter where and when, Tech-Long will provide you with the quick and accurate service immediately according to your specified needs, so that you can experience convenient, professional and rapid after-sales service.

Hotline: **+86 20 62956800**

## **TECH-LONG TRAINING CENTER**

Tech-Long training center can provide you with the theoretical knowledge and practical training, so that your technological staffs' operation and machine's management ability can be all-sided improved from technology, production and maintenance. What's more, your machine's management cost can also be lowered down.



## TECH-LONG PACKAGING MACHINERY CO., LTD.

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