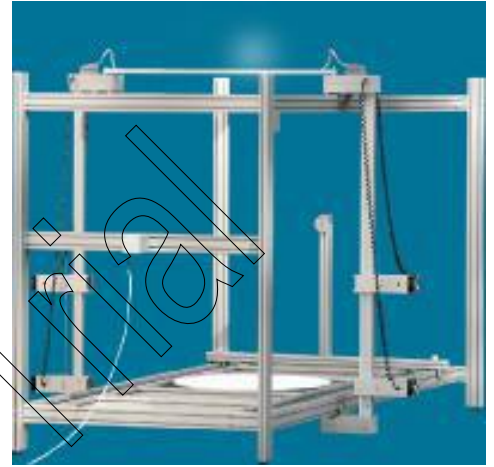




**HANGZHOU GREAT WELFARE PLASTIC MACHINERY CO., LTD**

**杭州富阳卓越精诚塑机有限公司**

TEL 电话:0086-571-63219386 FAX 传真:0086-571-63251489



**CNC Cutting Machine**

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## WHAT IS A FOAM CUTTING MACHINE?

The foam cutter is a machine controlled by a PC computer capable of cutting any 3D objects out of extruded and expanded polystyrene foams (EPS and XPS). The cutting is performed with a resistant hot wire moving in the vertical and horizontal axes through the use of stepper motors controlled by an electronic controller connected to a PC and controlled with our FoamShaper software.

Almost any 2D or 3D shape prepared in graphics software (CorelDraw, AutoCad, Rhino3D, etc.) can be

loaded in FoamShaper and cut in foam in minutes! All our units can be equipped with TurnTables, Lathes, ShapeWire Tools and other additional add-ons making them truly versatile and limited only by the operator's imagination.

There are up to 8 **Stepper Motors** in each of our foam cutters — 4 for the X axis, 2 for the Y axis, 1 for TurnTable and 1 for Lathe. These high-quality 3 Amp motors guarantee great accuracy and longevity



**The Electronic Controller** is an independent unit of our own design and production responsible for the two-way communication between the foam cutter and your computer, controlling all parameters of the foam cutter.



Custom-Designed Heavy Duty Anodized Aluminum Extrusion **Profiles** make our foam cutters' construction lightweight and extremely strong which enable amazing accuracy and repeatability of cuts.



**The Wire/Fan Housing** is where the straight cutting wire is mounted. The box holds a fan which cools the wire while cutting and a special spring compensating for hot wire stretching.



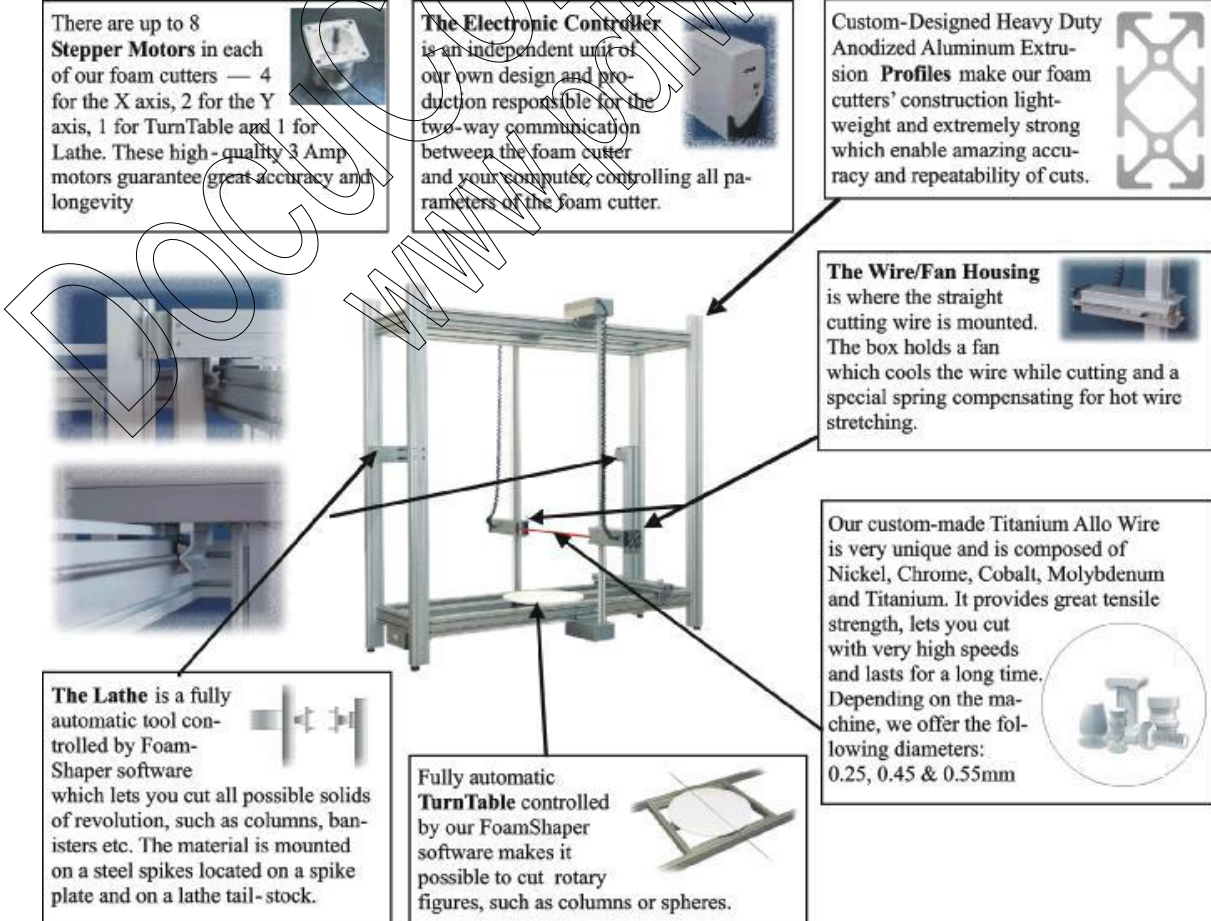
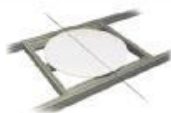
Our custom-made Titanium Allo Wire is very unique and is composed of Nickel, Chrome, Cobalt, Molybdenum and Titanium. It provides great tensile strength, lets you cut with very high speeds and lasts for a long time. Depending on the machine, we offer the following diameters: 0.25, 0.45 & 0.55mm



