VACUUM FORMING MACHINES AND ANCILLARY EQUIPMENT
STRATEGIC PARTNERSHIPS

For over 30 years Formech has forged valuable partnerships with industry leading plastics companies across the world to offer a wide range of complementary services.

"It is with great pleasure and enthusiasm that I am writing to endorse Formech. Here at TechShop we provide thermoforming workshops and allow our members to form their projects on the Formech FM660 with great success. Formech has displayed and delivered with their expertise, response, professionalism and results and TechShop are proud to call them a partner and to be standardizing on their equipment at our future locations."

Jim Newton, Founder TechShop
San Francisco, CA | USA

EDUCATIONAL PARTNERS

Providing the machines of choice to the worldwide education sector, Formech offers comprehensive support and training for many of the most influential universities and colleges throughout the world, capturing the imagination of tomorrow’s designers.

We could not be happier with our purchase and we appreciate all the helpful advice, demonstrations and connections to others that Nic gave us. We really feel we made the perfect choice for our students who are inventing things, building architectural models and coming up with new and clever ways to put the resources we give them to good use. I would highly recommend this company for anyone looking for reliable people who stand by their word and their products.

April Welch Director of Business and Educational Planning, Idea Shop Illinois Institute of Technology

AFFILIATIONS

Formech is a long established affiliate and contributor to key organisations in the plastics industry.

"The BPF is proud of all its members, such as Formech - a British company, recognised worldwide for their high quality vacuum forming machines."

Philip Law
Public Industrial Affairs Director
British Plastics Federation | UK

FORMECH & THE ENVIRONMENT

All Formech machines are optimised for energy efficiency and minimal material wastage. Furthermore, Formech machines are designed to work with recyclable, biodegradable and fully compostable materials applied to a variety of applications across commercial, food service, retail, healthcare, packaging and many more sectors.

CONFORMITY

All our products and services comply with the most rigorous industry requirements to guarantee ease of use, safety, and excellent service.
Welcome to three decades of forming innovation

Formech's 30 years of experience in vacuum forming technology means we can offer our customers high performance machines to suit an extensive range of applications at an affordable price. All Formech machines are designed to a user-friendly brief, built to last with no-compromise components throughout and undergo rigorous quality control processes to ensure consistent performance for many years to come. Our extensive customer pedigree as highlighted throughout this catalogue underlines customer confidence in Formech to deliver the right solution across a wide variety of industry sectors, from food retail to automotive. We have forged valuable relationships with many of the world's leading brands enabling us to continually develop Formech machines to meet an increasing number of demanding applications. The origins of vacuum forming can be traced back as far as the 1940's and yet the process is as relevant today as it ever was. Formech's continual investment in R&D and adoption of the latest technologies throughout our 30 year timeline means we can offer the highest capability machines in-class today at accessible prices and built to last.
• Formech was founded by a group of toy designers to address the need for an economical, versatile and compact vacuum forming machine, capable of producing high quality mouldings from low cost tooling. Formech’s first prototype was well received by model makers, architects, tool makers, R&D labs and design houses.

• Formech launches the 450 & 660 machines, providing larger forming areas and improved depth of draw to achieve high definition mouldings across a wider range of applications. The recently launched 508 and 686 represent the latest developments of these internationally successful machines.

• Hot on the heels of a fantastic market response to Formech machines at the NPE show 1985, Formech enters the US market and establishes Formech Inc.

• Plastics processing in Design & Technology introduced into the UK National Curriculum, leading to wide adoption of the purpose built Formech 300X throughout the UK education sector.

• Formech rapidly expands international operations and machine sales with new branch offices in France and Italy and appoints resale partners throughout mainland Europe, Nordics, Asia, Australasia and the Middle East.

• Formech increases presence in the industrial sector with the launch of the touch-screen controlled Formech FDH Series for large scale, high definition applications featuring twin Quartz heaters for rapid and efficient performance and a comprehensive range of options and customisation possibilities.
• Formech enters the packaging sector with the launch of the TF Series, designed for small to medium scale production runs with thin gauge materials, enabling quick and easy set-up offering supplementary production to inline machines.

• Introduction of PLC with touch-screen HMI provides intuitive control, memory options, and customisable graphics, underlining Formech’s commitment to delivering cutting edge technologies in machine design.

• Formech launches the 300XQ, the latest evolution in the 300 Series featuring quartz heaters, firmly establishing itself as the most powerful and energy efficient machine in its class.

• By 2009, Formech exceeds global sales of 5,000 x 300XQ machines

• Formech awarded ISO9001 conformity

• Formech featured on the BBC’s Tomorrow’s World programme demonstrating a pioneering approach to vacuum forming with biodegradable materials.

• Formech unveils the latest generation PLC driven, quartz heated manual and semi-automatic machines at the world’s largest plastic technology show (K-show) in Germany.

• Subsequently, Formech DE is established to serve the increasing demand for Formech machines in Germany and the neighbouring territories providing comprehensive local support.

The appeal of rapid response quartz elements means that you get 100% heat only when you need it, unlike ceramics which require a constant heat even when the heater is not required during the cooling cycle. Savings can be substantial when quartz heaters are combined with the standby feature.

Peter Cracknell - Independent Polymer Specialist
Member MIMMM
Associate of the London School of Polymer Technology
Grad PRI with 1st class Honours

Paul Vukovich, Formech’s Managing Director with British athlete and Tomorrow’s World presenter Roger Black

Timeline

2000
• Formech awarded ISO9001 conformity

2004
• Formech forge strategic partnership with Stratysys / Dimension to offer alternative and affordable methods of rapid prototyping.

2006
• Formech forges strategic partnership with Stratysys / Dimension to offer alternative and affordable methods of rapid prototyping.

2010
• Quartz heaters implemented across the standard range of Formech machines with ceramic heaters available for specialist applications

2012
• At our 30th anniversary Formech is stronger than ever and planning to expand into exciting new market sectors and regions through continual investment in R&D.

Peter Cracknell - Independent Polymer Specialist
Member MIMMM
Associate of the London School of Polymer Technology
Grad PRI with 1st class Honours
Manual machines - Our customers’ experiences

**Trestle Theatre Company**

“Using a Formech vac former to produce masks, particularly the education sets have proved to be ideal. There are no drying times, as with other materials such as latex or papier-mâché, and you can reproduce masks from moulds efficiently. It is also useful when experimenting with mask designs as you can pull a mask to see if it works, then go back and adapt the mould accordingly.”

Claire Elcombe, Mask Maker
Trestle Theatre Company

**Jim Henson’s Creature Shop**

“The Jim Henson Creature Shop in NY chose Formech because we had the best ‘professional grade’ vac-former for the price. On a recent trip to Queens we were able to visit the Henson facility and give some coaching to their staff - this included a review of their molds, material, and existing processes. Their staff were very grateful...including the count!”

Nic Neath
Head of Formech US Sales

**Mandalay Bay Hotel - Las Vegas**

“Happy New Year!! I’m sending you a picture of our new year’s eve VP party at Mandalay Bay. The showpiece on the plate is made of chocolate. I was able to do them all perfectly because I used my thermoform machine to make molds of all the pieces. I made the circle, square, dancing male, dancing female and the clock hands out of wood then I made the molds. It worked out great and of course I wanted to share the pictures with you.”

Vincent Pilon
Executive Pastry Chef

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**Glossary**

- **3 phase**/Single phase
  - Single phase electricity is supplied for domestic use for most households.
  - Three phase electricity is supplied for industrial use and is usually cheaper than single phase.

- **Autolevel**
  - Allows air to be pumped under the sheet during the heating cycle to maintain a consistent distance between the sheet and the heaters.

- **Becker Rotary vane pump – Oil free**
  - This pump uses rotating vanes to generate the vacuum and is used on our free standing machines.

- **Blister**
  - A clear vacuum forming to enclose product which is sealed on to a backing card.

- **Blow moulding window**
  - A reducing window with a circular aperture for blowing plastic sheet into hemispheres.

- **Cable Chain**
  - The hinged outer plastic casing that encloses the inner wires that lead to the heaters.

- **Clamping frame**
  - Steel frame that clamps the plastic sheet during the vacuum forming process.

- **Cooling fan**
  - Accelerate the cooling process once the plastic sheet has been formed.

- **Depth of draw**
  - Equivalent to the maximum height of moulds/tools being used on a vacuum former.

- **Diaphragm pump**
  - This pump uses a diaphragm to generate the vacuum and is used in our desk top machines.

- **Heating pyrometer**
  - Sends the heaters back based on the temperature of the sheet, rather than time.

- **Heating zone**
  - The heaters are divided up into zones for greater control of different parts of the sheet.

- **Interlock**
  - Feature ensuring that the mould cannot be raised when heater is in forward position.

- **Mouldings**
  - These are the formed plastic parts, also known as vacuum formings.

