



Forming Tomorrow. Today!

## PET Servo Stretch Blow Moulding Machines

Electropneumatics &  
Hydraulics (India) Pvt. Ltd.

Machine  
Manufacturing  
Division (MMD)



# Electropneumatics

Electropneumatics has been designing and building sophisticated metal forming machines for more than fifty years with total indigenous capability. Pioneers in several forming technologies and recipient of many technology awards in India, Electropneumatics has today more than 6000 machines around the world performing deep drawing, hot moulding, powder compacting, stretch blow moulding, bending and other forming operations. Modern design capabilities, strong R&D foundation, well-equipped, state-of-the-art manufacturing facilities and ISO 9001:2008 certification assures best practices and quality in machine building and testing.

## Plastic Machinery Division

Complementing its range of metal forming machines, Electropneumatics has successfully introduced in the field a range of PET Stretch Blow Moulding Machines for making bottles for water, juice, liquor, syrups, edible oil, carbonated drinks, medicines, cosmetics, detergents and cleaning liquids, pesticides etc. It now introduces its fourth generation of machines which are faster, more efficient and provide the lowest operating costs in the industry.

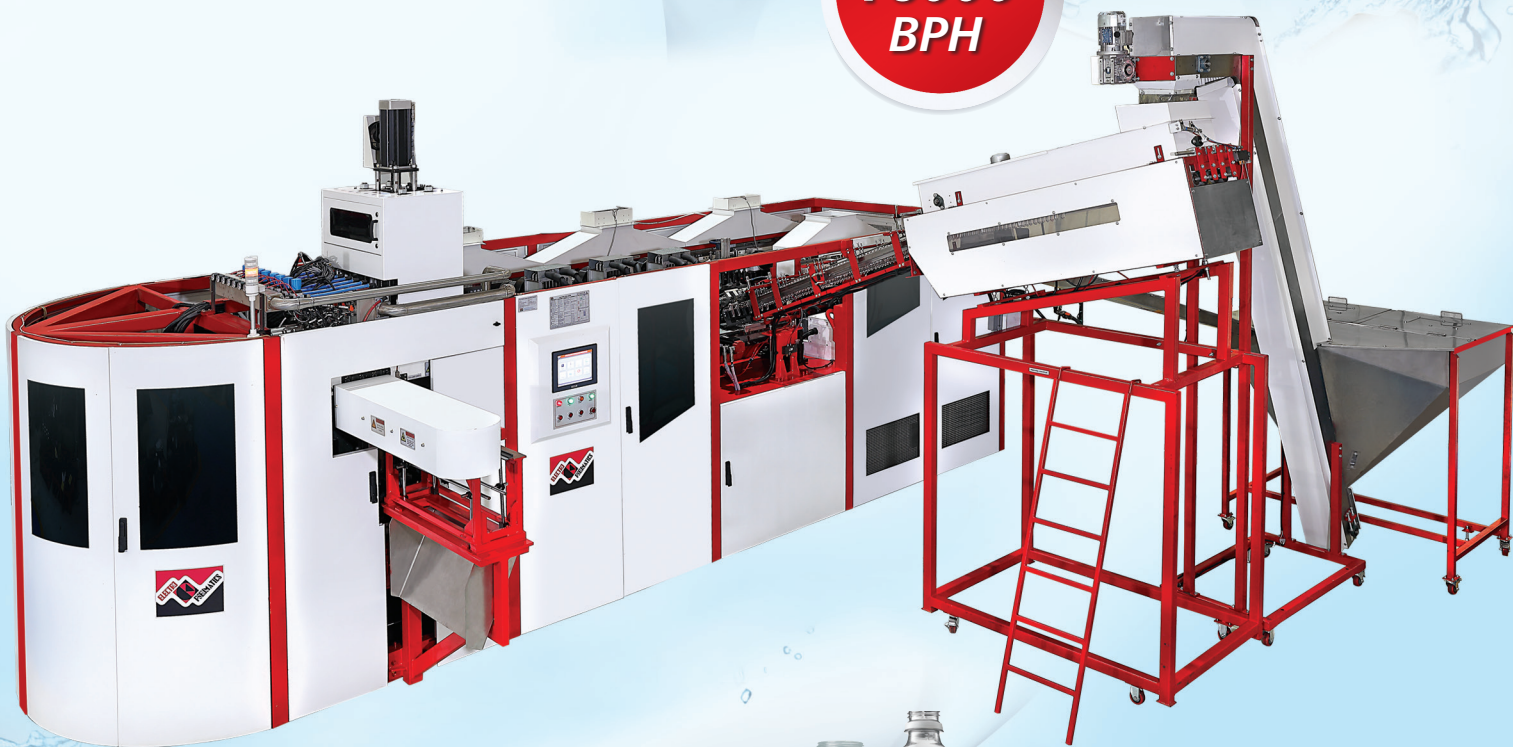


Machine Assembly Section

# PET Blowing Machine

The Electropneumatics PET Blowing Machine is, in line with the latest technological trends, brings to you a whole new concept of speed and efficiency. To get the most heating efficiency, the preforms mounted on carrier mandrels are made to move through the oven at a smaller pitch and close to the heaters so that the heating zones have minimum overlap thus ensuring that heat is concentrated exactly where needed. Preforms are heated in the neck down position to prevent distortion of the neck and are then rotated through 180 degrees and placed between the mould halves in the neck up position. The stretching and blowing are thus done downwards in line with the gravitational force, ensuring perfect centering and distribution of material.

