FULLY ELECTRIC MACHINES FOR PET BOTTLES PRODUCTION

optima turbo
SERIES
**optima 4 turbo**

- **Blowing pressure**: up to 40 bar
- **Bottle size**: 0.25 - 2.0 L
- **Output***: up to 7200 bph (0.5 L), up to 7100 bph (1.0 L), up to 6500 bph (1.5 L), up to 5800 bph (2.0 L)
- **Power installed**: 110 kW
- **Effective power (1.0 L bottle)**: 34 kW
- **Working air quantity (10 bar)**: 1.0 m³/min
- **Working air quantity (40 bar)**: 6.0 m³/min
- **Number of cavities**: 4
- **Steering voltage**: 24V / DC
- **Mould material**: FORTAL

**optima 8 turbo**

- **Blowing pressure**: up to 40 bar
- **Bottle size**: 0.25 - 2.0 L
- **Output***: up to 14 000 bph (0.5 L), up to 13 000 bph (1.0 L), up to 12 000 bph (1.5 L)
- **Power installed**: 160 kW
- **Effective power (1.0 L bottle)**: 65 kW
- **Working air quantity (10 bar)**: 3.0 m³/min
- **Working air quantity (40 bar)**: 19.8 m³/min
- **Number of cavities**: 8
- **Steering voltage**: 24V / DC
- **Mould material**: FORTAL

**optima 16 turbo**

- **Blowing pressure**: up to 40 bar
- **Bottle size**: 0.25 - 2.0 L
- **Output***: up to 28 000 bph (0.5 L), up to 26 000 bph (1.0 L), up to 24 000 bph (1.5 L)
- **Power installed**: 320 kW
- **Effective power (1.0 L bottle)**: 130 kW
- **Working air quantity (10 bar)**: 6.0 m³/min
- **Working air quantity (40 bar)**: 39.6 m³/min
- **Number of cavities**: 16
- **Steering voltage**: 24V / DC
- **Mould material**: FORTAL
Optima turbo advantages:

- compact size with maximal output – small footprint gives a possibility to fit a complete line in very limited space,
- discharging ready bottles from Optima directly on the air conveyor,
- energy efficient heating process – NIR lamps instead of traditional IR radiation – electromagnetic radiation allows to reduce size of the heating units, total number of lamps, energy consumption and reaction time needed to start production after stop,
- reduced air dead volume – low air consumption thanks to air collectors and special valves designed for linear machines,
- continuous production of perfect bottles – 40 bar blowing pressure and system of clearance compensation on the closing unit as well as the usage of servomotors,
- useful equipment for an easy operation: Central lubrication system, quick mould change system and Power Wizard based on pyrometers for the self-adjustment process of heating.

Flexible system of linear blowing machines - final shape of the machine and number of blowing cavities is defined by expected speed and container size to be produced.

Technology of versatility - wide range of PET containers suitable for production on optima - 200ml up to 5 liter.

Solution best suited for the needs – PET bottles for water, csd, milk, chemicals etc. as well as for wide mouth jars.
Innovative & efficient

Optima Turbo is a family of 4/8/16 cavities linear blow moulding machines which can produce bottles with a continuous output of 7000 / 14,000 / 28,000 BPH for 500 ml bottles. Optima Turbo is a fully electric blower in which all vital units for bottles production process, such as closing unit, stretching rods, transmission of preforms between oven and moulds (and oven itself) are controlled and steered by servo drives, for each section. The usage of servomotors guarantees precision, shorter operation cycles and maximal efficiency of bottles production process.

Cost-effective solutions for PET bottles production

Electromagnetic radiation with NIR lamps instead of traditional IR radiation is applied for the energy efficient heating process of preforms. Thanks to NIR radiation in Optima it was possible to reduce the size of the heating units & total number of lamps and energy consumption but also the reaction time needed to start production after stop (thermal inertia). NIR radiation allows to heat preforms faster and more precisely.

Optima machines also ensure low air consumption thanks to the air collectors (reduced dead volume additionally reduces the cost of production). Seitz valves (Swiss) is a new blowing block concept (pre-blown, main blow, recuperation and decompression). It is specially designed for linear machines and for economic bottle production. It offers many benefits such as minimal blowing air consumption, compact and slim size, few expendable parts and friendly maintenance.

Compact size with maximal output

Innovative solutions applied in Optima machines allow to create machines with a high output and small footprint of the complete installation. Ergonomic shape of Optima and the discharge of bottles in upright position (ready bottles are transported directly on the air conveyor to the filling machine) gives a possibility to fit a complete line in very limited space.
Useful equipment for easy operation & continuous production of perfect bottles

Optima machines were designed to meet customers’ expectations for an efficient bottle production. In standard version we offer central lubrication system which allows easy, fast and precise application of lubricant as well as quick mould change system (only 15 min to change a mould). Stops of the machine and service time are reduced to minimum. Moreover, Optima has also got a system of detecting and rejecting cracked bottles (faulty bottles are rejected automatically) and Power Wizard system which is based on pyrometers (self-adjustment process of heating). 40 bar blowing pressure and system of clearance compensation on the closing unit - also SMF standard – eliminates problems with stitches on bottles’ walls and ensures the best quality.

Optima Turbo is designed for customers interested in high advanced and reliable blower for round, square, oval, asymmetric, trigger, flask or flat bottles - for water, CSD, beer, spirits, detergents,