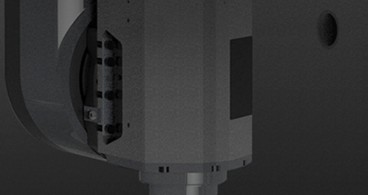
# LARGE GANTRY ADDITION AND SUBTRACTION PROCESSING CENTER

# Additive and subtractive manufacturing integrated machine

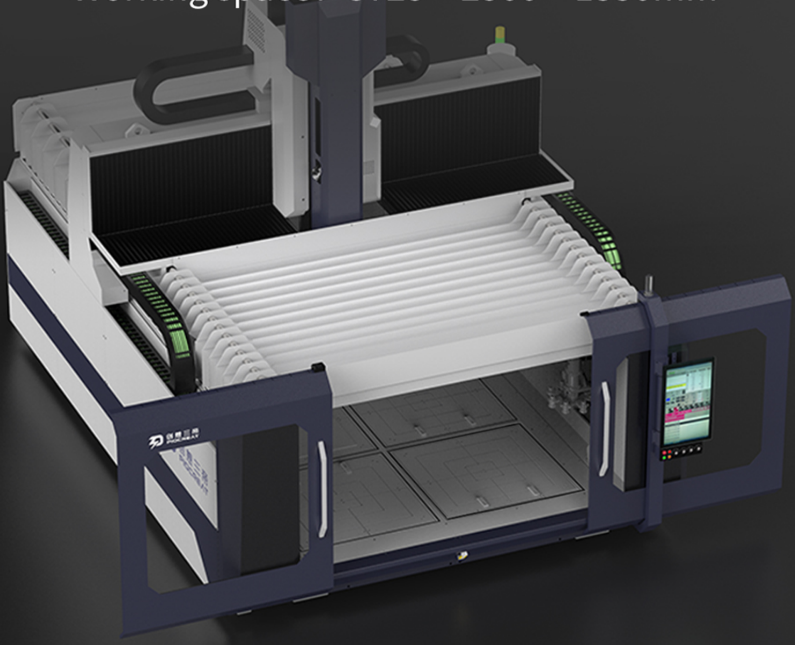
## Screw 3D printing and CNC five-axis manufacturing integrated

By 3D printing to print the work piece closed to the final size and contour, then the final size is achieved by milling, the processing speed is faster, the cost is lower, and the material is more efficient to use.The integrated manufacturing of adding and subtracting materials is an ideal solution for forming large sized work pieces.



# Large working space

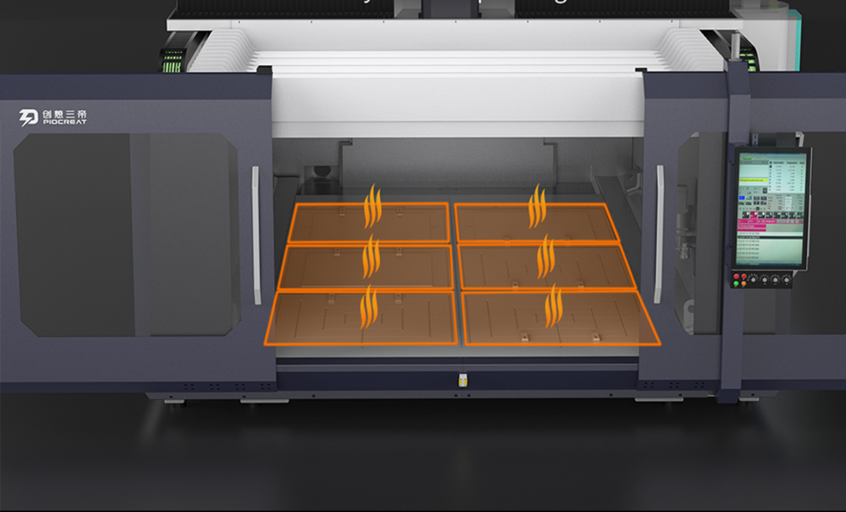
Working space：3725×2500×1330mm



# Workbench design

# Can be divided into 6 independently controlled heating table

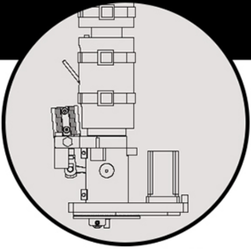
According to the printed model, zone heating control can be selective, avoid effectively electricity wasting, and improves the stability of the bottom layer of the printing model.



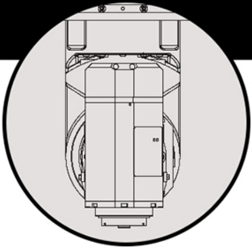
# High flow screw extrusion design

## Equipped with 3-8mm large flow screw extrusion nozzle

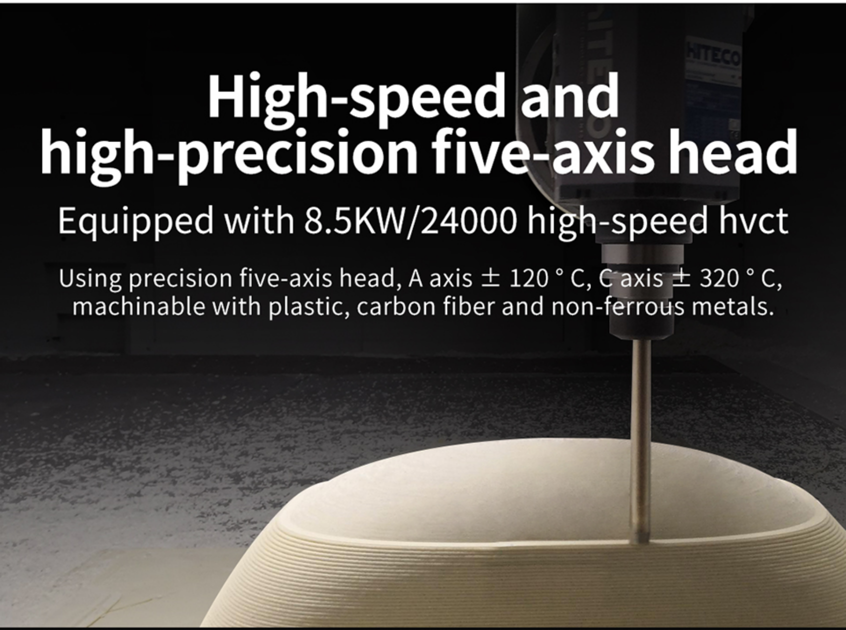
The maximum printing speed can reach 25kg/h.