**18000  
BPH**



## Key features at a glance

**01** Up to  
18000 BPH

**02** Highly Flexible:  
From 90ml to 2L

**03** Lowest  
operating cost

**04** Lowest air  
consumption

**05** Fastest mould  
change time (20 mins)

**06** Replaces multiple old, slow &  
inefficient machines with a single machine

**07** Most energy  
efficient



## Servo stretching

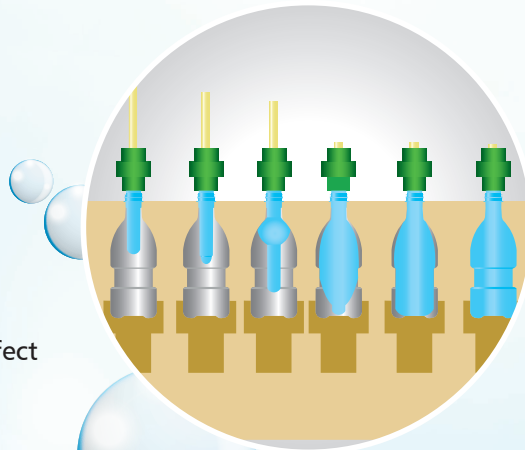
- Servo stretching as a standard feature provides flexibility and easy setting
- Fast and energy efficient
- Stepless programming of stretching speed and position
- Accurate and repeatable
- No mechanical settings for different bottle sizes
- Smooth and silent operation with no jerks or vibrations
- Maintenance free



## Downward stretching like all rotary machines

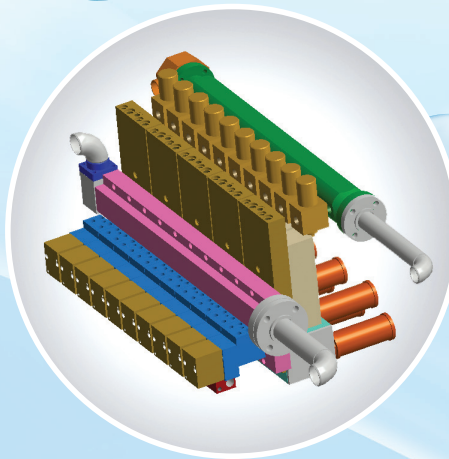
Ensures perfect centering and material distribution!

The stretching and blowing are done downwards as in rotary machines, in line with the gravitational force, ensuring perfect centering and distribution of material.



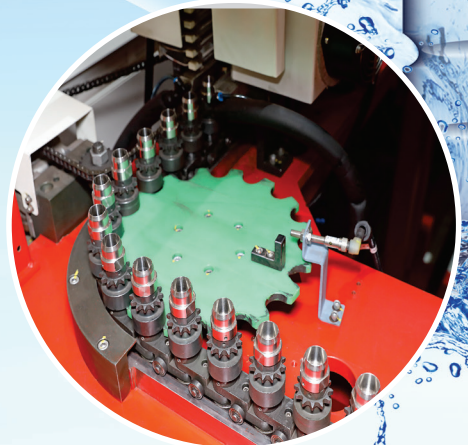
## Best in class air recovery and management system

Years of in-house knowledge in pneumatic technologies have enabled Electropneumatics to design the most optimized and sophisticated air recovery and management system for guaranteed lowest air consumption. The custom blow pin cylinders ensure maximum seal life with minimal operating air pressure. Custom manifold blocks with optimised piping further ensure minimal air wastage and maximum recovery.



## Virtually noiseless indexing

Clappers are indexed in a circular guided rail with a single servo actuator for virtually noiseless indexing. All clappers are made of metal and are indexed on roller bearings for frictionless motion with no wear and hence are maintenance free for life.





# Features



## No mould loading crane required

Loading time is less than 20 mins!

Our unique clamp unit design enables the easiest mould change arrangement in the industry. The moulds can be rolled in on a trolley and just slid-in on our die rails. Fasten the bolts and you are ready to go.



## Direct feed to air conveyor. No cumbersome bottle tilting or re-orientation required

Feeds the air conveyor directly!

- Bottles are blown "neck up" and hence, no inversion of bottles required
- The bottles exit from the mould and are fed directly into the air conveyor
- High speed servo motor controlled "pick and place" unit for discharge and feeding into the air conveyor
- Maintenance free operation



## Industry 4.0 ready

Our sophisticated controller is Industry 4.0 ready! As an optional feature, customers can now monitor their machine performances with production data, downtime, uptime, alarms, OEE etc. Data is pushed to the cloud and can be accessed on a daily, weekly or monthly basis on simple graphical dashboards either on PC's or smartphones.



