

## CNC 3-AXIS VERTICAL MILLING MACHINE Model FPA-20

CNC 3-axis vertical tabletop milling machine, for the production of precision specimens of rigid materials Plastics, Aluminium, Composites..., for subsequent tensile, bending, tearing, shearing, impact tests...

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**TECHLAB**SYSTEMS

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## GENERAL INFORMATION

The cutting of the samples is very difficult or even impossible, when the sheets or templates from which the samples are cut have been made of hard materials and/or the edges of the samples will be irregular, affecting the results of the tests and the same. samples that have been subjected to great stress, so they will have different levels of anisotropy with negative results in the reproducibility of the tests. In these cases the only solution is to use a milling machine, which, used correctly and equipped with the appropriate milling cutters, will produce perfect samples with straight edges, perpendicular sides and free from the internal pressure introduced during the cutting operation.

This new generation of compact and economical CNC milling machine is ideal for obtaining specimens from rigid polymeric materials such as Polyethylene, Polypropylene, Polyamides, Polyesters, and also other non-polymeric medium hardness materials (wood, aluminum, brass,...) at from a small piece.

The FPA-20 Milling Machine stands out in particular for its very small installation area and is designed for fast and professional 3D applications in model building, rapid prototyping and similar applications.

All control and power electronics, as well as the control computer, are integrated and protected in the rear wall of the chassis. As such, only an external monitor, mouse, and keyboard are required for operation. All relevant CE safety regulations are guaranteed during milling by the interlocking of the protective cover. Modern servo motors allow for improved silent and precise operation. Through expansion options such as a vacuum cleaner or a fourth axis, the FPA-20 is also suitable for flexible future use with many applications.

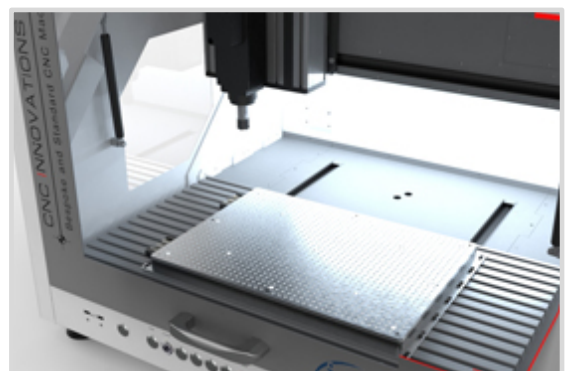
## The all-in-one system for diverse use!

### Equipment

- Stable aluminium / steel construction in table design
- Servo-motor technology with encoder
- Integrated PC and control electronics
- Optionally iSA 500 / iSA 750 and iSA 900 spindle
- Integrated WIN® Remote and isyCAM 2.8 control software
- Enclosed working area according to the CE safety requirements

### Options

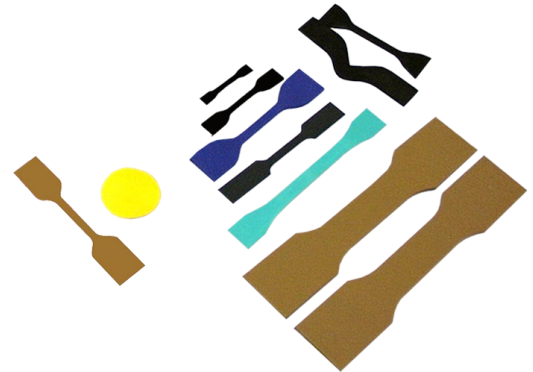
- Working area lighting
- Automatic tool changer
- CNC-controlled rotating axis (4th axis)
- Minimum quantity lubrication cooling system
- Extraction system
- Can be updated to isyCAM 3.6
- And many more options



## Modern servo technology

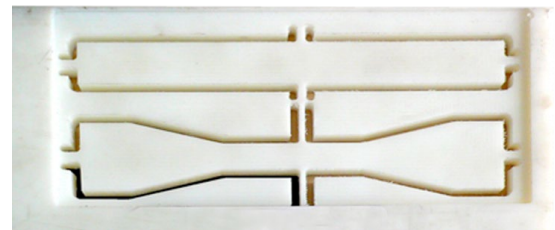
### Application examples

- Plate/front panel production
- Professional engraving
- Orthopaedic technology
- Stamp production
- Rapid prototyping
- 3D model milling
- Cylindrical surface processing (with 4th axis)
- Multi-sided processing (with 4th axis)