- **Pre-stretch**
  - Allows air to be pumped under the sheet to create a bubble to pre-stretch the material prior to forming.
## Manual machines - Our customers’ experiences

### London College of Fashion

> “I have always advocated the use and development of vacuum forming to students studying on the BA Technical Effects for Performance and would be lost without the input of the team at Formech... We use and experiment with a wide variety of thermoplastics and even create forms without making a rigid mould.”

Caroline Gardiner, course leader of BA (Hons) Technical Effects for Performance
London College of Fashion

### EPFL

> “For our laboratory we require a forming machine that allows us a maximum of flexibility while ensuring performance and quality of output. Our jobs range from small parts to large-scale façade panels for construction, and may be single prototypes or a large complex production run. Flexibility of configuration, precision, and "getting it right the first time" are always a priority. After a comprehensive evaluation we chose the large Formech 1372 vacuum forming machine for its flexibility, performance, and excellent value. We are extremely satisfied with the machine, and the ongoing support from Formech is excellent.”

Russel Loveridge
EPFL- Swiss Federal Institute of Technology, Lausanne, Switzerland

### Joint Active Systems

> “At Joint Active Systems we create rehabilitation devices for ‘Range of Motion’ therapy. To these devices, we attach custom cuffs that are created by our Formech vacuum formers. This custom cuff process involves shaping very thick pieces of plastic and foam in order to provide a proper, custom-feeling fit to our patients. The larger FM1 and ‘1372’ machines are a great match for our process. We are now up to our fourth Formech machine and each of them work very hard to keep up with our daily production needs. Recently we had two of the Formech staff on site to install our new ‘1372’. They also refurbished our existing machines and helped advise us on how to increase the life of our machines. It’s good to know that we can rely on a company like Formech with these formers being such an integral part of our daily operations.”

Kevin Ruholl - Facility Manager
Joint Active Systems, Inc.
Illinois, USA
Compac Mini

Designed for ultimate simplicity, the Compac Mini delivers an incredible performance from a compact desktop machine. With plug & play convenience and energy efficient Quartz heaters the Compac Mini is ready for action within a few minutes. Formech’s interlocking feature prevents the table being raised whilst in the forward position making safe operation of the Compac mini accessible to virtually anyone with minimal training.

Typical applications

Our Compac Mini customers include
- Coining of America - Preforms (USA)
- Clear Step - Medical R&D (UK)
- Cacao Prieto - Chocolatier (USA)
- Hallmark Cards - Prototyping (USA)
- US Dept of Agriculture - Prototyping (USA)
- Calibra Medical - R&D (USA)
- Universidad Anáhuac - Education (Mexico)
- Cocoa Atelier - Chocolatier (Ireland)
- EarthCam Inc - R&D (USA)
- Masthead Antenna Technology - R&D (UK)

Vacuum gauge | Vacuum & Release control | Digital timer | Message from the designer

This is the smallest machine in our range and was designed to cater for the education sector and hobbyists. It may be small in size but don’t be fooled, this is a very capable machine.
Further information available on our website: www.formech.com - Watch our videos on Youtube: www.youtube.com/formech

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info@amtekcompany.com

Compac Mini

Features
• Interlock
• Linear heater guides
• Digital timer
• Vacuum and release
• Vacuum gauge
• Pressure outlet
• Diaphragm pump - 22” Hg - 2.76m3/HR

Options
• Reducing windows
• Trolley
• Spare parts kit
• Trimmer FT10/20

Technical Specifications

<table>
<thead>
<tr>
<th>Material size</th>
<th>250 x 300mm / 10 x 12”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forming area</td>
<td>230 x 280mm / 9 x 11”</td>
</tr>
<tr>
<td>Max. depth of draw</td>
<td>130mm / 5”</td>
</tr>
<tr>
<td>Max. material thickness</td>
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<tr>
<td>Zones</td>
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<tr>
<td>Heaters</td>
<td>Quartz</td>
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<td>Overall width</td>
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<td>Overall depth</td>
<td>820mm / 32”</td>
</tr>
<tr>
<td>Weight</td>
<td>33kg / 77lbs</td>
</tr>
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Electrical specifications
208-240V, 13A, 0.75kW, Single Phase
**300XQ**

The 300XQ is the world’s leading vacuum forming machine for education and design houses and yet also adaptable to a wide range of applications. Featuring quartz heaters with power saving standby function, digital countdown for consistent cycle times and a 430mm x 280mm (17” x 11”) forming area, Formech’s 300XQ is the most powerful and efficient machine in its class. Furthermore, a host of options are available to meet your exact requirements.

**Typical applications**

- Soap moulding
  - HIPS
- Packaging
  - HIPS
- Parts
  - ABS
- Chocolate
  - ABS
- Model making
  - HIPS

**Our 300XQ customers include**

- Johnson & Johnson - Medical R&D (Canada)
- Trestle Theatre - Film & Theatre (UK)
- Indesit S.P.A - R&D (Italy)
- La Duree - Chocolatier (France)
- Lancaster University - Education (UK)
- La Perla - R&D (USA)
- Mandalay Bay Hotel - Chocolatier (USA)
- Lush - Soap moulding (UK & USA)
- Disney - Costume Parts (USA)

**Digital timer**

**Vacuum gauge**

**Heater control**

**Message from the designer**

Optimised for the education sector, the 300XQ is user friendly with all the expected safety features such as interlocks and auto-stops. The versatility of the 300XQ is underlined by growing interest from the confectionary market leading us to design a dedicated custom version of the 300XQ called the Chocolatier.
Technical Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Material size</td>
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<td>Forming area</td>
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<td>Max. depth of draw</td>
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<td>Max. material thickness</td>
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<td>Zones</td>
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<td>Heaters</td>
<td>Quartz</td>
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<tr>
<td>Overall width</td>
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<tr>
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<td>Overall depth</td>
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<tr>
<td>Weight</td>
<td>75kg / 132lbs</td>
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Options

- Reducing windows
- Blow moulding window
- Trolley
- Reel feed
- Spare parts kit
- Trimmer FT10/20

Electrical specifications

- 208-240V, 13A, 2.3kW, Single Phase

Features

- Interlock
- Linear heater guides
- Digital timer
- Vacuum and release
- Vacuum gauge
- Pressure outlet
- Diaphragm pump: 25” Hg - 5.52m3/HR

Manual machines - Trolley optional

300XQ Chocolatier version available

Further information available on our website: www.formech.com - Watch our videos on Youtube: www.youtube.com/formech

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Featuring the very latest vacuum forming technologies, Formech’s highly capable 508 series features a level of specification typically reserved for much larger, more expensive machines. Intuitive touch-screen, Programmable Logic Control (PLC) with multiple memory function provides incredible convenience and rapid adaptation. Our unique touch-screen graphics offer a truly bespoke user experience. A depth of draw up to 290mm makes the 508 series applicable to the most challenging applications.

Our 508 customers include
- Central Saint Martins - Education (UK)
- Decathlon - Sport equipment R&D (France)
- A3P - Cosmetics R&D (France)
- Police Service of Northern Ireland (UK)
- Hershey Chocolate - Chocolatier (USA)
- Jdeal Bra - R&D (Italy)
- Under Armour - Footwear prototyping (USA)
- Nike - Design/Prototyping (USA)
- Reebok - Design/Prototyping (USA)
- Aardman Animation - Animation/Video (UK)
- Siemens - R&D (Italy)
- Apple Computer - Prototyping/R&D (USA)

The 508 is specifically designed for experimenting, light production runs and prototyping with more demanding shapes and materials. Equally suited to education and business purposes alike, the 508 offers a compelling range of capabilities at a highly competitive price.
Further information available on our website: www.formech.com - Watch our videos on Youtube: www.youtube.com/formech

**508**

**Features**
- Heater travel - bearing wheels
- PLC touch screen control
- 12 program memories
- Vacuum gauge
- Interlock
- Pressure outlet
- Diaphragm pump: 25” Hg
  - 5.52m³/HR

**Options**
- Reducing windows
- Trolley
- Reel feed
- Spare parts kit
- Trimmer FT10/20
- BECKER Rotary vane pump
  - 25” Hg - 10.0m³/HR

**Air supply (508FS only)**
Requires compressed air
- 80 psi / 5 bar

**Electrical specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage</th>
<th>Current</th>
<th>Power</th>
<th>Phase</th>
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**Technical Specifications**

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<td>508 x 457mm / 20 x 18”</td>
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<table>
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<th>Max. depth of draw</th>
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<table>
<thead>
<tr>
<th>Heaters</th>
<th>508DT</th>
<th>508FS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>Quartz</td>
<td>Quartz</td>
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</table>

<table>
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<tr>
<th>Overall width</th>
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<td>597mm / 23.5”</td>
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<table>
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<tr>
<th>Overall height</th>
<th>508DT</th>
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</thead>
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<table>
<thead>
<tr>
<th>Overall depth</th>
<th>508DT</th>
<th>508FS</th>
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<tbody>
<tr>
<td>1100mm / 43.3”</td>
<td>1100mm / 43.3”</td>
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<table>
<thead>
<tr>
<th>Weight</th>
<th>508DT</th>
<th>508FS</th>
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<tbody>
<tr>
<td>100kg / 200lbs</td>
<td>125kg / 264lbs</td>
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</table>

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Manual machines - 13
For optimum sheet yield the 686 provides exceptional forming capacity enabling the user to produce mouldings of a size, thickness and quality unparalleled in its class. PLC controlled Quartz heaters with multiple zoning, combined with pre-stretch provide rapid response, accurate heat control and high definition forming with consistent results.

