Innovative partner to the blow-molding technology
Innovations by YOUNGIL
영일의 다양한 기술을 만나보십시오

Our support for your quality targets
We supply technically advanced systems that will satisfy your need for consistent excellence in product quality, highest machine availability and minimal control effort.

Our goal is your success
We supply top rate machines and system and we are committed to helping you get the best out of them. We support your success with a complete package of consultancy and technical services.
NHBM-E Series
Fully Electric Power Shuttle Blow Molding Machines for Packing Containers ranging 0.8~10 Liters
Nhbm-E 시리즈 유압 전동 사용하지 않는 완전한 전동 방수의 세를 태워 불로 묶는
생산가능용기 0.8 ~ 10리터

The NHBM-E Series is exceptional machines combine the benefits of servo electric technology and blow molding speed/pressure control algorithm, conformance to safety standards, a toggle clamping system designed by analysis program, and a high speed blow molding mechanism.

Main feature
- Toggle-link high speed clamping system and highly rigid blow-molding mechanism.
- Energy saving, low noise, and clean production.
- High cycle molding with no time lag is attained by simultaneous operations.
- Designed in accordance with safety standards.
- Operational excellence and stable control system.

All the modules that make up an NHBM-E series machine control smoothly and efficiently together.

NHBM-E series are the control by electric servo system under blow molding clamp unit, blowing die-head and blow pin system. All NHBM-E series machines operate under the operator-friendly MACO series or BACKHOF microprocessor control system. The process in progress is clearly visualized on the display screen with the emphasis on essential information.

YOUNGIL provides its customers with solutions in terms of quality, technology and service

With its many years of experience in commercial packaging industrial blow molding machines, YOUNGIL offers several machine series for the production of simple and complex containers with up to 10 liters capacity as well as for the production of commercial container.

The clamping units of the NHBM-E series blow molders share a common basic design and are installed in a closed, distortion-free, rigid frame. The direct-acting electric-servo control system applies the clamping force centrally on the mold platen, and the movement of the two mold platen is precisely synchronized. Large available spaces around the mold area for specialized mold functions and below the mold platen for installation of optional parison manipulation equipment as may be needed for the production of medical bottle and chemical container with multi layers. The NHBM-E series machines are available as single and double clamp models.
NHBM-E Series

Electric Blow Molding System:
Precision control, Fast response, Flexible upgrade

Customer of YOUNGIL will benefit from the following features:
• Vertically movement of extruder platform by electric cylinder with servo system
• Simple mold change from above with crane by either moving blow pin unit
• Quick product changeover thanks to excellent access to blow mold and head tool

Productivity
The NHBM-E series is engineered to deliver sustained performance under demanding conditions. Fast responses and machine movements, an errorproof, easy-to-use control system and fast cycling it all adds up to a higher yield of zero-defect parts. NHBM-E machines are the fastest on the market in their class.

Reliability
The NHBM-E series is the outcome of systematic further development of the NHBM-E series, already tried and tested thousands of times in tough production situations. YOUNGIL designers and process engineers have not only boosted machine availability, they have also optimized the process for top product quality. The new NHBM-E machines combine high throughput with a very high yield of good parts. Rejects, waste and downstream costs are drastically reduced.

Flexibility
An NHBM-E machine is the right choice for a wide range of applications from simple, standard blow molding to highly complex processes. The basic version offers many outstanding features, for example, a new NHBM-E machine is ready for integration in an existing processing line, using existing moulds.

Modularity
YOUNGIL NHBM-E machines are as modular as they come. This means big benefits for our customers, for example, machine components can be swapped or upgraded quickly and easily. In an intensely competitive market, an easy upgrade path can make all the difference to your success. You can take advantage of a profitable new opportunity, knowing that a quick upgrade will bring your machine.