**The Lathe** is a fully automatic tool controlled by FoamShaper software which lets you cut all possible solids of revolution, such as columns, banisters etc. The material is mounted on a steel spikes located on a spike plate and on a lathe tail-stock.



Fully automatic **TurnTable** controlled by our FoamShaper software makes it possible to cut rotary figures, such as columns or spheres.





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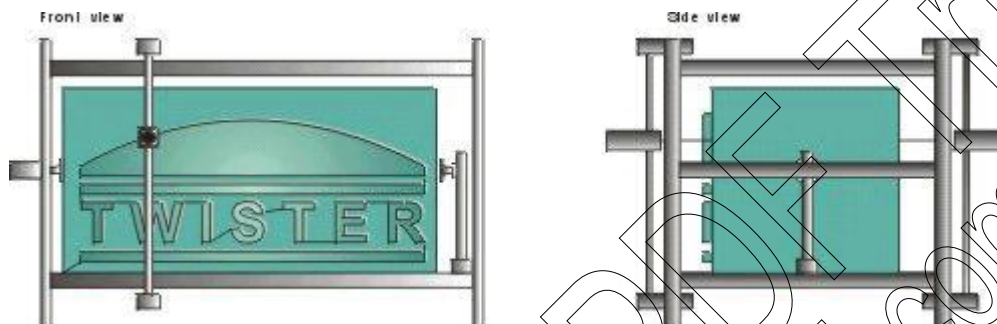
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## HOW DOES A FOAM CUTTER WORK?

