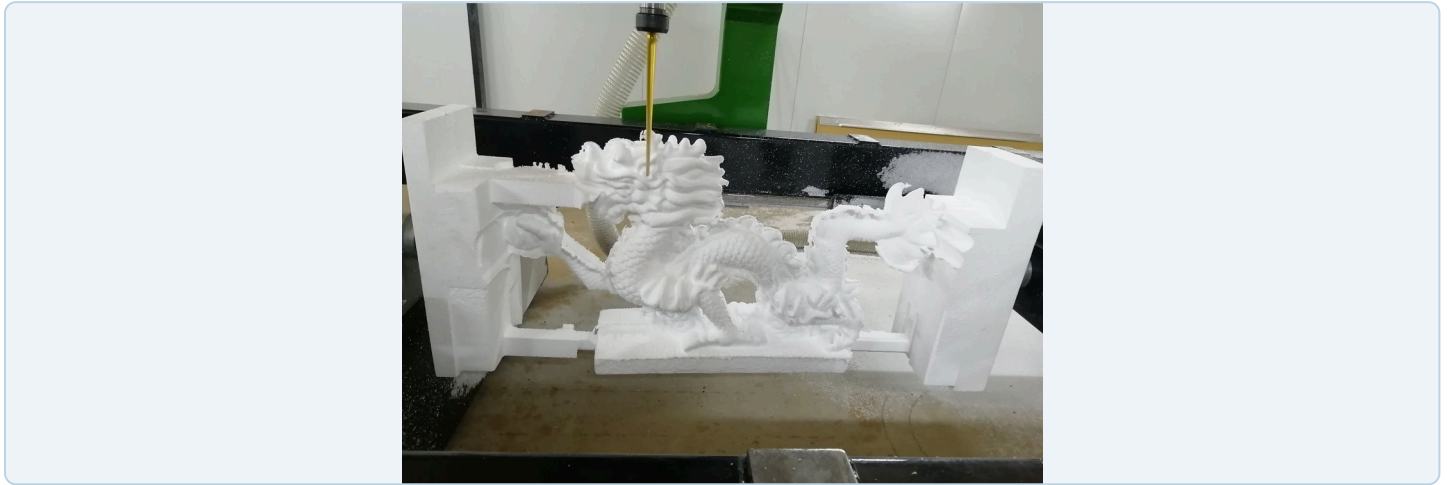


3D Milling (FROGMill CNC Polystyrene Carving)

Heavy-duty 4th-axis CNC router carves precise 3D forms from EPS — art, props, moulds and signage.



Overview

Technopol's FROGMill is a heavy-duty 4th-axis CNC milling router that carves full 3D polystyrene forms to exact specification — from architectural foam and 3D relief work to characters, busts, props, set and scenic design, moulds for casting and 3D signage. It runs a flatbed (XY) mode up to 2650 x 1250 x 254 mm and a lathe/rotary 4th-axis mode up to 1800 mm long x diameter 488 mm, handling intricate curves, fine corners and organic surfaces as readily as simple geometry. Oversized pieces are milled as segments and joined with engineered interlocking puzzle joints for precise, seamless assembly. Technopol accepts common 3D and 2D CAD formats, keeps an extensive library of ready-to-mill models, and can design a model from a brief if the customer has none. A client-applied polyurethane protective coating is supplied separately for a durable, paintable, UV-shielded finish.

Applications

- Architectural foam and 3D relief carvings
- Scenic design, set design and special events
- Characters, busts and sculptures
- Foam packaging and moulds for casting
- 3D signage, billboards and props
- Wave-textured and decorative architectural panels
- One-off artistic pieces through to high-volume production runs

Benefits

- 4th-axis CNC precision on curves, fine corners and organic 3D surfaces
- Two milling modes — XY flatbed plus rotary lathe — for flats and turned forms
- Oversized work milled in segments with seamless interlocking puzzle joints
- No model required: design-from-brief service plus an extensive ready-to-mill library
- Accepts standard 3D and 2D CAD files (STEP, IGES, STL, OBJ, DWG, DXF)
- Optional client-applied PU coating for a hard, paintable, UV-resistant finish (up to ~10 years)

Specifications

Machine	FROGMill heavy-duty 4th-axis CNC router
XY flatbed max size	2650 x 1250 x 254 mm (L x W x thickness)
Lathe / rotary (4th axis) max	1800 mm long x diameter 488 mm
Material	Expanded polystyrene (EPS); FR grades available
Density selection	Chosen to detail/finish — higher density gives finer detail (portfolio uses 30DV / EPS30, ~30 kg/m ³)
EPS30 (30DV) properties	Lambda <=0.033 W/m.K; compressive stress >=200 kPa @10% (per EPS grade table)
Accepted 3D CAD	IGES/IGS, STEP/STP, STL, OBJ
Accepted 2D CAD	DWG, DXF
Oversized assemblies	Multi-segment, joined with engineered interlocking puzzle joints
Protective coating	Polyurethane, client-applied; durable up to ~10 years

Fire & compliance: Carvings can be produced in flame-retardant (FRCel) EPS where specified, which achieves a reaction-to-fire classification of SANS 53501-1 / EN 13501-1 Class B-s1,d0 with an oxygen index of at least 24%. This is a reaction-to-fire class, not a fire-resistance rating; EPS is combustible and must be kept away from open flame during storage, handling and installation.