Clamping unit
• Maximum stiffness with minimal distortion of the clamping unit
• Optimal distribution of the clamping force
• Isolation of clamping force from bearing guiding systems
• Large daylight

Die heads
• High-quality product finishes thanks to wide variety of optimized die heads. All heads produce articles with tightly controlled uniform radial wall thickness distribution
• Capability to process a large variety of resins due to rheologically optimized internal flow channels
• Superb parison quality due to short residence times of die-heads
• Uniform circumferential wall thickness distribution thanks to overlapping melt layers
• Quick color change
• Production with multiple die heads possible

Control
• User-friendly BACKHOF control, including software PLC with real-time capability and touch screen
• Flexible visualization with several operator access levels
• Network access via Ethernet / TCP/IP / USB
• Remote diagnostics via modem

<table>
<thead>
<tr>
<th>EHBM Series (Full Electric Machine)</th>
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<tbody>
<tr>
<td>CONTENT</td>
</tr>
<tr>
<td>Mold clamping force</td>
</tr>
<tr>
<td>Dielectric time (sec)</td>
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<tr>
<td>Mold transport stroke (mm)</td>
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<tr>
<td>Mold height Max (mm)</td>
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<td>Opening distance (mm)</td>
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<tr>
<td>Mold thickness Max (mm)</td>
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<tr>
<td>Extruder</td>
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<tr>
<td>Screw diameter (mm)</td>
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<tr>
<td>Screw L/D (mm)</td>
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<tr>
<td>Screw speed range (RPM)</td>
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<tr>
<td>Plasticizing capacity (kg/hr)</td>
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<tr>
<td>Approximate utilities</td>
</tr>
<tr>
<td>Compressed air requirement (m³/hr)</td>
</tr>
<tr>
<td>Machine Size (W x L x H (mm))</td>
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<td>Weight (ton)</td>
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<table>
<thead>
<tr>
<th>Unit</th>
<th>EHBM6D</th>
<th>EHBM7D</th>
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<td>Approximate utilities</td>
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NHBM Series
High Speed Shuttle Blow Molding Machines for Packing Containers ranging 2 ml~30 Liters

Model Range: 1D, 2D, 3D, 4D, 6D, 7D, 8D

NHBM Series automatic blow molding machines allow you to produce automatically all plastic containers for molding from 0.002 liter up to 30 liter. Whichever other shape, fully automatically by removing scraps of course, for further processing whether with or without handle, at an excellent quality and a high production output, that will guarantee you a decisive advantage over competitors in managing enterprise. Depending on product size, NHBM Series subdivided into three phases enable even a machine to produce wide range of article size, due to maximize mutual conversion of machine each stage. NHBM Series automatic blow molding machines are the innovative answer to demands of the blow molding industry.

Our range based on single/double station machines with a capacity up to 30 liter, have been designed to offer more flexibility to our customers, in order to satisfy all their production needs.
Solving packaging problems can seem overwhelming at times. YOUNGIL has helped some of its customers solve packaging problems such as improving shelf appeal, reducing cost or creating better barrier protections by suggesting different multi-layering blow molding options to them.

NHBM Series
Multi Layer Blow Molding Technology

NHBM 시리즈
다중 블로우 층형기

The features are:
- High efficiency / productivity - low-container cost
- Clamping unit move horizontally
- Closed-loop proportional hydraulic valves
- Easy to set parameters by Maco 6000 Microprocessor (100 Point parison wall thickness control)
- Quick easy mold change tie bar less clamp system and quick change
- Nitrided screw and barrel
- In-machine Automatic DE flashing with cooling system
- Extruder with AC Motor
- For very competitive quotation and Turnkey Blow Molding System

Food Packing
- Preventing oxygen and water permeability
- Disinfectant contents, High temperature contents
- Preservation life extension of contents

Cosmetic Packing
- Cosmetics: preservation of highly effective moisture and perfume
- Oxygen barrier to extend shelf life and protects contents
- Isolation of ultraviolet rays
- Brilliance of surface

Hazardous Packing
- Sterilizer, Insecticide: Isolation against permeation
- Agricultural propose: Anticorrosive effects
- Increase impact intensity and tensile strength

Multi-Purpose Packing
- Reduce cost: Regrind layer for saving waste material
- Longer shelf life and improved product formulations
- Eco-friendly: Re processed material can be sandwiched
- Two-Colored products: Production of value added products
- Prevention of environmental pollution
- Easy printing