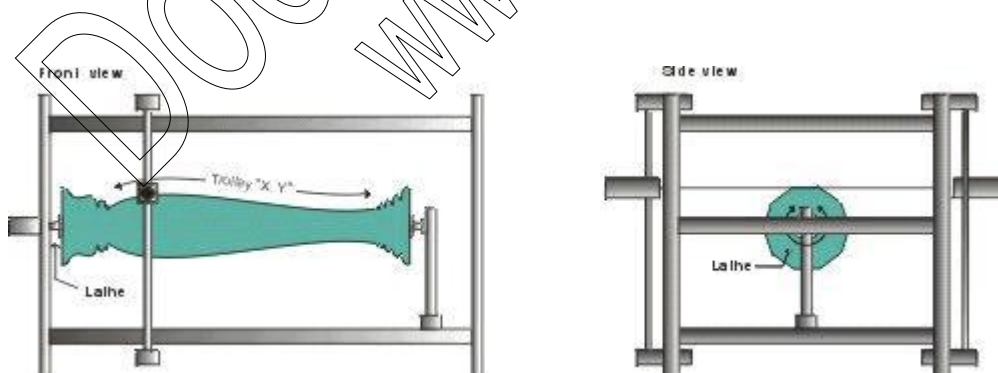
### 2D CUTTING WITH THE STRAIGHT WIRE

In the picture below you can see a foam cutter cutting a logo in a block of foam. The trolleys with a resistant wire spread between them move in the X and Y axes following a tool path based on a drawing prepared in graphics software (e.g. CorelDraw or AutoCad). In this case, the third dimension (logo thickness) corresponds exactly to the thickness of the block of foam. This standard cutting method is available in all our hot wire foam cutters.



### STRAIGHT WIRE + LATHE

All our foam cutters can be equipped with a lathe which is used to cut all kinds of rotated shapes such as columns, banisters, etc. Here the foam is mounted on steel spikes (located on the spike plate and the lathe tailstock). The design process is very simple as the solid is defined with two lines only: the rotation axis and the external shape (this making e.g. CorelDraw sufficient for cutting such shapes). Depending on your requirements, the number of sides is set in FoamShaper (ranging from 1 up to 2000), which makes cutting a 4- or 6-sided column a very simple task. If you set the number of steps to a large value, you can obtain a perfectly smooth surface. Plus you can set the Lathe to rotate the foam while it is being cut which will result in a spiral shape.





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## HOW DOES A FOAM CUTTER WORK? (CONT.)

### SHAPEWIRE + LATHE

All our cutters can be equipped with a ShapeWire Tool which is used to temporarily replace the standard straight resistant wire. A 1-mm thick wire is mounted on the ShapeWire Tool and - with the use of Lathe or TurnTable rotations - is used to cut any shape it has been pre-bent to in a block of foam. The same tool is also used to make impressive incisions/chiseling.





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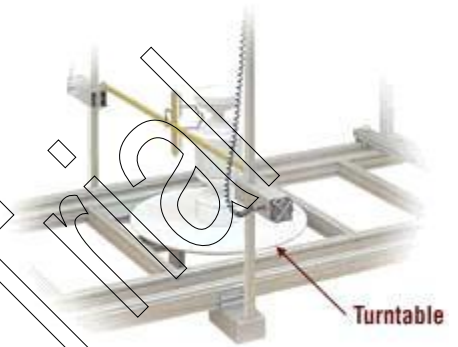
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## HOW DOES A FOAM CUTTER WORK? (CONT.)

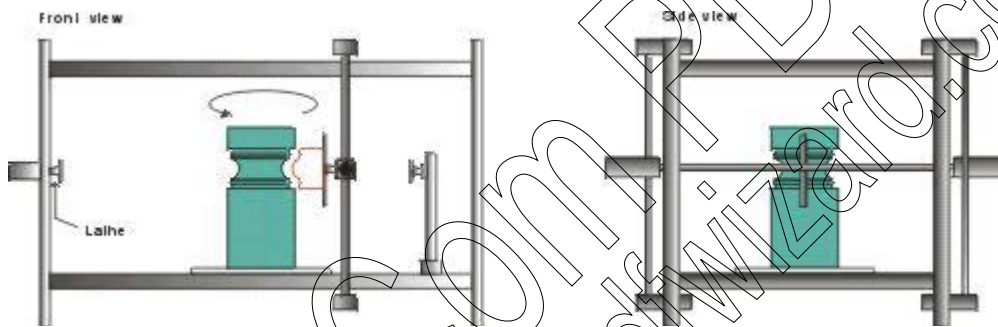
### TURNTABLE

All our foam cutters can be equipped with a Turn Table - a very useful and offering unlimited possibilities device enabling you to cut out all the solids of revolution, including the sphere. The Turn Table is computerized and works in unison with the Hot Wire to produce flat 3D objects.



