

# TOOLS FACTORY

MACHINERY FOR THE PLASTICS INDUSTRY



- **THERMOFORMING AND VACUUM FORMING MACHINES**

- **5 AXIS CNC MACHINING CENTERS**



- **MACHINES FOR ROTARY MOULDING**

- **BAND SAWS, HEATING OVENS, CNC ROUTERS**



# ABOUT US

**TOOLS FACTORY** company is leader in Central and East Europe in production machinery for plastics and rubber industry. These are mainly machines like thermoforming and vacuum forming machines in different configurations adjustable for customers, rotomoulding machines, cnc milling machines used for mold production and product finishing, horizontal band saws working together with thermoforming and vacuum forming machines, devices used for cutting thermoformed materials directly at the end of thermoforming process.



We have many years of experience in the production of machinery for various industries. This makes us a leader among the companies producing this type of equipment. The company's development strategy is a systematic quality and services improvement, using modern equipment and specialised staff.



# WHERE DO WE SELL?



## THERMOFORMING AND VACUUM FORMING MACHINES

Modern, computer controlled, automatic machines supplied with specific solutions:

- Controller **OMRON** Electronics
- 15 inch, touch operator panel
- Modul for remote **communication** via internet
- **Automatic diagnostic system** before starting and during operation
- Forming dimensions typical (module 0,5 m) or individual according to needs
- Smooth, stepless size regulation of **clamping frame** and **forming window** in both axes
- Individual **regulation of heating elements** for both heaters
- Movable table top for quick exchange of moulds
- Electric or pneumatic drives
- Ability to process and form all kinds of thermoplastic materials up to 15 mm thickness
- Ability to save 900 programs containing all process parameters

We offer 5 lines of thermoforming machines:

- **SMARTLINE**
- **QUICKLINE**
- **SPALINE**
- **ENERGYLINE**
- **TWINLINE**



## THERMOFORMING AND VACUUM FORMING MACHINES

Our basic line of machines, very practical and economic.

They are characterized by:

- Pneumatic drives as basic
- Ceramic or quartz heaters
- Top heater each element control
- Bottom heater zones control
- Many additional options available



## SMARTLINE series



## THERMOFORMING AND VACUUM FORMING MACHINES

### *QUICKLINE series*

Our up-graded line of machines - fast, energy saving and sustainable. They are characterized by:

- Servo electric drives as basic
- Halogen heaters
- Top & bottom heater each element control
- Innovative, new design construction
- Many additional options available



***SERVO DRIVE***



***HALOGEN LAMPS***





## THERMOFORMING AND VACUUM FORMING MACHINES

### *SPALINE series*

Family of machines specially designed and produced for deep forming of hot tubs mouldings. They are characterized by:

- Pneumatic drives of heaters
- Servo electric drives of frame
- Specific clamping frame with grippers for material
- Quartz heaters (only)
- Every pair of heating elements controlled in top & bottom heater
- Additional options available



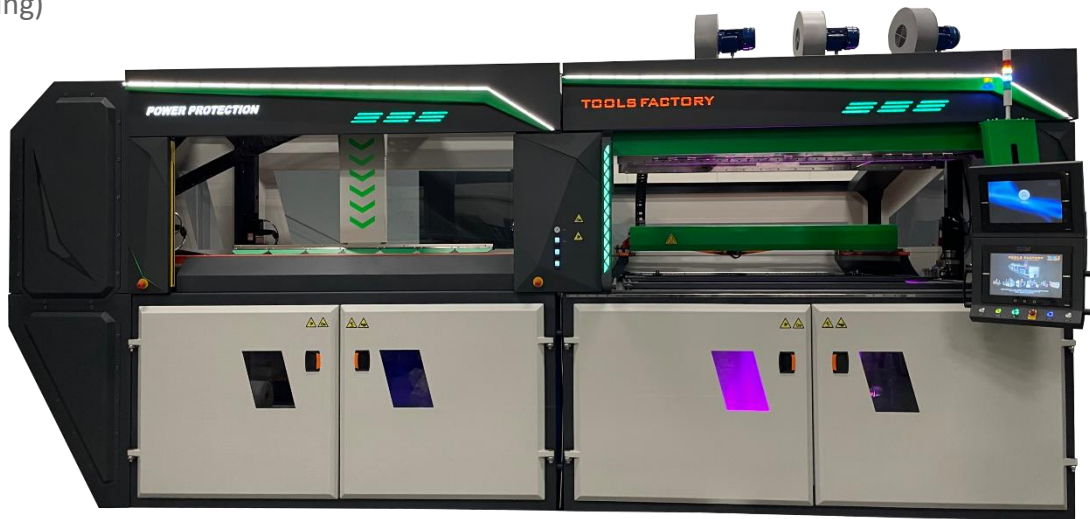
## THERMOFORMING AND VACUUM FORMING MACHINES

### *ENERGYLINE series*

Machines designed to maximize the Energy & Resources savings. Light and elastic frame construction fits to machines with smaller dimensions.