**Typical applications**

- Medical mask
- PETG
- Decorative panels
- Opal acrylic
- Motorcycle parts
- Acrylic capped ABS
- Air conditioning units
- ABS
- Vacuum gauge
- Colour PLC Touch screen
- Material clamp

**Our 686 customers include**

- Brunel University - Education (UK)
- Xerox - R&D (USA)
- Skoda - Automotive (Czech Republic)
- Wild Blue Tech - Design (USA)
- Revision Military - R&D (USA)
- Lockheed Martin - Aerospace (USA)
- ILC Dover - Space Technology (USA)
- Kohn Pederson Fox - Architectural (UK)
- Camping Gaz - R&D (France)
- Jim Marshall Speakers - Prototyping (USA)
- Raytheon - Defense (UK)
- Domus Academy - Education/Design (Italy)
- Mecachrome - Automotive (France)
- Neurospin - Neuroimaging research center (France)

**Message from the designer**

Tailoring the 686 to specific projects is a breeze with a PLC memory capacity for storing settings. The 'Clinica' variant of the 686 is also available with an upgraded vacuum filter system, designed for compatibility with customers who often require the use of wet moulds constructed from clay and Plaster of Paris.
Further information available on our website: www.formech.com - Watch our videos on Youtube: www.youtube.com/formech

Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Measurement</th>
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<td>Forming area</td>
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<td>Max. depth of draw</td>
<td>325mm / 12.8&quot;</td>
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<td>Max. material thickness</td>
<td>6mm / .25&quot;</td>
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<tr>
<td>Zones</td>
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<tr>
<td>Heaters</td>
<td>Quartz</td>
</tr>
<tr>
<td>Overall width</td>
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<tr>
<td>Overall height</td>
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<td>Overall depth</td>
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<tr>
<td>Weight</td>
<td>260kg / 573lbs</td>
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</tbody>
</table>

Features

- Heater travel - bearing wheels
- PLC touch screen control
- 20 program memories
- Vacuum gauge
- Pre-stretch
- Autolevel
- Pneumatic power table
- BECKER rotary vane pump: 26" Hg - 16m3/HR

Options

- Reducing windows
- Cooling fan system
- Reel feed
- Single phase or 3 phase (380 / 415V)
- Spare parts kit

Air supply

Requires compressed air
80 psi / 5 bar

Electrical specifications

- 208-240V, 40A, 8kW, Single Phase
- OR
- 380-415V, 32A, 8kW, 3 Phase

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The 1372 offers a moulding capacity, depth of draw, speed of cycle and ease of operation, which is unrivalled at its price point. PLC operation with memory function adds convenience. For a more automated cycle the 1372 is also available as a semi-automatic version with pneumatic clamping and electric heater drive. Auto-level allows air to be pumped under the sheet during the heating cycle to maintain a tight definition with consistent results.

Typical applications

- Radio controlled car body shell
  - PC - Lexan
- POS display
  - HIPS/PETG
- Helmets
  - HIPS
- Luggage
  - Acrylic capped ABS

Our 1372 customers include

- BMW - Automotive R&D (Germany)
- Volkswagen - Automotive R&D (Germany)
- Honda - R&D (USA)
- Hindustan Aeronautics - R&D (India)
- EPFL - Education (Switzerland)
- Tesla Motors - Automotive (USA)
- Proctor & Gamble - Medical (USA)
- Science Museum - Props (UK)
- Helsinki Royal Opera House - Props (Finland)
- Nissan Cars - Automotive (Japan)
- Focal Point - Lighting design (USA)
- Joint Active System - Medical (USA)
- Airline Services Ltd - Aeronautical parts production (UK)

Quartz heating elements

Power table control

Touch screen control

Message from the designer

Specified with optional fans, the 1372 provides the opportunity to increase production through forming multiple smaller moulds on a single sheet thanks to its large forming area. This machine is a favourite with display companies where flexibility and machine accessibility is key to their success. Small or large runs are accommodated with ease.
## Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material size</td>
<td>1372 x 660mm / 54 x 26&quot;</td>
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<tr>
<td>Forming area</td>
<td>1330 x 620mm / 52.4 x 24.5&quot;</td>
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<td>Max. depth of draw</td>
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<tr>
<td>Max. material thickness</td>
<td>6mm / .25&quot;</td>
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<tr>
<td>Zones</td>
<td>15</td>
</tr>
<tr>
<td>Heaters</td>
<td>Quartz</td>
</tr>
<tr>
<td>Overall width</td>
<td>1820mm / 72&quot;</td>
</tr>
<tr>
<td>Overall height</td>
<td>1200mm / 47&quot;</td>
</tr>
<tr>
<td>Overall depth</td>
<td>1820mm / 72&quot;</td>
</tr>
<tr>
<td>Weight</td>
<td>600kg / 1300lbs</td>
</tr>
</tbody>
</table>

## Features

- Heater travel - bearing wheels
- PLC touch screen control
- 20 program memories
- Pneumatic table
- Vacuum and pressure gauge
- Autolevel
- Pre-stretch
- Table height adjustment
- BECKER rotary vane pump 26" Hg - 25m3/HR

## Options

- Reducing windows
- Twin cooling fan system
- Vacuum receiver tank
- Pneumatic trigger clamps
- Electric heater drive with Jaguar inverter for speed control
- Semi automation
- Spare parts kit

## Air supply

- 80 psi / 5 bar

## Electrical specifications

EU: 380-415V, 40A, 17kW, 3 Phase  
USA: 208-220V, 63A, 17kW, 3 Phase

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**Amtek Company**  
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Semi/fully automatic machines - Our customers’ experiences

The customer & the challenge

Simpson-detour produce a range of exciting products for the motorcycle accessory market, typically huggers, belly pans and lighting fairing systems. All design, testing and manufacture is based in the UK with vacuum forming being an integral part in the production. Acrylic capped ABS, Polypropylene and polycarbonates are largely the materials of choice for this application and vacuum forming is perfect for small rapid design testing to larger volume production.

The Formech solution

Formech have supplied several machines to Simpson-detour similar to our latest 1250 and HD686. These machines have been designed to be user friendly, to facilitate quick tool changes and yet capable of producing the high quality components that Simpson-detour demand.

Simpson Detour UK

For us the lighter weight nature of Formech machines design and construction offer a far more versatile and flexible option to that of the somewhat over engineered and cumbersome nature of other manufacturers, meaning that adaptations, alteration and relocations are far simpler to apply.

Neil Simpson - Managing Director

Fiat 500 by Gucci

We cannot thank everyone at Formech enough for all the help and support during the production and shoot for the Fiat 500 by Gucci film. The Formech 1500 was instrumental to the success of the film and looked great in the finished edit. During the shoot, Formech staff were on hand to operate the machine and offer expert advice to our crew. Everyone is delighted with the outcome.

Roma Vaccaro, Producer - White Lodge

Fiat 500 by Gucci film

Glossary

1 phase or Single phase
Single phase electricity is supplied for domestic use for most households.

3 phase or Three phase
Three phase electricity is supplied for industrial use and is usually cheaper than single phase.

Autolevel
Allows air to be pumped under the sheet during the heating cycle to maintain a consistent distance between the sheet and the heaters.

Becker oil pump
Becker rotary vane oil pump

Bolster
The bolster is an aluminium plate that sits under the tool with internal channeling that allows either hot or cold liquids to circulate to maintain a consistent tool temperature.

Cable chain
The hinged outer plastic casing that encloses the inner wires that lead to the heaters.

Ceramic heaters
Ceramic heaters are ideal for packaging applications, where rapid cycles are required.

Clamping frame
Steel frame that clamps the plastic sheet during the vacuum forming process.

Cooling pyrometer
Controls the cooling fans based on the temperature of the cooled part, rather than time.

Depth of draw
Equivalent to the maximum height of moulds/tools being used on a vacuum former.

Flow regulators
Flow regulators are manually adjusted valves that allow you greater control of the vacuum flow, table speed and plug assist descent speed.

Heating pyrometer
Sends the heaters back based on the temperature of the sheet, rather than time.