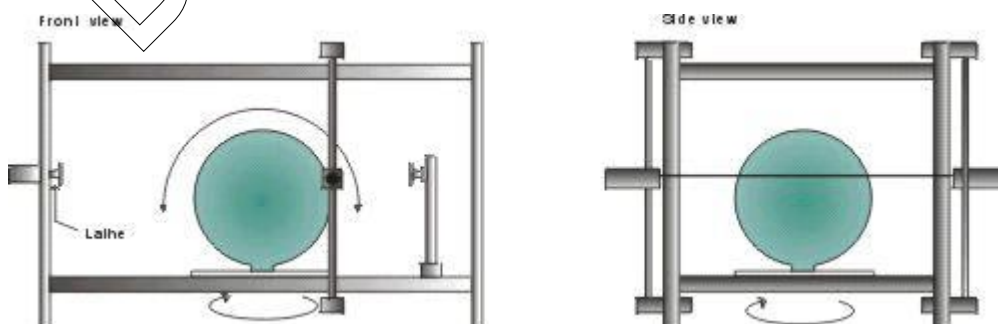
### SHAPEWIRE TOOL & TURNTABLE

Cuts done with Lathe and Shapeable Wire can also be done with Turn Table and ShapWire Tool.



### STRAIGHT WIRE & TURNTABLE

With the use of a turntable and a straight resistant wire you can also cut a sphere and all similar shapes





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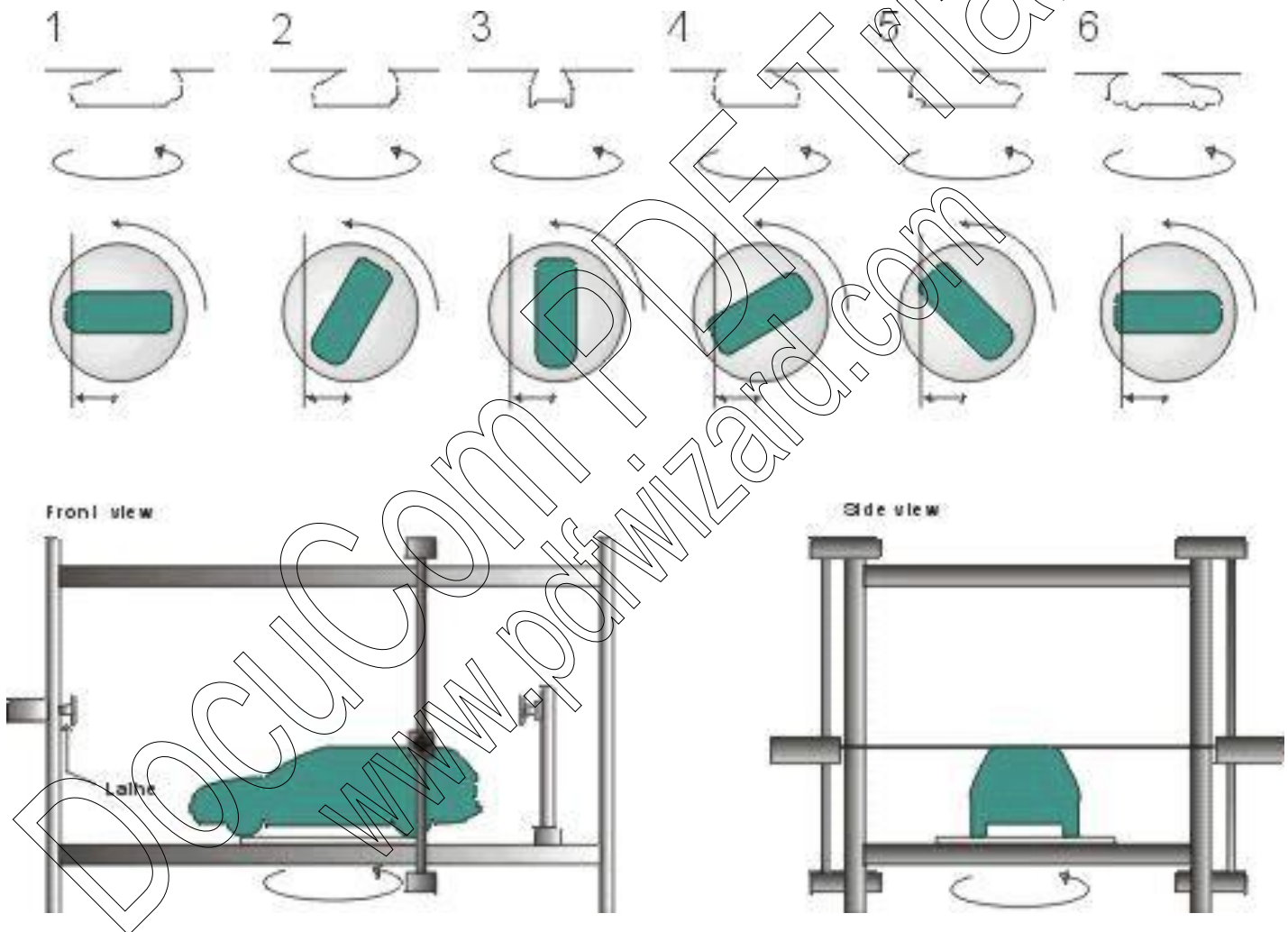
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## HOW DOES A FOAM CUTTER WORK? (CONT.)