They are characterized by :

- Revolutionary heating solution – moving (wondering) heating panel with halogen lamps
- Heating energy savings up to 40%
- Much less electric power installed (needed)
- Control of power and speed of heating elements
- Much less heating elements used
- New, roller blind system of forming window regulation
- Movable control panel
- Smaller sizes and weight of the machine





## THERMOFORMING AND VACUUM FORMING MACHINES

### *TWINLINE series*

Machines designed for Twin Sheet technology, to process two plastic sheets in one cycle and combine them in one hollow product. They are characterized by:

- Two moulds mounting
- Special construction of Plug Assist
- Top & bottom heater each element control
- Additional clamping (intermediate) frame
- Double vacuum forming system
- Automatic Sheet Loader
- Adapted control program



## THERMOFORMING AND VACUUM FORMING MACHINES

### ***AUTOMATIC FEEDING SYSTEM***

#### **Thermoforming machine with sheet loader**

Automatic feeding system (loading material and unloading finished product) – device cooperating with thermoforming machine, using vacuum cups for loading sheet of raw material. System driven by electric gear motors. Unloading the finished molding goes at the same time with loading the new sheet. After the completion of the formation process the frame clamping the material raises the finished product by the use of pneumatic transoms above the level of the tray, and then the product is dropped on it.



***FEEDING SYSTEM***



***CENTERING TABLE***

Centering table is the device which is cooperating with the feeder. The device is used for proper positioning of pallets with material for thermoforming. Additionally feeder has a safety control system and sheet separator equipment to secure loading of thin sheet material from stock.

## THERMOFORMING AND VACUUM FORMING MACHINES

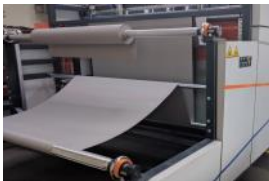
### ***AUTOMATIC FEEDING SYSTEM***

#### **Thermoforming machine with roll feeder**

Roll stand system (loading material) – device cooperating with thermoforming machine. Process is based on feeding a material by use the roll feeder and run automatically by the machine.

Thermoforming machine with automatic roll feeder includes:

- 2 sets of special type of rollers for material from roll
- special mounting system ( grippers )
- system with knife for cutting the material
- material handling system ( leading, stretching )
- protection system ( optical sensors )



***ROLL FEEDER***



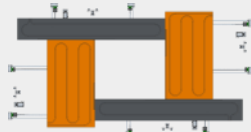
***GRIPPING SYSTEM***

# THERMOFORMING AND VACUUM FORMING MACHINES

## INNOVATIVE SOLUTIONS

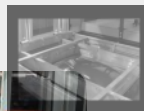
### ADJUSTABLE WINDOW FRAME

Step less and motorised window frame adjustment in both axis. It is a modern solution designed by **Tools Factory**. The system of 4 aluminum plates, controlled by servo drives, made basically like aperture on a camera, with special heating system. It allows for quick retooling the machine to a new workspace using a smooth adjustment of plates in both axes.



### UNIVERSAL CLAMPING FRAME

Universal Stainless Steel Clamping frame with precisely regulated working area, provides full control of the required production dimensions. Also allows the operator, with simple flick of the joystick, to adjust or change the working area dimensions, within seconds. Two extremely precise servo-motors, mounted onto the frame, are driving the values in both axis ( X & Y ), making the frequent changes possible without slowing down the process. Ex: adjustment needed, raw material changes, program choice, mould change , etc.

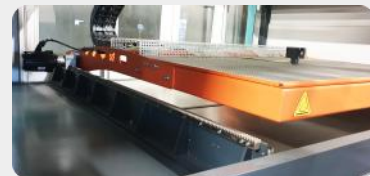


### SERVO-DRIVE electric motion system

Today all adjustment-moving parts of the machine can be automated to forward motion through the use of electric servo drives.

These parts are:

- table
- clamping frame
- heaters
- plug assist



# THERMOFORMING AND VACUUM FORMING MACHINES

## PRECISE HEATER REGULATION

Precise regulation of each heating element of upper and bottom heater by LCD tactile panel. The function used very often. It's purpose is to set a precise temperature of radiators where the radiators closest to the clamping frame (edge) will have a higher heat losses, because of the taking off heat to the ambient. With this function, you can individually control the temperature (power) of each radiator installed in the furnace. Percentages values are stored in the controller memory while saving programs.