Heating zone
The heaters are divided up into zones for greater control of different parts of the sheet.

Jaguar Inverter with variable speed control
An inverter converts direct current (DC) into alternating current (AC).

Mouldings
These are the formed plastic parts, also known as vacuum formings.

PLC with memory
Programmable logic controller with program storage in the memory.
Semi/fully automatic machines - Our customers’ experiences

Rochling Formaterm AB

“We needed a new twin heater vacuum forming machine for testing our extruded sheets in a way that would simulate what our customers do. We need to control and check the quality of the sheets. The Formech solution was the best choice for us, a machine that was small, compact and easy to use. Formech also provided a tool for testing, so the solution was complete.”

Jimmy Karlsson, Maintenance Technician - Rochling Formaterm AB, Sweden

Rudd McNamara Ltd

“We approached Formech with a range of requirements and they were quick to identify a cost effective and versatile solution. It was important that we would be able to continue to meet the ever increasing demands from our clients. The training and after sales support we received from Formech helped us to start production as soon as the machines were in place and, as a result, we have subsequently purchased a further 7 machines.”

John Wood, Managing Director Rudd McNamara Ltd

Universität Des Saarlandes

We are very pleased with our FMDH660 vacuum forming machine. Within our research project we developed a plastic-metal-connection, which is produced in the thermoforming process. The connection has a very high stability and is leak proof against fluids. Further we use the machine for our lessons, to demonstrate the thermoforming process to our students.

Dipl.-Ing. Tobias Naumann

Unisza - Malaysia

UNISZA aspires to be a world class institution of higher learning. Our plastics polymer department were looking for a large format robust thermoforming machine requiring minimum maintenance that would serve the faculty for a minimum of 10 years. I graduated from CSM, London in 1986 and have been familiar with Formech throughout both my educational and working career in the UK before returning to Malaysia and always found them intuitive and user friendly machines to use. Formech provided a total solution with on-site local support provided by their representative Caddcam Tech and a full training program based on the machine, process and materials. This proved a success with our university technicians and students.

University Dean

Prof Suleiman BM Salleh MDesRCA

Pneumatic trigger clamps
Air cylinders are used to lock the clamping frame

Pre-stretch
Allows air to be pumped under the sheet to create a bubble to pre-stretch the material prior to forming.

Pressure gauge
A visual indication of consistent pressure being applied.

Quartz heaters
Quartz heaters have the benefit of the standby feature, resulting in reduced electricity consumption.

Reducing windows/frames
Reduce the forming area in order to use smaller sheets of plastic when forming a mould/tool which is much smaller than the original forming area of the machine.

Safety light curtain
The safety light curtain replaces a safety gate. As soon as the light curtain is broken all mechanical actions are halted or retract to safe positions.

Spray mist control
Water mist is added to the cooling fans in order to cool down the moulded parts in a shorter space of time.

Table
Part of the vacuum forming machine where the mould/tool is placed.

Table height adjustment
This allows you to reduce the amount of travel of the table when using shallow moulds/tools.

Toggle clamp
The mechanical clamp that applies pressure around the outer edge of the sheet using the clamping frame.

Touch screen
This is the main control panel that allows you to control all aspects of the machine.

Vacuum gauge
A visual indication of consistent vacuum being applied.

Vacuum pump flow rate
The amount of air that can be moved over a given time

Vacuum receiver or tank
This is usually a feature of our larger machines and reduces the vacuum time required to pull the plastic around the mould/tool.
Designed for prototyping and light to medium production, the versatile 1250/1500 series provides a fully featured semi-automatic user experience, offering two forming sizes optimised to match industry standard extrusion formats. AC heater motor drive with Jaguar inverter provides variable speed drive for ultra-smooth and quiet travel.

**Typical applications**

- Golf car parts
  - Acrylic capped ABS

- Instrument case
  - ABS

- Bicycle case
  - HDPE

**Our 1250/1500 customers include**

- Toyota Europe - R&D (France)
- UK Centre of Carnival Arts - Props (UK)
- Lycee Corvisart Paris - Education (France)
- UCI Blind Association - Product (Italy)
- JCB Aero - Aircraft interiors (France)
- Bolshoi Ballet Moscow - Stage sets/Props (Russia)
- Helsinki Theatre - Stage sets/Props (Finland)
- Simpson Detour - Motorcycle parts (UK)
- KKTM - Tech College (Malaysia)
- ALLIO - Design (France)

- Semi-automation eliminates the need for machine guards and affords the user a hands-on approach with full access during the forming cycle. The deep depth of draw makes the 1250/1500 truly versatile machines.
Further information available on our website: www.formech.com - Watch our videos on Youtube: www.youtube.com/formech

Technical Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>1250</th>
<th>1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material size</td>
<td>1220 x 1220mm / 48 x 48&quot;</td>
<td>1500 x 1000mm (minimum) / 59 x 39&quot;</td>
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<tr>
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<td>1460 x 960mm / 57.5 x 37.8&quot;</td>
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<td>600mm / 23.5&quot;</td>
<td>600mm / 23.5&quot;</td>
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<td>Max. material thickness</td>
<td>6mm / .25&quot;</td>
<td>6mm / .25&quot;</td>
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<tr>
<td>Zones</td>
<td>20</td>
<td>18</td>
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<td>Heaters</td>
<td>Quartz</td>
<td>Quartz</td>
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<td>950kg / 2094lbs</td>
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</tbody>
</table>

Features

- Electric heater drive
- Twin cooling fan system
- 2 air powered trigger clamps
- Pneumatic table
- PLC touch screen control
- 20 program memories
- Autolevel
- Pre-stretch
- Vacuum and pressure gauge
- Vacuum tank - 150L
- BECKER oil filled rotary vane pump
  20m3/HR - <1mb ABS

Options

- Reducing windows
- Spare parts kit

Air supply

- 80 psi / 5 bar

Electrical specifications

1250
EU: 380-415V, 63A, 30kW, 3 Phase
USA: 208-220V, 80A, 30kW, 3 Phase

1500
EU: 380-415V, 63A, 29kW, 3 Phase
USA: 208-220V, 80A, 29kW, 3 Phase

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Semi/fully automatic machines - 21
FMDH660

Occupying minimum floor space, the FMDH provides a cost effective solution for extrusion manufacturers to quality control sheet material up to 10mm thick. Twin multi-zone ceramic or quartz heaters provide powerful performance and consistent results with the most demanding materials.

Typical applications

Chocolate mould
Copolymer PP

Marine pod
Acrylic capped ABS

Props
Acrylic capped ABS

Our FMDH660 customers include

Ferrero Rocher - Chocolatier (Italy)
Rochling Formaterm AB - Extrusion (Sweden)
Rochling Formaterm AB - Extrusion (Finland)
Rochling Engineering s.r.o - Extrusion (Czech Republic)
Universität Des Saarlandes - Education (Germany)
Foamalite - Insulation products (Ireland)
Senoplast - Extrusion (Austria)

Touch screen with PLC  Jaguar inverters  Ceramic heating tray  Message from the designer

The FMDH660 is an exceptionally capable machine, designed specifically to testing thicker materials and products, yet equally applicable to thinner gauge, highly technical materials for use in education, confectionary and industry alike.
FMDH660

Features

- Double heater (ceramic or quartz)
- PLC touch screen control
- 20 program memories
- Autolevel
- Pre-stretch
- Vacuum and pressure gauge
- Electric heater drive
- BECKER dry vane pump : 16m3/HR

Options

- Reducing windows
- Reel feed stand
- Cooling fan system
- Pneumatic trigger clamps
- Pyrometer
- Spare parts kit

Air supply

80 psi / 5 bar

Electrical specifications

EU : 380-415V, 32A, 11.8kW, 3 Phase
USA : 208-220V, 40A, 11.8kW, 3 Phase

Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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<td>Heaters</td>
<td>Ceramic or quartz</td>
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<td>1200mm / 47.25&quot;</td>
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<tr>
<td>Overall height</td>
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<tr>
<td>Overall depth</td>
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</table>

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Film Insert Moulding (FIM) is a versatile and cost effective method of decorating and manufacturing durable plastic parts. It is an advanced form of In Mould Decoration (IMD) or In Mould Labelling (IML). The flat film is firstly reverse decorated (normally screen printed) then vacuum formed, cut and finally back injection moulded. It is used for cost effective manufacture of fascias, panels and casings for the automotive, telecommunications and electronic sectors. The Formech FIM/IMD range combine extremely accurate repeat sheet registration with incredibly precise heat control during the forming process of pre-printed, high specification materials. Formech produce IMD machines for both test and production using either ceramics or quartz, single or twin heaters and servo electric table for precise movement.

Typical applications

- Polycarbonate

MacDermid Autotype

“It was very important that we could have a complete IMD solution in place at our demonstration facility in Oxon. We have been working closely with Formech for some time to develop a dedicated IMD machine that would meet the demanding registration tolerances and could be used in conjunction with our new range of formable hardcoated films.