### SERIAL CUTS

FoamShaper software (standard for all foam cutter models) allows automatic serial cutting of multi various objects/solids. The drawings (side views) can be created in Corel Draw. You may use pictures from a digital camera (converted to HPGL.plt files) for drawing preparation. This method (although time consuming) gives perfect opportunities of creating almost any 3D object



***it's gonna be granny-simple!***



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## **WHAT ARE FOAM CUTTERS USED FOR?**

Foam cutters can be used for a wide variety of cutting applications. They can cut virtually anything out of expanded and extruded foam your imagination is their only limit. Some of the common applications include:

- \* Complicated 3D Logos
- \* Sign Letters
- \* Graphics
- \* Architectural Shapes
- \* Architectural Scale Models
- \* Fair Stalls
- \* Film or Theatre Props, Shapes and Backdrops
- \* Hobby & Crafts

### **LETTERING & LOGOS**

- \* PreCast Concrete Molds
- \* Pipe Insulation
- \* Columns
- \* Store Props & Displays
- \* P.O.P. Displays
- \* Prototype Products
- \* All kinds of Packaging
- \* Theme Props
- \* Amusement

### **FAIR, THEATRE AND FILM DECORATIONS**



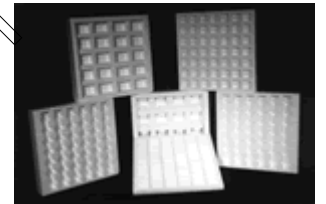
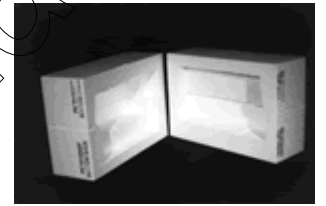
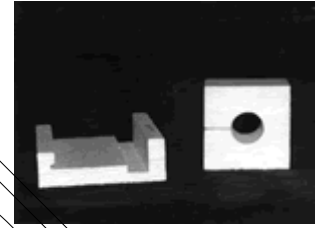
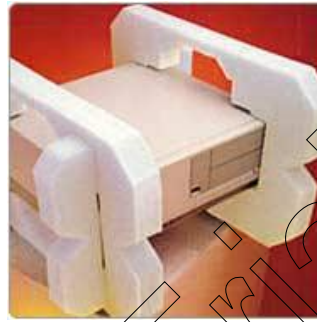


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**PACKAGING**



**ARCHITECTURAL ELEMENTS**





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- cutting wire length: 300 cm
- number of cutting wires:1
- height: 129cm
- width (wire length): 130m
- width: 129m
- cutting wire type: titanium Alloy
- cutting wire thickness: 0.15, 0.25 or 0.45 mm
- wire movement: stepper motors, belt driven on ball bearing transport wheels
- wire tensioning: automatic, wire tension maintained at all times
- wire tensioning type: spring
- wire heating: instant ON/OFF, wire heats only when moving or turned manually on in FoamShaper
- maximum wire speed: 300cm/min
- accuracy: 1mm/meter
- resolution: 0.5mm
- repeatability: 0.5mm/meter
- machine construction: custom-made anodized aluminum extrusion profiles
- accessibility: full access from all four sides
- power requirements: 110 or 220 Volt. 50 or 60 Hz 50 or 60 Hz
- operation environment: Temperature: 32F - 104F or 0 - 40C. Humidity: 95%
- computer operating system: Windows 98 or later (including XP)
- computer power required: Pentium class PC with a free serial port (USB for selected models)
- controlling software: FoamShaper, comes free of charge with all foam cutters, free upgrades
- design software: All software exporting HPGL,plt or dxf files (i.e. CorelDraw, AutoCAD and similar)
- Warranty: 1 years, covers all electronics and mechanics, freight cost excluded
- basic package includes: foam cutter, electronic controller, FoamShaper software, a roll of wire, operational and assembly
- basic package excludes: PC, graphics software (e.g. CorelDraw), optional equipment listed above  
Manuals, year-round technical support (e-mail and phone)
- 
- available options:
  - TurnTable
  - Lathe
  - ShapeWire Tool
  - DoubleWire
  - TitaniumWire
  - Independent Axis Control
  - Pneumatic Wire Tensioning



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