

HST-XZY-70A CNC Polymer Specimen Notch Making Machine



Picture Just for reference

Product Overview:

This series of instruments is mainly used for non-metallic materials (such as polyvinyl chloride, polyethylene, polypropylene plastic pipes, plates, etc.) and hard plastics to prepare test specimens for stretching, compression, bending, impact, thermal deformation, etc.

The machine mainly includes a cutting host, a control system, a drive controller, an air pump, a suction pin device, etc. The control software of the machine control system is based on the control system developed under the WIN7 platform, the three-axis control working principle, mature and stable technology, advanced three-axis linkage control method, using high-precision ball screws and large-step stepper motors to drive high-speed spindle motors for automatic cutting to ensure processing and operation accuracy. It is the most advanced automatic sample making equipment in China.

This machine has incomparable advantages over traditional sample making machines. First of all, the shape of the sample it makes is not limited. As long as the program is provided, it can make various shapes of samples, such as strips, dumbbells, circles, various irregular shapes, etc. Secondly, the processing accuracy is high. Whether it is cutting a sample strip or milling a dumbbell, it is not limited by the shape of the sample. As long as it can be clamped on the platform, it can be processed.

Compliant standards

1) Dumbbell-shaped test specimens specified in GB/T1040-2006 "Test methods for tensile properties of plastics".

- 2) Dumbbell-shaped test specimens specified in GB/T8804.1-2003 "Thermoplastic plastic pipes - Determination of tensile properties Part 1: General test methods".
- 3) Dumbbell-shaped test specimens specified in GB/T8804.2-2003 "Thermoplastic plastic pipes - Determination of tensile properties Part 2: Unplasticized polyvinyl chloride (PVC-U), chlorinated polyvinyl chloride (PVC-C) and high-impact polyvinyl chloride (PVC-H1) pipes".
- 4) Dumbbell-shaped test specimens specified in GB/T 8804.3-2003 "Thermoplastic plastic pipes - Determination of tensile properties Part 3: Polyolefin pipes".
- 5) GB/T19810-20015/ISO13953:2001 Polyethylene PE pipes and fittings - Determination of tensile strength and failure mode of hot-melt butt joints.

Technical Parameters:

Model	HST-XZY-70A
Specimen specification	Type I, II, III, IA, IB, etc. (customized specifications according to requirements)
Cutting thickness	3mm~70mm
Plate length	Around 250mm
X-axis effective stroke	300mm
Y-axis effective stroke	400mm
Z-axis effective stroke	100mm
Frame material	Aluminum Alloy
Spindle motor speed	24000 r/min (Adjustable)
Repeatability	0.05mm
Spindle accuracy (runout error)	≤0.04mm
Spindle motor power (W)	1500W
Vacuum cleaner power (W)	1200W
Air compressor power (W)	550W
Power supply	220V±10% 50Hz 3.3kW
Main unit dimensions (length * width * height)	Approx. 850 mm*780 mm*1050 mm
Weight	Approx. 60 kg

Product Features

Cutting Main Machine

1. The frame material is all 6061 aluminum alloy, the column thickness is 15mm, to ensure the strength of the whole machine, it is precision processed by CNC machining center to ensure the accuracy of parts and the performance of the whole machine,
2. The workbench is an integral T-slot table, the surface is all anodized, and the surface is installed with PVC protective plate. The workbench size: 700×500×30mm (length×width×thickness).
3. The drive adopts a high-step synchronous motor drive, through a high-precision grinding ball screw transmission, with a square high-precision linear guide rail to ensure the processing accuracy of the machine, effective stroke: X axis 300mm Y axis 400mm Z axis 100mm.
4. The spindle speed can reach up to 24000r/min, 1.5kW speed variable frequency adjustable, adjustment can be adjusted manually, the operation is simple and convenient, and a large-flow cooling water pump is configured to ensure the long-term stable use of the spindle.
5. The machine sets the XYZ axis limit to avoid accidental operation and collision, and is equipped with a manual handwheel, which is convenient for manual tool setting and micro-adjustment.
6. It is equipped with a special sample clamping device, which can process up to 5 stations, and the installation and operation are simple and convenient.

Control system

1. The machine control system is based on the Ncstudio control software developed under the WIN7 platform, with a simple interface and easy operation.
2. The Ncstudio software is used to match the cutting host, and the XYZ and spindle movements and trajectories of the host are controlled by the nc program in the software.
3. The cutting process of the host is realized through the pre-set program; the program can also be manually edited, which can assist CAD and other design software, and is edited in the form of instruction format: G code.
4. The software interface has functions such as processing trajectory, simulation processing, program editing, various coordinate points, manual control function, automatic control function options, spindle control button, etc.
5. The dumbbell sample preparation program for common materials in the processing program can complete the corresponding sample production by selecting the corresponding program (due to the large number of sample shapes and sizes, 2 commonly used cutting programs are configured, and special requirements can be customized as required).

The drive controller is the link between the control system and the cutting host. The control system can accurately control the XYZ axis and spindle of the cutting host by receiving instructions from the control system to realize the cutting function and precise positioning.

Silent air pump

1. The instrument comes with leakage protection and pressure protection devices;
2. The whole machine is small in size 435*430*640mm, with a volume of 10L, 220V 550w with large flow, oil-free, and silent during operation;
3. Exhaust pressure: 0.7MPa, whole machine weight: 25kg.

Suction pin device

Brand high-power dust suction device, volume 12L, 220V power 1.2kW, large-diameter aperture of 32mm, smoother suction pin, vacuum degree of 18pa, and overall dimensions of 250*250*430mm

Configuration:

Item	Name	Unit	Qty
1	Cutting machine	Set	1
2	Control system (including software)	Set	1
3	Drive controller	Set	1
4	Dust collector	Set	1
5	Air pump	Set	1
6	14-17 fixed wrench	Pc	1
7	13-15 fixed wrench	Pc	1
8	φ6mm double	Pc	1
9	φ6mm chuck	Pc	1
10	Hexagon wrench	Set	1
11	Water pump	Pc	1
12	Power cord	Pc	3
13	Data cable	Pc	1
14	Hand wheel	Pc	1
15	Plate sample clamping device	Set	1