NHBM Series Technical Specification

<table>
<thead>
<tr>
<th>Blowing unit</th>
<th>Unit</th>
<th>NHBM1D</th>
<th>NHBM2D</th>
<th>NHBM4D</th>
<th>NHBM6D</th>
<th>NHBM7S</th>
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<td>Compressed air requirement(3bar) l/min</td>
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<td>Hydraulic oil tank capacity Litre</td>
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<td>Machine Size Length mm</td>
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</table>
NHBM Series
In-Mold Labelling Machine System

YOUNG-IL, In-Mold labelling system is designed to permit easy in-mold-labeling right from the very start. The labelling unit is a separate unit and can simply be docked onto the outside of the machine. The unit also can be attached onto any other NHBM-S series machine of the same type. An electronic servo guarantees precise label positioning inside the mold capacity and reduces the cycle time due to its high-speeds.

YBM AFS Series
Aseptic Blow Fill Seal System

NHBM 시리즈
인 mê드 라벨 블로어업링 시스템

Aseptic blow molding machine is the machine that blowing, filling and hermetic sealing in full automatic one cycle to produce aseptically manufacture products. Contents in the container to be produced in the aseptic process, does not infect from the outside. So, this machine is the most efficient not only in the packaging of pharmaceutical fields but also the most cost-effective which happens in the carriage, loading, equipment and labor.

Extrusion
Parison extrusion process through die of mold and mixed resin in extruder

Blow molding
Main mold close and simultaneously seals the blow pin until settles into the neck area forms the parison into container.

Filling
Fixed quantity filling by contents filling pin with exhaust after blow at the same time. Contents filling should be settled for long containers in time of filling decline.

Sealing
Filling pins and blow pins rise and it is grounded and neck sealed by sealing mold.

Product blowing out
Feeding after mold opening for the product which molding and sealing is completed.

Product and trimming
Scrap trimming with punching tool.

YBM AFS Series Blow/Fill/Seal technology integrates vacuum blowing, filling and hermetic sealing in one continuous operation to produce aseptically manufactured products more reliable than any other method.
YLBT Series
Large Blow Molding Machines for Packing Containers & Technical Parts ranging 30~60 Liters

YLBT 시리즈 중대용량 블로우 모들링 싱크포장용 기능 용기 범위: 30 ~ 60리터

With its many years of experience in building industrial blow molding machines, YOUNGIL offers several machine series for the production of simple and complex containers with up to 10 liters capacity as well as for the production of commercial container. Depending on the application, accumulator heads or continuous extrusion heads are used, the latter for coextrusion of up to six layers. In continuous extrusion mode, the parison is either inserted in the mold with a parison feeder or a shuttling clamping unit retrieves the parison from the die head. Thanks to their modular design, most machines can be customized to the user's needs by matching clamping platen dimensions, closing speeds, clamping forces or clamp stroke with specific requirements. Also, in terms of additional equipment and control options, YOUNG IL can accommodate virtually every customer requirement so that the optimum blow molding system is supplied for each project.

Hydraulic controls
The hydraulic valve system is equipped with sub-block to minimize energy loss due to large oil accumulator most by hydraulics components are installed on oil-tank in case they are prepared for oil leak oil filter detecting oil condition oil cooler and the thermostat are minimized to need routing maintenance.

Pneumatic controls
All pneumatic control valves and air regulator are neatly arranged on an internal cabinet, to improve facility and reliance of routing main tenance to increase the stability of article products, in dividually every movement element is operated to con-trol pressure in interrupts incuring air pressure the machines stop automatically.

Electric controls
The machine is controlled by MACO 6000 which is one of micro-processor control modes. All opera-tions of the machine is displayed on LCD monitor and all data such as time, tem-perature,abnormal condition warming alarm etc. are set up and output and input. As alarm function, there are heater disconnection war-nig, extruding motor ope-ration stop function during low temperature of the cylinder, sensor position verification function, high tem-perature warming for hydraulic unit and detective function for screw rotation etc. (Basic specification)
The YELBT series-new benchmarks for large blow molding machines

YELBT120S / YELBT 120S
is a extra-large midair blow molding machine considering mechanical safety and working conditions for the production of large size product. Strong forming power and high speed operation for the processing of extra high molecular resin and engineering plastics.