## TYPES OF HEATERS



CERAMIC



QUARTZ



HALOGEN

# INNOVATIVE SOLUTIONS

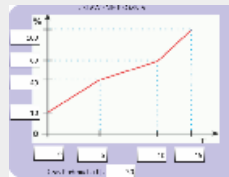
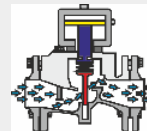
## SYSTEM OF QUICK EXCHANGE OF MOLD

System built on a mobile work surface gives you the opportunity to unlock pneumatic clamps with guide rollers, and go outside from thermoforming workspace with mobile working table. Then, after mounting the mould on the table, you can insert them back into the working chamber.



## PROPORTIONAL VALVE

- vacuum
- balloon
- demolding



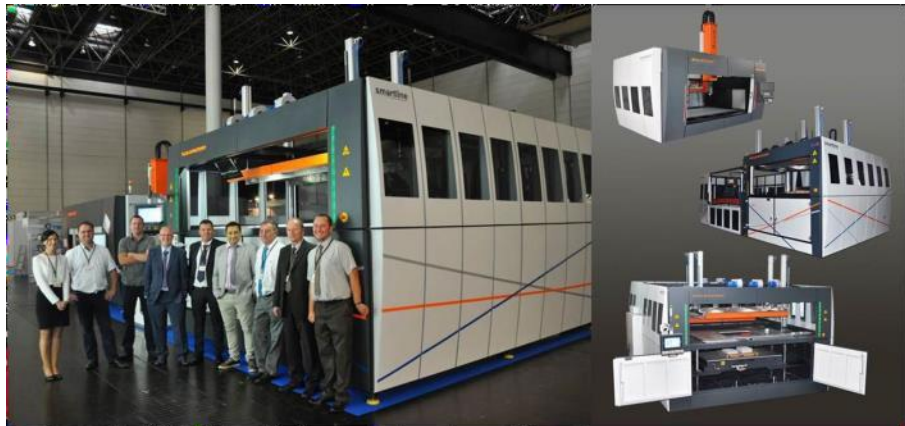
## THERMOFORMING AND VACUUM FORMING MACHINES

### CENTRAL VENTILATION SYSTEM

This system reduces the time needed to cool the moulded item. The central fan with a pre-filtration system comes with an air inlet at the floor level, where the air is much cooler than the air above the machine. This fan system produces less noise than centrifugal drum fans do. The cooling system is supplied with directional nozzles with automatic blowing angle adjustment through the operator's touch panel, without necessity to climb onto the machine to make the necessary adjustments. The cooling system comes together with a filter purity control system. When the filter needs changing, a message is displayed on the touch panel.



## INNOVATIVE SOLUTIONS





## 5 AXIS CNC MACHINING CENTERS

**5-axis CNC milling machine** is characterized by a range of motion X 0-3000, Y 0-1750, Z 0-890, A +/- 120, endless C-axis and weight of 8000 kg. 10 kW HSD spindle with maximum rotation speed 24 000 rpm. 5-axis milling machines are used, for example, in manufacturing moulds and models for thermoforming, lamination and finishing of draw pieces. Can work with wood, wood-like and composite materials, resin and aluminium. Reverse engineering and quick programming by machine learning are easier and more comfortable thanks to touch probe for workpiece measurement. Extremely stiff and stable steel frame, Mitsubishi modem controller and servo drives guarantee high precision and accuracy with high speed machining.

### SERVO-DRIVE CNC SYSTEM



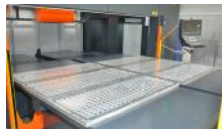
**PROBE**



**SPINDLE**



**watch movie MOBILE TABLE**



## SMARTCUT series



- possible workspace dimensions:  
X 1500-3000, Y 1500-5000, Z 700-1000,
- 3-15 kW spindles,
- BLUM touch probe - 0,001mm repeatability,
- probe for tool setting and breaking detection,  
repeatability: 0,001 mm
- tool magazine with up to 12 slots,
- user-friendly operator's console with touchscreen and  
hand controller for comfortable manual control

## 4 AXIS AND 3 AXIS CNC MILLING MACHINES

### **CNC milling machine.**

You can cut and mill plastics, wood and wood-based materials, non-ferrous metals such as aluminum. Devices are widely used for thermoformed elements processing. Our machines are made with different sizes of working table, various clearances of Z axis and many options such as:

- the type of spindle
- cooling of the cutting tool
- tool magazine
- vacuum table
- BLUM probe
- tool length measurement
- C-axis module (4-axis upgrade)

## ***MASTERCUT series***



**4 AXIS**



**TOOL MAGAZINE**



**watch movie**

## MACHINES FOR ROTARY MOULDING

### Rotary formers – 2 types.

- CAROUSEL – for maximum efficiency and simple operation
- SHUTTLE – for medium and large item

### *ROTO series*

The dimensions on customer request, short time of heating, you can add cooling station, easy and intuitive control. The heat source is gas burner with power 200 – 700 kW. Online service via internet.