Screw 3D printing



CNC five-axis machining



# High-speed and high-precision five-axis head

## Equipped with 8.5KW/24000 high-speed hvct

Using precision five-axis head, A axis ± 120 ° C, C axis ± 320 ° C, machinable with plastic, carbon fiber and non-ferrous metals.

# High performance pressure wheel

## Effectively improve the printing materials density

Self-developed and researched high-performance pressure wheel,
according to the control printing path,
can effectively improve the density of the printing material
and make stronger the bonding between the printing layers.

# Wide range of printing materials

## Can meet the application needs of different fields

It is suitable for printing all kinds of thermoplastic particles,
special mixtures materials, and ceramics and metal materials.
Supports a variety of fiber composite thermoplastic polymer materials.

# Full-automatic provide dry material

## Automatic feeding + drying + dehumidification three in one

The full-automatic three in one feeding system provides constantly dry materials, which can meet the continuous printing needs of 7×24 hours

# OSAI Control System

## 32-inch full touch all-in-one machine

Adopt OSAI control system and motion servo system,
32-inch full touch all-in-one machine,
to ensure equipment stability and machine response speed.

| → | 剩余距离(&D) | Programmed | Origin |
|---|---|---|---|
| X | -72.979 | -53.767 | 10 |
| Y | -72.979 | -147.105 | 10 |
| Z | 0.000 | 2.500 | 10 |
| A | 0.000 | 0.000 | 10 |
| C | 0.000 | 0.000 | 10 |
| P | 10.948 | 2862.028 | 10 |
| W | 0.000 | 0.000 | 10 |
| V | 0.000 | 0.000 | 10 |

|  | Programmed | Percent | Actual |
|---|---|---|---|
| Feed Rate | 4200.000 | 50.0 % | 2100.000 |
| Feed Man | 0.000 | 25.0 % | 0.000 |
| Rapid | 0.000 | 25.0 % | 0.000 |
| Spindle Speed | 0.000 | 100.0 % | 0.000 |

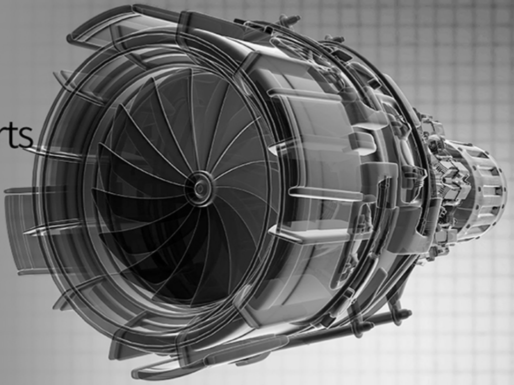
G25_-45 weiyu-Q4 B.gcode

```
G1 X240.443 Y147.105 P2817.89056
G1 X-53.767 Y-147.105 P2862.02773
G1 X-62.252 Y-147.105 P2862.92782
G1 X231.958 Y147.105 P2907.06499
G1 X223.473 Y147.105 P2907.96508
G1 X-70.738 Y-147.105 P2952.10233
G1 X-79.223 Y-147.105 P2953.00242
```

# Application field

## Applied in various fields

Suitable for producing large to very large thermoplastic materials parts,molds, models and industrial tools, etc.
Widely used in aerospace, automobile manufacturing, wind power, yacht and ship, home life, urban landscape and other composite materials field.



**Aerospace**
Ultra-large parts

**Rail transit**
models

**wind power**
oversized parts

**yacht structure**
oversized parts

**Urban landscape**
Super large model

# Product specification

## G40 particle 3D printing and CNC 5-axis machining

### 3D printing parameters

| | |
|---|---|
| **Printing size：** | 3725×2500×1330mm |
| **Particles diameter：** | 2-5mm |
| **Hybrid additive manufacturing and milling system：** | Yes |
| **Machine size：** | 5962×4220×4800mm |
| **Maximum extrusion volume：** | 25kg/h |
| **Precision and repeatability：** | ±0.1/1000mm |
| **Molding tech：** | FGF |
| **Bed temp：** | ⩽120℃ |
| **Filament：** | PLA, PETG, ABS, PC, PA and other composite materials |
| **Discharge structure：** | Screw extrusion |
| **Nozzle number：** | 1 |
| **Nozzle diameter：** | 3-8mm |
| **Nozzle temp：** | ⩽350℃(450℃ optional) |
| **Power voltage：** | 3~AC 380V |
| **Slicer software：** | PioCreat Slicer |
| **Rated power：** | 65KW |
| **Weight:** | ≈15000kg |

# CNC machining parameters

**Processing size：** 3400×2500×1330mm

**Processing speed：** 10m/min

**Spindle power：** 8.5KW

**Processing mode：** Five axis