The collaboration has been extremely successful and we have jointly participated at numerous exhibitions worldwide to promote our FIM/IMD solutions”

Richard Townsend – MacDermid Autotype

Registration inspection | Machine setup | IMD Lab

Message from the designer

With FIM you can easily integrate components such as lens and body into a single unit using hardcoated PC films. Formech have worked closely with MacDermid Autotype to produce a machine to meet all the stringent FIM/IMD requirements. An on-site demonstration facility at the MacDermid headquarters close to London provides a full insight into the process and the many applications.
**IMD600**

**Features**
- Megapoint full feedback heater temperature control
- Safety Light Curtain
- Vacuum and pressure gauge
- PC control
- Cooling fan system
- Autolevel
- Servo driven linear table movement guided by linear bearing
- Pyrometer
- Material registration punch
- 500W cooling fan system

**Options**
- Reducing windows
- Double heater
- Spare parts kit

**Air supply**
- 80 psi / 5 bar

**Electrical specifications**
- EU: 380-415V, 30A, 14kW, 3 Phase
- USA: 208-220V, 30A, 14kW, 3 Phase

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**Technical Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
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<td>6mm / .25”</td>
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<tr>
<td>Zones</td>
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<tr>
<td>Heaters</td>
<td>Ceramic or quartz</td>
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<tr>
<td>Overall height</td>
<td>2200mm / 86.6”</td>
</tr>
<tr>
<td>Overall depth</td>
<td>1500mm / 59”</td>
</tr>
<tr>
<td>Weight</td>
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</table>

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Semi/fully automatic machines - 25
HD Series

The HD (heavy duty) series is a fully automated machine range designed to offer a robust and cost effective alternative to more expensive production machines. Plug assist, pyrometer, water cooling and multi-zone quartz heating affords a comprehensive level of control for more demanding mouldings and materials with an emphasis on production.

Typical applications

- Marine pod
  Acrylic capped ABS

- Clamp frame

- Pod
  Acrylic capped ABS

- Quartz heaters

Our HD customers include

- Makita - Insert Packaging (UK)
- Nestle - Packaging R&D (Switzerland)
- Giannuzzi SRL - Helicopter (Italy)
- DPS Designs Ltd - Toolmaker (UK)
- Renishaw - In-house transit and kit trays (UK)
- Comco Plastics - POS displays (USA)
- INSA - Education (France)
- Berry Plastics Corp. - Design (USA)
- Bahrain University - Education (Bahrain)
- Interform - Trade former (UK)
- Cornelius - IMD (UK)

Clamp frame

Pod

Quartz heaters

Message from the designer

Ease of use and robust manufacture is the essence of the HD series combined with all the usual essential features including plug assist, pyrometer, water cooling and full heating zone control. Despite its ‘Heavy Duty’ credentials, Formech’s HD series acronym can be equally applied to ‘High Definition’.
HD Series

HD686/HD750
Self-adjusting hinged clamping

HD1000/HD1500
Direct thrust vertical clamping

Technical Specifications

<table>
<thead>
<tr>
<th></th>
<th>HD686</th>
<th>HD750</th>
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<th>HD1500</th>
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<td>750 x 540mm / 29.5 x 21.25”</td>
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<tr>
<td>Forming area</td>
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<td>700 x 500mm / 27.6 x 19.7”</td>
<td>960 x 960mm / 37.8 x 37.8”</td>
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<td>500mm / 19.7”</td>
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<td>Max. material thickness</td>
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<td>6mm / .25”</td>
<td>6mm / .25”</td>
<td>6mm / .25”</td>
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<tr>
<td>Zones</td>
<td>16</td>
<td>16</td>
<td>20</td>
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<td>Heaters</td>
<td>Quartz</td>
<td>Quartz</td>
<td>Quartz</td>
<td>Quartz</td>
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<tr>
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<td>2300mm / 90.5”</td>
<td>2300mm / 90.5”</td>
<td>2300mm / 90.5”</td>
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<td>2000mm / 78.5”</td>
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<td>2800mm / 110.2”</td>
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<td>750kg / 1650lbs</td>
<td>1250kg / 2750lbs</td>
<td>2000kg / 4400lbs</td>
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</table>

HD Series Features

• Safety Light Curtain
• Vacuum and pressure gauge
• Heater travel - industrial bearing tracks
• Siemens PLC + Touch screen
• 40 program memories
• Cooling fan system
• Pneumatic heater drive
• Pneumatic table
• Pneumatic clamping frame
• Autolevel
• Pre-stretch
• Direct thrust clamping
• BECKER Oil filled rotary vane pump
• HD686/HD750: 41m³/HR
  HD1000/HD1500: 63m³/HR <1mb ABS

HD Series Options

• Reducing windows
• Plug assist
• Heating pyrometer
• Cooling pyrometer
• Spray mist cooling
• Cooling bolster
• Reel feed system
• Double heater
• Spare parts kit

Air supply

80 psi / 5 bar

Electrical specifications

HD686 & HD750
EU : 380-415V, 11kW, 32A, 3 Phase
USA : 208-220V, 11kW, 40A, 3 Phase

HD1000
EU : 380-415V, 33kW, 40A, 3 Phase
USA : 208-220V, 33kW, 63A, 3 Phase

HD1500
EU : 380-415V, 47kW, 40A, 3 Phase
USA : 208-220V, 47kW, 63A, 3 Phase

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Further information available on our website : www.formech.com - Watch our videos on Youtube : www.youtube.com/formech
Custom build machines

At Formech we pride ourselves on providing the right solution for every customer and application. If we are unable to meet your exact requirements from our extensive range of standard machines we can offer a custom design and build service. With 30 years of problem solving experience in vacuum forming our design and manufacturing team can overcome the most challenging applications.

Our customer pedigree in this field speaks volumes. Many internationally recognised brands across a variety of industry sectors trust Formech to provide the perfect solution. Here are a just a few examples of Formech customers who have benefited from Formech's custom build service:

- Dourdin SA, France: Decorative trim applications for major automotive manufacturers
- Inplas - Simoldes, Portugal: Leading manufacturer of automotive mouldings for VW group, GM, Renault, etc.
- Honda - Fisem, Italy: Honda scooters
- RAK Ceramics, UAE: One of the world's leading bath & sanitary manufacturers
- Compo Plastics, New York: US Extruder and trader former
- Apadil, Portugal: Major sign makers for automotive franchisee's and petroleum companies
- 3M UK, UK: Innovation & Technology
- Destination Plasturgie, France: Education
- SCA, Scotland: Air conditioning liners

Contact us for a free consultation and we will guide you through the steps from needs analysis, design and build through to installation and commissioning.

www.formech.com

Fabrication

Hydraulic table

Bath mould

Dedicated bath machine
Formech offers a wide range of customisation options at each key stage of the machine design including:

- Fully optimised forming areas and depth of draw
- Various automation types: manual or fully automatic with pneumatic, hydraulic or electric
- Positive or inverted pre-stretch
- Ceramic or quartz single and double heaters
- PLC options from leading providers
- Heat and cool pyrometers for accurate and consistent production cycles
- Water cooled table
- Spray mist cooling
- Reel feed, pincer or chain driven
- Trouble shooting with remote diagnostics
- Quick tool changes
- Fast reducing window adjustment

We visited Formech and several other thermoforming machine suppliers at the K show in Germany. We were impressed with the approach Formech took and the way they listened carefully to our requirements. They were quick to identify a cost effective and versatile solution. It was important that we would be able to meet increasing demands from our clients so we wanted the machine to be as flexible as possible for future applications other than door panels. The complete process from our initial meeting to the machine build, install, training and after sales support has been impressive. The help and support from Formech has enabled us to start production immediately and I would like to thank Formech for the professional service extended to us.

Peter Mikola
SC PLASORTECH SRL
Romania

Plasfortech
Packaging machines - Our customers’ experiences

The customer & the challenge

Playmobil is one of the biggest names in toy manufacturing employing more than 2,300 staff worldwide. To date, 1.5 billion colourful plastic Playmobil materials have been produced, and the company attributes much of its success to its policy of producing on its own sites in Europe and not outsourcing manufacturing. Playmobil Malta’s new 38,000 sq.m. manufacturing plant is testament to this. With Playmobil’s Malta facility running at full stretch, the company’s ambitious plans to launch a further 80 new items required increased production capabilities. The team in Malta were keen to keep any new developments on site, and began searching for a machinery supplier who could meet Playmobil’s exacting standards for quality and production — which included cost-effective production of small quantity runs — and which could manufacture, deliver and commission the plant in time to enable the production schedule to be met.

