

Kings P440H

Kings Industrial SLS 3D Printers

Shenzhen Kings 3D Printing Technology Co., Ltd



Features:

- **Large printing size and high molding efficiency**

The size of the molding cylinder is 440*440mm (XY). The continuously optimized temperature control scheme and scanning path scheme improve the molding efficiency. It will be upgraded free of charge for life.

- **The reuse rate of consumables is nearly 100%**

The original revival technology of PA powder makes the powder utilization rate close to 100%, ensuring the high surface quality and great mechanical properties of the parts.

- **The equipment utilization rate is nearly 100%**

A: Through the optimization of the anti-oxidation of consumables, after the printing is completed, the cylinder can be taken to cool down, and at the same time, the printing operation of the next cylinder can be continued when the equipment is still at high temperature, which can effectively reduce the cooling and warm-up time and reduce energy consumption.

B: Adopts an external powder cylinder to realize automatic powder feeding and powder replenishment at any time during printing.

- **Two-way intelligent powder spreading with double scrapers**

The scraper can be easily adjusted in multiple axes. Two-way powder supply and powder spreading with double scrapers even the powder spreading, improve the stability of the temperature field and reduce the amount of powder spilled.



Optical system

laser	100W CO ₂ laser	Operating system	Windows10 / 11
Spot size(mm)	≥0.28 (Variable spot)	Data Format	SLC or other convertible formats
Wavelength(μm)	10.6	Control software	Independently developed SLS-P440-V1
Laser lifetime (h)	≥50000	Intelligent Control	Support unmanned automated processing
Laser output power range	5% -100%	Operation interface	User-friendly

Software system

Maintenance parameters

Power supply	380V, 3~N/PE, 50Hz peak 15Kw
Overall installation accuracy(mm)	PE ≤ 0.04
Parallelism of the double edge of the scraper(mm)	PE ≤ 0.02
Parallelism between scraper and construction platform(mm)	PE ≤ 0.05
Build volume(mm)	440 (L) * 440 (W) * 450 (H)
Machine dimensions(mm)	1852 (L) * 1335 (W) * 2278 (H)
Weight(KG)	1980

Scanning system

Scanning system	3 axis dynamic focusing
Deflection Angle	±11°
Scanning speed(mm/s)	11000
Light on/off delay(us)	0
Signal type	digital signal
Max gain drift(ppm/ K)	100
Max position drift(urad/ K)	30
Follow time(ms)	≤0.44

Powder supply and collection system

Powder supply method	Top feeding and bi-directional recoating
Powder collection method	Falling powder cylinder
External cylinder volume(m ³)	0.37

Fail-safe system

Laser cooling mode	Water cooling.
Laser two switch	Separate control to prevent misoperation
Feeding mode	External powder supply cylinder, fully automatic feeding

Control system

Main control card	Self-developed full-function control card LANRUI V2
Temperature control system	8 zone independent temperature zone control
Way of temperature control	Gold-plated twin tube heating, continuous temperature monitoring compensation
Molding precision	±0.15mm (L≤100mm); ±0.2%*L(mm) (L > 100mm)
Z-axis repeated positioning precision(mm)	0.01
Layer thickness(mm)	0.1-0.12
Powder laying method	Bi-directional recoating
Forming bin environment	Fully sealed pressurized nitrogen charging to ensure the stability of the processing environment
Ambient temperature requirement	Ambient temperature 15 ~ 31 ; Relative humidity >30%, and no condensation

Moulding material

Powdered material	KSPA12,KSPA12GF
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