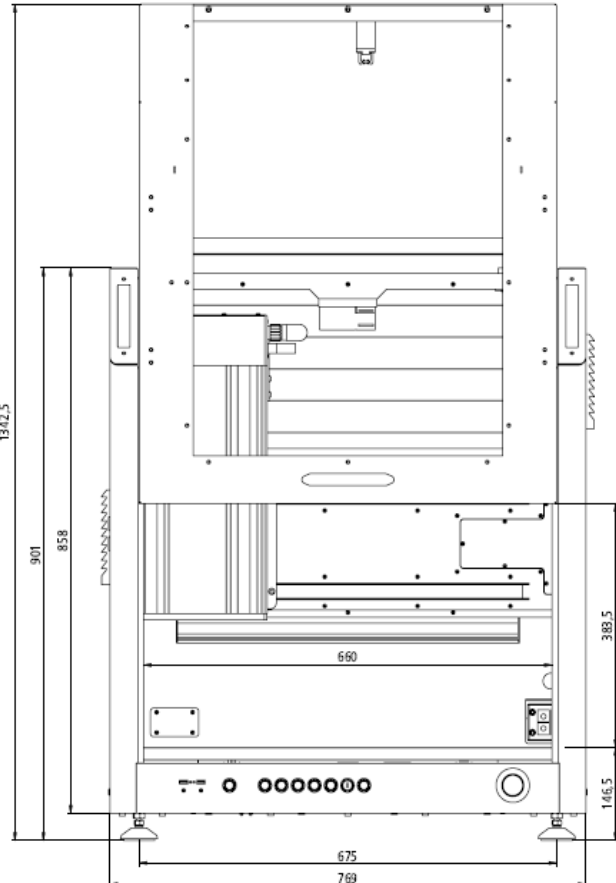
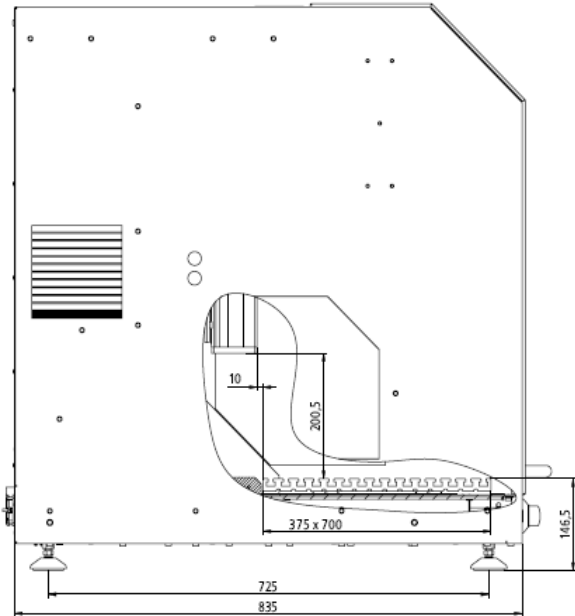


### Typical materials

- Model materials
- Plastics
- Light metals (copper/aluminium/brass)
- Wood
- Foams



Dimensions in mm	FPA-10
Wide	<b>769</b>
Deep	<b>835</b>
High	<b>901</b>
High (with the door open)	<b>1342</b>


**TECHNICAL DATA**
**FPA-20**
**Dimensions (L x W x H) in mm**

769 x 901 x 836

**Weight in kg**

approx. 120

**Processing areas X / Y / Z) in mm**

400 x 300 x 140

**Table clamping area W x D in mm**

700 x 375

**Processing Speed X/Y/Z (mm/s)**

100 mm/s

**Clearance height in mm**

200

**Repetition accuracy in mm**
 $\pm 0.02$ 
**Drive motors**

Servo motors

**Drive elements (X / Y / Z)**

Ball screw 16 x 10 / 16 x 10 / 16 x 5 mm zero backlash adjustable (optionally 16x4 mm in X/Y/Z)

**Guides**

Linear units with precision steel shafts and ball recirculation carriage, play-free adjustable

**Connection voltage**

230 V / 16 A

**Control**

CAN controller iMC with 3 integrated drive controllers/I/O module, safety circuit

**Operation**

Function keys and emergency stop

**Software**

WIN®-REMOTE (optional: ProNC, CAD/CAM isy 2.8)