The Formech solution

An Internet search led Playmobil to Formech, and a visit from the Formech team to Playmobil Malta helped establish the company’s precise requirements. Formech’s solution was to propose an economical turnkey solution to allow Playmobil to form, cut and seal their parts in house and ensure production levels could be met whilst maintaining flexibility and control of their designs and not relying on outside vendors.

Playmobil

“It was very important that we would be able to continue to provide the blister packs that were required across the Group. The training and after sales support we received from Formech helped us to start production as soon as the machine was in place. I would fully recommend Formech to my colleagues across the Group and if we had further requirements in the future we would definitely turn to Formech.”

Johann Elsner, Playmobil Malta.

Formech have subsequently supplied several more machines to meet the further demands of Playmobil Malta and work closely with them on maintaining the machines and new project development.

Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autolevel</td>
<td>Allows air to be pumped under the sheet during the heating cycle to maintain a consistent distance between the sheet and the heaters.</td>
</tr>
<tr>
<td>Becker oil pump</td>
<td>Becker rotary vane oil pump</td>
</tr>
<tr>
<td>Blister</td>
<td>A clear vacuum forming to enclose product which is sealed on to a backing card.</td>
</tr>
<tr>
<td>Bolster</td>
<td>The bolster is an aluminium plate that sits under the tool with internal channeling that allows either hot or cold liquids to circulate to maintain a consistent tool temperature.</td>
</tr>
<tr>
<td>Ceramic heaters</td>
<td>We use ceramic heaters in our reel feed machines, because the standby feature associated with quartz heaters is of no benefit when used for this type of production that requires rapid machine cycles.</td>
</tr>
<tr>
<td>Clamp pack</td>
<td>A hinged clear vacuum forming that encloses product when folded together.</td>
</tr>
<tr>
<td>Cooling jig</td>
<td>This is used to cool the plastic sheet after it has been heated on the line bender. The jig is adjusted to the required angle and the part is removed after it has become rigid.</td>
</tr>
<tr>
<td>Cooling pyrometer</td>
<td>Controls the cooling fans based on the temperature of the cooled part, rather than time.</td>
</tr>
<tr>
<td>Cutting board</td>
<td>The cutting board is used on the roller press to help cut the vacuum forming from the waste material.</td>
</tr>
<tr>
<td>Cutting Die or cutting form</td>
<td>This is a steel cutting rule that has been formed in to a particular profile to follow the outer edge of a vacuum forming. The vacuum forming is placed into the cutter and then placed into the roller press for trimming.</td>
</tr>
<tr>
<td>Flow regulators</td>
<td>Flow regulators are manually adjusted valves that allow you greater control of the vacuum flow, table speed and plug assist descent speed.</td>
</tr>
<tr>
<td>Heating pyrometer</td>
<td>Sends the heaters back based on the temperature of the sheet, rather than time.</td>
</tr>
</tbody>
</table>
Packaging machines - Our customers’ experiences

Destination Plasturgie

‘DESTINATION PLASTURGIE is a total self-powered training workshop, running without external sources of electricity and water. It is a road workshop for training and demonstration of Plastics industry and the project is made up of a semi-trailer truck built specifically for accommodating young trainees and used to promote the plastics industry, heighten people’s awareness of environmental safety and offer a logistic support for training processes. To qualify for this project all machine suppliers had to conform to a number of specific ECO requirements. Formech were selected as the thermoforming machine of choice and we are proud to include them as a partner.’

D. Paris
Director
Destination Plasturgie

CGL Pack

We had an old machine from 1963 for our prototype workshop. It was time to change so we first made some tests with Formech machines and after close evaluation we finally selected the Formech TF750 with Negative feature. The settings are quite easy and reproducible and tool change is fast. We especially like the automatic mode for small series of hundreds of parts. After one year, we are now in the process of buying another TF in the group.

BENOIT BLUM, Technical Manager
CGL PACK, France

Gratnells Ltd

“We, Gratnells Ltd would like to say that in the years that we have been dealing with Formech Ltd, we have had good service from both the staff and the machines that we purchased. Our latest M/C is so easy to operate and now that we have a maintenance contact with Formech worry and trouble free. We started out some years ago with one tool, with the expectation of producing 10,000 units per Annum, now we are producing nearly 20,000 per month on our two M/Cs and have 20 or so easily Interchangeable tools, some with plug assist and some quite deep and complex tools which our operators can change and use very quickly. In conclusion, we have seen a lot of changes to the way Formech has dealt with our needs and all have helped us to achieve the smooth running of this dept.”

R.Wass
Head of Production
GRATNELLS LTD. UK

---

Flying knife
The knife is attached to the heater box and cuts the reel feed material into individual sheets after each cycle of the machine.

Mouldings
These are the formed plastic parts, also known as vacuum formings.

Negative feature
This feature allows you to form negative vacuum formings using reel feed material e.g. clam packs.

PLC with memory
Programmable logic controller with program storage in the memory.

Plug assist
This is usually a pneumatic or electrically driven ram that forces the plastic sheet into cavities to increase the thickness of the bottom of the cavities.

Pre-stretch
Allows air to be pumped under the sheet to create a bubble to pre-stretch the material prior to forming.

Pressure gauge
A visual indication of consistent pressure being applied.

Reducing windows/frames
Reduce the forming area in order to use smaller sheets of plastic when forming a mould/tool which is much smaller than the original forming area of the machine.

Reel feed
This is located on the side of the machine and holds reels of material ready to be vacuum-formed.

Safety light curtain
The safety light curtain replaces a safety gate. As soon as the light curtain is broken all mechanical actions are halted or retract to safe positions.

Spray mist control
Water mist is added to the cooling fans in order to cool down the moulded parts in a shorter space of time.

Vacuum receiver or tank
This is usually a feature of our larger machines and reduces the vacuum time required to pull the plastic around the mould/tool.
TF Series

Specifically designed for the packaging industry and developed for those companies looking for a cost effective alternative to outsourcing small to medium run requirements and at a fraction of the cost of high speed inline machines, the Formech TF series provides the end user with a cost effective and versatile solution. Capable of processing reel materials up to 1.8mm and sheet material up to 5mm the TF series has a wide range of capabilities. A host of options are available to fine tune the TF series to your production needs.

Typical applications

- Packaging machines
- Specificity designed for the packaging industry and developed for those companies looking for a cost effective alternative to outsourcing small to medium run requirements and at a fraction of the cost of high speed inline machines, the Formech TF series provides the end user with a cost effective and versatile solution. Capable of processing reel materials up to 1.8mm and sheet material up to 5mm the TF series has a wide range of capabilities. A host of options are available to fine tune the TF series to your production needs.

Our TF customers include

- Playmobil - Packaging (Malta)
- CGL Pack - Packaging (France)
- Destination Plasturgie - Education (France)
- Termoplasic SRL - Trade former (Italy)
- Nestle - Packaging R&D (Switzerland)
- Co-Packing - Packaging design (Germany)
- Glasseal - Contract Packaging (USA)
- Floreal - Chocolate Packaging (Italy)
- KKTM - Tech College (Malaysia)
- Imperial Packaging - (Malta)

Plug assist
Reel index pincer feed
POD + PLC

Message from the designer

Fast and intuitive to configure with PLC control and 40 assignable memory settings the TF series is also capable of achieving 4 cycles per minute making this an extremely flexible and capable machine for uninterrupted runs. Negative tooling capability adds even greater flexibility making the TF series the most versatile range of machines in class.
Amtek Company
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Arnold, MD 21012
800.926.8359 (Ph.)
410.315.9249 (Fax)
info@amtekcompany.com

Further information available on our website: www.formech.com - Watch our videos on Youtube: www.youtube.com/formech

Features
- Siemens PLC + Touch screen control
- 40 program memories
- Pneumatic heater drive
- Pneumatic table
- Pneumatic clamp frame
- Pre-stretch
- Autolevel
- Reel feed
- Safety light curtain
- Plug assist
- BECKER Oil filled rotary vane pump 41m3/HR

Options
- Reducing windows
- Cooling bolster
- Additional depth of draw (250mm max in positive)
- Spray mist cooling
- Heating/Cooling pyrometers
- Negative feature (for clamp packs) (100mm depth of draw in negative)
- External flows regulator for vacuum, table and Plug control
- Double heater
- Spare parts kit