*watch movie*



## HORIZONTAL BAND SAWS

**Horizontal band saw** is used to cut edges of thermoformed products. It provides exceptional speed and precision for plastics machining. The device is equipped with special wheels in order to press the rand of sheet to the moving tape for best cutting process. Simple, solid and monobloc structure to deliver outstanding performance. It's possible to adjust the speed of tape traction and a rotation speed of the saw blade.



### *PT series*



PT Horizontal band saw	Technical Data
Workable dimensions	
Passage max. width	from 1000 to 1500 mm
Passage max. height piece	from 10 to 800 mm
Cutting height (min/max)	from 10 to 300 mm
Max. speed	
Band saw	from 3 to 27 m/s
Band	from 0.5 to 4 m/min

# Sales & After Sales Service

## With Sales (price included)

- Delivery FCA or CPT
- Installation and commissioning the device
- Training about machine and operation
- Set of consumables (oils, seals, etc.)



## After Sales

- 1 year warranty (can be extended)
- On-line service – few hours
- On-site service - 72h
- Software update
- Steady contact and help



## OUR CUSTOMERS





## Certificate of Registration

This certificate has been awarded to

Tools Factory Sp. Jawna A. Popławska, R. Popławski

Żurawia 92, Stefanówka, 05-462 Wiązowna, Poland

In recognition of the organization's Quality Management System which complies with

**ISO 9001:2015**

The scope of activities covered by this certificate is defined below:

**Design, Manufacture and Service of Machinery and Equipment  
for Plastics Processing**

## Quality Management System for:

- Designing
- Manufacturing
- Service

## of machines and devices for Plastic Processing

Certificate Number: 595304/000045/EN			
Date of Issue of Certificate Cycle			
Issue Number	Certificate Issue Date	Certification Cycle	
11 July 2022	6	10 July 2025	4
Revision Number	Original Certificate Issue Date	Scheme Number	
06 July 2022	0	11 July 2013	n/a

For detailed explanation for the data fields above, refer to <http://www.us-holdings.com/eggs-and-regulations>.

Issued by

On behalf of the Spheres Manager

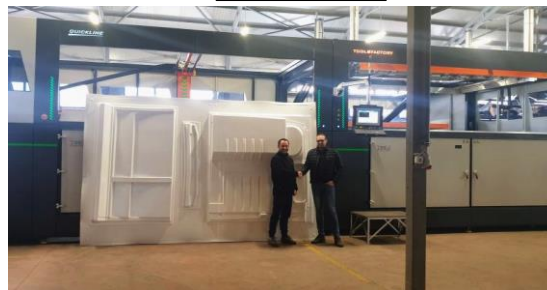
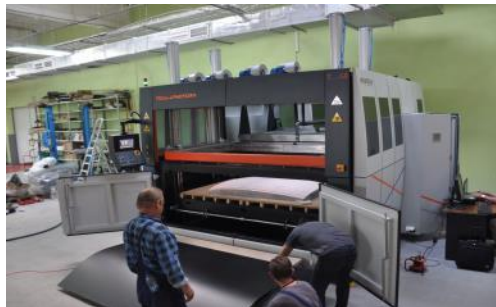


## MEDALS AND AWARDS

- Prominent Exporter of the Year 2013
- Gold Medal of Fair of Plastics and Rubber Processing PLASTPOL 2014
- Enterprise Leader of the Year 2014
- First prize in the 22-nd International Industrial Fair in Nitra, SLOVAK 2015
- Certificate for 5 AXIS CNC milling machine from Fair of Plastics ar Rubber
- Processing PLASTPOL 2015
- Enterprise Leader of the Year 2015
- Prominent Exporter of the Year 2015
- Award from Minister of Economy 2015
- TOP 20 COMPANY OF ENERGY 2015
- Gold Medal of Fair of Plastics and Rubber Processing PLASTPOL 2016
- Distinction of Fair of Plastics and Rubber Processing PLASTPOL 2017



## JOB - PASSION TEAM



# Thank You!

Contact us:

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[polsfactory.pl](https://polsfactory.pl)

[www.toolsfactory.pl](https://www.toolsfactory.pl)