YELBT 65S / 85S / 100S
New model factory for the production of medium & large size intricate container or special figure container and it is manufactured as the most suitable structure plate.

Extruder part

* It is a conveying unit of applied and extruded resin to the accumulator.
* Reducer unit has very low noise due to high level of precision after heat treatment of helical gear which is made using special stainless steel.
* The cylinder and screw are manufactured at Hv1000 of hardness through heat treatment of nitritication steel by gas nitritication.
* Presio temp-ature control is available by adaption of PID temperature control mode after heated by band heater and closing by duct and then cooled by ventilator compulsively.
* Fitting slot has compulsive cooling water circulation unit.

Accumulator head

* It is an compressive unit of parison within a few second accumulating the extracted resin from the screw, therefore it determines the appearance &quality of the molded product.
* It must be first in-first out Europe style structure, therefore color change is very with small amount of carbide producing.

Hydraulic unit

* For the promotion of energy effectiveness and reliable operation, the accumulator and pressure switch are mounted, and molding operation pressure, figure pressure, extraction pressure and other related operation pressure or oil amount control etc. are independent installation and the most safe and suitable conditions can be kept by each safety valve installation.
* Except moving parts, precise general stainless pipe is used for fixed piping, therefore it has beautiful appearance without oil leakage.
Machine control & option equipment

Machine Control System

Incorporated all drive controls, sequence control, hardware and software for:
- Temperature regulations.
- Parison regulations.
- Speed regulations.
- Timer functions.
- Wall thickness regulations.
- Data display.
- Alarm function and all system parameters are entered via touch screen or key board to store set values and process data in system memory.

Options:
- Independent blow cylinders.
- Independent parison control.
- Blow cylinders controlled by closed loop proportional valve.
- Parison length control with potocell.
- Independent moog power pack parison control.
- Bottle take out system.
- Leak Tester.
- In mold labeling machine system.
- Manual screen changer.
- 11. Air dehumidification system in mold area.

All of Moog’s Parison Programmers will control either Continuous Extrusion or Accumilator Blow Molding Machines

Accumulator Machine with Servo Actuator

YLB760S YLB780S YLB7100S YLB7110S YLB7120S

Blowing unit kg 290 330 460 600 800
Mold clamping force KN 220 300 600 800 1,000
Mold height max. mm 1,050 1,050 1,500 1,500 1,500
Open distance mm 1,050 1,050 1,500 1,500 1,500
Mold thickness mm 300 300 400 400 400
Extruder kw 37 46 46 55 55
Oil pump driving motor kw 22 22 22 22 22 x 2EA

Approximate utilities

Compressed air requirement (Bar) L/min 1,000 1,200 1,500 1,800 2,000
Cooling capacity requirement hydraulic unit kcal/hr 10,000 12,000 12,000 9,500 9,500
Mold cooling capacity kcal/hr 10,000 12,000 12,000 80,000 80,000

Machine Size Width mm 5,000 5,500 8,000 7,000 8,000
Length mm 3,900 4,200 5,700 5,700 6,700
Height mm 2,500 2,700 3,000 3,100 3,100

Weight TON 6 8 12 14 16

Technical Specification

NHBM Series

Blowing unit kN 200 300 600 800 1,000
Mold clamping force K 25 30 45 60 75
Mold height max. mm 1,000 1,100 1,500 1,500 1,500
Open distance mm 1,050 1,050 1,500 1,500 1,500
Mold thickness mm 300 300 400 400 400
Extruder kw 37 46 46 55 55
Oil pump driving motor kw 22 22 22 22 22 x 2EA

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Length mm 3,900 4,200 5,700 5,700 6,700
Height mm 2,500 2,700 3,000 3,100 3,100

Weight TON 6 8 12 14 16