Air supply
80 psi / 5 bar

Technical Specifications

<table>
<thead>
<tr>
<th>Material size</th>
<th>TF686</th>
<th>TF750</th>
<th>TF1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forming area</td>
<td>686 x 660mm / 27 x 26&quot;</td>
<td>750 x 540mm / 29.5 x 21.25&quot;</td>
<td>1000 x 1000mm / 39.4 x 39.4&quot;</td>
</tr>
<tr>
<td>Max. depth of draw</td>
<td>150mm / 6&quot;</td>
<td>150mm / 6&quot;</td>
<td>150mm / 6&quot;</td>
</tr>
<tr>
<td>Max. material thickness</td>
<td>6mm / 25&quot; (sheet) or 2mm / .08&quot; (reel)</td>
<td>6mm / 25&quot; (sheet) or 2mm / .08&quot; (reel)</td>
<td>6mm / 25&quot; (sheet) or 2mm / .08&quot; (reel)</td>
</tr>
<tr>
<td>Zones</td>
<td>16</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>Heaters</td>
<td>Ceramic</td>
<td>Ceramic</td>
<td>Ceramic</td>
</tr>
<tr>
<td>Overall width</td>
<td>3400mm / 134&quot;</td>
<td>3400mm / 134&quot;</td>
<td>4000mm / 157.5&quot;</td>
</tr>
<tr>
<td>Overall height</td>
<td>2660mm / 104&quot;</td>
<td>2660mm / 104&quot;</td>
<td>2350mm / 92.5&quot;</td>
</tr>
<tr>
<td>Overall depth</td>
<td>2000mm / 79&quot;</td>
<td>2000mm / 79&quot;</td>
<td>2800mm / 110.2&quot;</td>
</tr>
<tr>
<td>Weight</td>
<td>750kg / 1653lbs</td>
<td>750kg / 1653lbs</td>
<td>2000kg / 4409lbs</td>
</tr>
</tbody>
</table>

TF Series
Packaging machines - 33

TF686 & TF750
EU: 380-415V, 11kW, 32A, 3 Phase
USA: 208-220V, 11kW, 40A, 3 Phase
Skinpack Series

For skin packing items onto special adhesive coated card, using high clarity Surlyn® film. Ideal for Point Of Sale display. Card can be manually cut to size by knife or guillotine and euro slot added by Rollerpress. Suitable for use with environmentally friendly ‘Peel Away’™ skin pack board.

Amtek Company
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Arnold, MD 21012
800.926.8359 (Ph.)
410.315.9249 (Fax)
info@amtekcompany.com

### Electrical Specifications

<table>
<thead>
<tr>
<th>SP750</th>
<th>BS454U</th>
<th>BS555</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU : 380V, 50/60Hz 3 Phase</td>
<td>220V, 50/60Hz single phase</td>
<td>220V, 50/60Hz single phase</td>
</tr>
<tr>
<td>USA : 208-220V, 3 Phase</td>
<td>2.5kW</td>
<td>3kW</td>
</tr>
<tr>
<td>Max absorbed power</td>
<td>Compressed air 4-6 bar</td>
<td>Compressed air 4-6 bar</td>
</tr>
<tr>
<td>Working surface 500 x 750mm / 19.6 x 29.5&quot;</td>
<td>Working surface 400 x 300mm / 15.7 x 12”</td>
<td>Working surface 500 x 350mm / 19.6 x 14”</td>
</tr>
<tr>
<td>Board size 495 x 695mm</td>
<td>Sealing depth 75mm</td>
<td>Sealing depth 75mm</td>
</tr>
<tr>
<td>Maximum production height 100mm</td>
<td>Static Heater Platen with thermostat control / Aluminium Table powered by pneumatic cylinder</td>
<td>Digital Timer for process control</td>
</tr>
<tr>
<td>Machine width 1300mm / 51”</td>
<td>Machine width 670mm / 26.5”</td>
<td>Machine width 800mm / 315”</td>
</tr>
<tr>
<td>Machine depth 1500mm / 59”</td>
<td>Machine depth 800mm / 315”</td>
<td>Machine depth 1300mm / 51”</td>
</tr>
<tr>
<td>Machine height 1500mm / 59”</td>
<td>Machine height 1370mm / 54”</td>
<td>Machine height 1500mm / 59”</td>
</tr>
<tr>
<td>Net machine weight 200kg / 440lbs</td>
<td>Net machine weight 100kg / 220lbs</td>
<td>Net machine weight 150kg / 330lbs</td>
</tr>
</tbody>
</table>

Blister Sealer Series

Products are laid inside the blisters and adhesive coated card is placed on top and positioned by spring loaded pins. The assembly is then moved to the heating station where the card is sealed to the blister - the other station can be unloaded and reloaded.
Manual Rollerpress

Unless you’re doing continuous production, a manual roller press makes a lot of sense. Less space required and the ability to feed the job through the machine at the exact speed you want.

| Working width | MRP500 | 500mm / 19.5” |
| Max adjustable height | 125mm / 5” |
| Machine width | 830mm / 32.5” |
| Machine depth (unfolded) | 1350mm / 53” |
| Machine depth (folded) | 700mm / 27.5” |
| Machine height (unfolded) | 1200mm / 47” |
| Machine height (folded) | 1320mm / 52” |
| Net machine weight | 65kg / 143lbs |

Automatic Rollerpress

Full on vacuum forming requires a powered roller press in order to keep up with the output from the vacuum former. The RP series will perform all day long.

| Electrical Specifications | EU : 380V, 50/60Hz 3 Phase |
| Max absorbed power | 1kW |
| Working width | 680mm / 27” |
| Max adjustable height | 177mm / 7” |
| Machine width | 1050mm / 41” |
| Machine depth | 2815mm / 110” |
| Machine height | 1400mm / 55” |
| Net machine weight | 350kg / 770lbs |

Can be custom made to your specifications

Ametek Company
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410.315.9249 (Fax)
info@amtekcompany.com

High quality shape and hole cutting with low cost tooling.
The FLB Series of line benders have been designed for ease of use. The broad spread of heat from the incoloy element on the FLB500 and the quartz element on the FLB1000 means strong consistent bends are achieved rapidly.

Amtek Company
1244 Ritchie Highway, Suite 10
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800.926.8359 (Ph.)
410.315.9249 (Fax)
info@amtekcompany.com

Our FLB customers include
Design Academy Eindhoven - Education (Belgium)
Sheffield Hallam University - Education (UK)
Performance Procurement - (UAE)
3M UK - R&D (UK)
IDEO - R&D (USA)
Itouch Systems - Prototyping (UK)
Superb Building Products - Product design (USA)
Chocolaterie Laruelle - Chocolatier (Belgium)

Options
Adjustable fence
Allows you to position your work piece consistently.

Message from the designer
Primarily designed for the education sector, the FLB500 is an entry level line bender, ideal for manipulating plastic sheet up to 6mm thick. Designed for ease of use, the FLB is ideal for students to begin their knowledge of thermoforming. The FLB1000 has double the heating width with precise heat control as well as a built-in timer.

Technical Specifications

<table>
<thead>
<tr>
<th></th>
<th>FLB500</th>
<th>FLB1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating width</td>
<td>500mm</td>
<td>1000mm</td>
</tr>
<tr>
<td>Heating element</td>
<td>Incoloy</td>
<td>Quartz</td>
</tr>
<tr>
<td>Timer</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Alarm</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Material clamp</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Temperature regulator</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Overall width</td>
<td>680mm</td>
<td>1280mm</td>
</tr>
<tr>
<td>Overall height</td>
<td>175mm</td>
<td>175mm</td>
</tr>
<tr>
<td>Overall depth</td>
<td>330mm</td>
<td>330mm</td>
</tr>
<tr>
<td>Weight</td>
<td>8kg / 17lbs</td>
<td>15kg / 33lbs</td>
</tr>
</tbody>
</table>

Cooling jig
Allows for precise angles to be created and maintained to achieve a perfect finish.
Formech - a partner to trust

Thousands of customers around the world including globally recognised brand leaders rely on Formech to provide the perfect vacuum forming solution for their needs. Formech's customer focused approach to design, manufacturing, quality control and support has earned us a position of trust across a variety of market sectors.

Formech is an ISO 9001 company, applying best practices across our entire operation. Additionally all Formech machines are CE compliant and adhere to the strictest safety standards. Formech's insistence on over specification components in critical areas from the smallest desktop machines to the fully automatic series promotes long term durability without compromising affordability.

A cutting edge, not bleeding edge design philosophy means that Formech continually seeks to adopt the latest thermo-forming technologies, which provide real-world performance and efficiency enhancements. Prior to release of all new machines and features, Formech conducts extensive durability and application testing with multiple development partners.

Formech offers a range of services to help you select the perfect machine for your application and achieve the highest productivity from your investment including:

- Free of charge needs analysis
- Machine demonstrations
- CAD tooling support and consultancy
- Training programmes
- On-site commissioning
- Extended warranty options
- Comprehensive support including on-site assistance when required
- Parts, servicing and full reconditioning services for all Formech current and legacy machines

Over 30 years Formech has established an unparalleled global network of branch offices and qualified resale partners ready to provide expert advice, sales and support. We look forward to receiving your enquiry and sharing the benefit of our experience with you.
product) on to the backing card.

Blister sealing

To seal the vacuum formed blister (containing the product) on to the backing card.

Blister

A clear vacuum forming to enclose product when folded over a backing card.