## Powerful oven to give very good bottle quality and quick start-up

Processing is now easier!

- Consistent bottle quality
- Precise temperature control of preforms
- Powerful oven with pre-heater to blow entire range of preforms
- Pre-heater oven separated to give best results with preforms having moisture
- Very easy to process bottle



# EP PET Range of Machines



## Our Advantages



**65%**  
LESS MAINTAINANCE  
COST



**50%**  
POWER  
REDUCTION



**50%**  
BOTTLE  
BLOW COST



**20%**  
HIGHER  
PRODUCTION



DEDICATED  
R&D TEAM



# Technical Specifications

Machine Model	11 Cavity 300 BPM -1L	10 Cavity 250 BPM - 0.6L	8 Cavity 200 BPM- 1L	5 Cavity 150 BPM- 1L	4 Cavity 110 BPM- 1L
	EP-PET-1/11-2/6	EP-PET-0.6/10-2/5	EP-PET-1/8-2/4	EP-PET-1/5-2/3	EP-PET-1/4-2/2
Max. Mechanical Output (BPH)*	18500 BPH upto 1L	16500 upto 0.6L	12800 upto 1L	9000 BPH upto 1L	6600 upto 1L
	8500 BPH > 1L	8250 > 0.6	6400 > 1L	4800 BPH > 1 L	3200 > 1L
Assured output for any preform (BPH) (**) ( ***) (Water or CSD Preform)	18000 BPH up to 1L	15000 up to 0.6L	12000 up to 1L	8500 BPH up to 1L	6200 up to 1L
	8400 BPH > 1L	7800 for 1L	5500 for 2L	4500 BPH > 1 L	3000 for 2L
		6600 for 2L			
No. of cavities	11 up to 1L	10 up to 0.6L	8 up to 1L	5 upto 1L	4 up to 1L
	6 for > 1L	5 for > 0.6L	4 for > 1L	3 for > 1L	2 for > 1L
Max. Volume	2L	2L	2L	2L	2L
Controller: SmartPET with 12" touch screen display with optional IoT 4.0	EP	EP	EP	EP	EP
No of Mandrels in Oven	264	240	192	130	104
BOTTLE SPECIFICATIONS					
Max. Bottle Diameter (mm)	85 up to 1L	68 up to 0.6L (10C)	85 up to 1L (8C)	85 upto 1L (5C)	85 up to 1L (4C)
	130 for > 1L (6C)	130 for > 0.6L (5C)	130 for > 0.6L (4C)	130 for > 1L(3C)	130 for > 0.6L (2C)
Max. Bottle Height (mm)	360	360	360	360	360
Max. Neck Diameter (mm)	30	30	38	30	38
Max. Preform height including neck (mm)	145	145	145	145	145
PERFORMANCE OEE					
Mold Changeover Time (mins)	20	20	20	20	20
Efficiency (%)	>95	>95	>95	>95	>95
ENERGY					
Connected load (KW)	164 kW for 1L	98 for 0.6L	112 for 1L	62 for 1L	52 for 1L
	193 kW for 2L	112 for 1L	140 for 2L	75 for 2L	65 for 2L
Estimated Avg. Power Consumption (KWH)- appx	90 KWH for 1 L	58 for 0.6L	58 for 1L	38 for 1 L	27 for 1L
	90 KWH for 2 L	75 for 1L	70 for 2L	54 for 2 L	35 for 2L
DIMENSIONS & WEIGHT					
Dimensions with preform feeder L x W x H (mtr) appx.	8.1 x 6.15 x 3.6 m	7.55 x 5.55 x 3.6	7.55 x 5.55 x 3.6	4.7 x 4.2 x 3.6 m	4.5 x 4.1 x 3.6
Machine Weight with preform feeder(Tons) appx.	~16T	~13.5	~13.5	~9	~8
UTILITIES					
High pressure air consumption 30(up to 1L) – 35(for 2L) bar; Oil free (CFM)	1L @18000– 285 CFM (±5%)	0.2L @15000 – 110 CFM (±5%)	1L @ 12000 –200 CFM (±5%)	1 L @ 9000 – 136 CFM (±5%)	1L @ 6000 - 108 CFM (±5%)
	2L @8500– 295 CFM (±5%)	0.6L @15000–180 CFM (±5%)	2L @ 5500 –205 CFM (±5%)	2 L @ 4500 –178 CFM (±5%)	2L @ 2800 - 110 CFM (±5%)
Water 8 to 12 Deg C @ 4 bar pressure	100-120 LPM (10 TR)	100-120 LPM (10 TR)	100-120 LPM (10 TR)	75-80 LPM (5 TR)	75-80 LPM (5 TR)

Specification sheet subject to change without notice.

\* For standard cylindrical water bottles. It is subject to change based on bottle size & weight.

\*\* For cylindrical bottles upto a limit of 3.5mm wall thickness.

\*\*\* For water bottles only. Output will reduce for CSD.





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