Becker oil pump

Becker rotary vane oil pump

Bikster

A reducing window with a circular aperture for blowing plastic sheet into hemispheres.

Ceramic block

These are used to connect the electrical wires to the heating elements in the heater box.

Ceramic heaters

Ceramic heaters are ideal for packaging applications, where rapid cycles are required.

Clam pack

A hinged clear vacuum forming that encloses product when folded together.

Clamping frame

Steel frame that clamps the plastic sheet during the vacuum forming process. (Hinged or direct thrust)

Cooling block

A water cooled plate sits on top of the table and directly cools aluminium moulds/tools to a consistent temperature.

Cooling fan

Accelerate the cooling process once the plastic sheet has been formed.

Depth of draw

Equivalent to the maximum height of moulds/tools being used on a vacuum former.

Diaphragm pump

This pump uses a diaphragm to generate the vacuum and is used in our desk top machines.

Flying knife

The knife is attached to the heater box and cuts the reel feed material into individual sheets after each cycle of the machine.

Heater servo Motor

Consists of a DC motor, gear unit, sensors & control circuit.

Heating zone

The heaters are divided up into zones for greater control of different parts of the sheet.

Interlock

Feature ensuring that the mould cannot be raised when heater is in forward position.

Jaguar Inverter with variable speed control

An inverter converts direct current (DC) into alternating current (AC).

Mouldings

These are the formed plastic parts, also known as vacuum formings.

Negative feature

This feature allows you to form negative vacuum formings using reel feed material e.g. clam packs.

PLC with memory

Programmable logic controller with program storage in the memory.

Plug assist

This is usually a pneumatic or electrically driven ram that forces the plastic sheet into cavities to increase the thickness of the bottom of the cavities.

Pressure gauge

A visual indication of consistent pressure being applied.

Pressure outlet

This is featured on the smaller desktop machines and allows you to supply air for external equipment such as dome blowing machines.

Pyrometer

An electronic sensor that reads the temperature of the sheet and sends the heaters back when the sheet reaches the desired temperature.

Quartz heater

Quartz heater have the benefit of the standby feature, resulting in reduced electricity consumption.

Reducing windows/frames

Reduce the forming area in order to use smaller sheets of plastic when forming a mould/tool which is much smaller than the original forming area of the machine.

Reel feed

This is located on the side of the machine and holds reel of material.

Rotary vane pump

This pump uses rotating vanes to generate the vacuum and is used on our free standing machines.

Safety light curtain

The safety light curtain replaces a safety gate. As soon as the light curtain is broken all mechanical actions are halted or retract to safe positions.

Skin packing

To heat a clear film and then suck the film over a product down on to a perforated card.

Spray mist control

Water mist is added to the cooling fans in order to cool down the moulded parts in a shorter space of time.

SSR relay

Electronic sensor that reads the voltage to the heating elements.

Table

Part of the vacuum forming machine where the mould/tool is placed.

Table height adjustment

This allows you to reduce the amount of travel of the table when using shallow moulds/tools.

Vacuum gauge

A visual indication of consistent vacuum being applied.

Vacuum pump flow rate

The amount of air that can be moved over a given time.

Vacuum receiver or tank

This is usually a feature of our larger machines and reduces the vacuum time required to pull the plastic around the mould/tool.

Auto level

Allows air to be pumped under the sheet during the heating cycle to maintain a consistent distance between the sheet and the heaters.

Education

Machines suitable for education

PLC

Programmable logic controller with program storage in the memory.

Pre-stretch

Allows air to be pumped under the sheet to create a bubble to pre-stretch the material prior to forming.

Quartz/ceramic heaters

Quartz heaters have the benefit of the standby feature, resulting in reduced electricity consumption.

Double heater

Double heaters are usually required if you need to heat up the material very quickly or the material is over 4mm thick.

Manual

The manual option allows the operator to control almost every aspect of the machine during the cycle, without the use of electronic timers or PLC control.

Semi fully automatic

Machine almost fully automatic apart from the operator needing to raise the pneumatic table (by pressing two buttons) before the heating of the sheet can continue. The rest of the machine cycle will be completed automatically. Some machines also have full automatic capacity - HD series requires manual placing of sheet. TF series includes reel feed as part of auto cycle.
<table>
<thead>
<tr>
<th>Specifications</th>
<th>Compac Mini</th>
<th>300XQ</th>
<th>508DT</th>
<th>508FS</th>
<th>686</th>
<th>1372</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forming area</td>
<td>280 x 230mm / 9 x 11&quot;</td>
<td>430 x 280mm / 17 x 12&quot;</td>
<td>482 x 432mm / 19 x 17&quot;</td>
<td>482 x 432mm / 19 x 17&quot;</td>
<td>646 x 620mm / 25.5 x 24.5&quot;</td>
<td>1330 x 620mm / 52.4 x 24.5&quot;</td>
</tr>
<tr>
<td>Plastic size</td>
<td>300 x 250mm / 10 x 12&quot;</td>
<td>450 x 300mm / 18 x 11&quot;</td>
<td>508 x 457mm / 20 x 18&quot;</td>
<td>508 x 457mm / 20 x 18&quot;</td>
<td>686 x 660mm / 27 x 26&quot;</td>
<td>1372 x 660mm / 54 x 26&quot;</td>
</tr>
<tr>
<td>Depth of draw</td>
<td>130mm / 5&quot;</td>
<td>160mm / 6.3&quot;</td>
<td>185mm / 7.3&quot;</td>
<td>290mm / 11.5&quot;</td>
<td>400mm / 15.7&quot;</td>
<td>420mm / 16.9&quot;</td>
</tr>
<tr>
<td>Material thickness (max.)</td>
<td>4mm / 0.15&quot;</td>
<td>6mm / 0.25&quot;</td>
<td>6mm / 0.25&quot;</td>
<td>6mm / 0.25&quot;</td>
<td>6mm / 0.25&quot;</td>
<td>6mm / 0.25&quot;</td>
</tr>
<tr>
<td>Vacuum pump</td>
<td>Diaphragm pump</td>
<td>Diaphragm pump</td>
<td>Diaphragm pump</td>
<td>Rotary vane pump</td>
<td>Rotary vane pump</td>
<td>Rotary vane pump</td>
</tr>
<tr>
<td>Type of heater</td>
<td>Quartz</td>
<td>Quartz</td>
<td>Quartz</td>
<td>Quartz</td>
<td>Quartz</td>
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</tr>
<tr>
<td>Heating zones</td>
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<td>4</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>15</td>
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<tr>
<td>Digital timer</td>
<td>-</td>
<td>-</td>
<td>PLC</td>
<td>PLC</td>
<td>PLC</td>
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</tr>
<tr>
<td>Interlock</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Vacuum gauge</td>
<td>-</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
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<tr>
<td>PLC Control with touch screen</td>
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<tr>
<th>Specifications</th>
<th>1250</th>
<th>1500</th>
<th>FMDH660</th>
<th>HD686</th>
<th>HD750</th>
<th>HD1000</th>
<th>HD1500</th>
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<tr>
<td>Forming area</td>
<td>1180 x 1280mm / 46.5 x 46.5&quot;</td>
<td>1460 x 960mm / 57.5 x 37.8&quot;</td>
<td>620 x 620mm / 24.5 x 24.5&quot;</td>
<td>647 x 622mm / 25.5 x 24.5&quot;</td>
<td>700 x 500mm / 27.6 x 19.7&quot;</td>
<td>960 x 960mm / 37.8 x 37.8&quot;</td>
<td>3460 x 960mm / 57.5 x 37.8&quot;</td>
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<tr>
<td>Plastic size</td>
<td>1220 x 1220mm / 48 x 48&quot;</td>
<td>1500 x 3000mm / 59 x 39&quot;</td>
<td>660 x 660mm / 26 x 26&quot;</td>
<td>686 x 660mm / 27 x 26&quot;</td>
<td>750 x 540mm / 29.5 x 21.2&quot;</td>
<td>1000 x 1000mm / 39.4 x 39.4&quot;</td>
<td>1500 x 3000mm / 59 x 39.4&quot;</td>
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<td>Depth of draw</td>
<td>600mm / 23.5&quot;</td>
<td>600mm / 23.5&quot;</td>
<td>250mm / 10&quot;</td>
<td>350mm / 14&quot;</td>
<td>350mm / 14&quot;</td>
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<td>Material thickness (max.)</td>
<td>8mm / 0.3&quot;</td>
<td>8mm / 0.3&quot;</td>
<td>10mm / 0.4&quot;</td>
<td>6mm / 0.25&quot;</td>
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<td>Oil Rotary vane pump</td>
<td>Dry vane pump</td>
<td>Oil Rotary vane pump</td>
<td>Oil Rotary vane pump</td>
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<td>Quartz or Ceramic</td>
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<td>8 (top) + 6 (bottom)</td>
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