

Bring Your Idea to Life with Kings
Leading-edge

Industrial 3D SLS Printers

Shenzhen Kings 3D Printing Tech. Co., Ltd

www.kings3dprinter.com



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01

About Kings

1.1|Overview

1.2|R&D in SLS

1.3|Honors in SLS



2003 First R&D Team was founded in Shanghai

2008 Kings was established in 2008 as a prototyping company

2012 The first set of kings industrial SLA printer was made out for in house production and the research team for SLS printer has been establish



2015 Shenzhen Kings 3D Printing Tech. Co., Ltd was established and a standardized and large-scale 3D printer production base was found in Jiangxi.

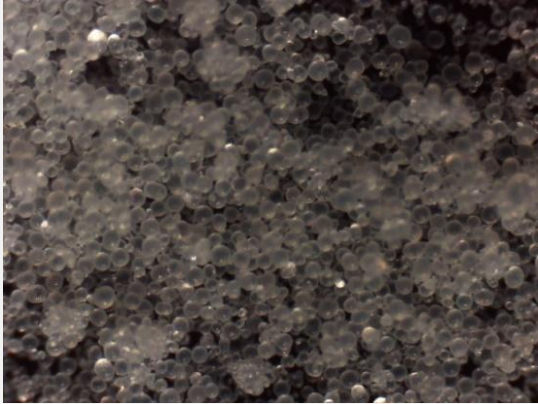
2018 Kings SLA printers are sold into more than 30 countries and the sales volume ranks number one in China. More than 80% Chinese soles printing market is occupied by Kings.

2020 Industrial SLM, SLS, and DLP printers R&D by Kings has into entered into the domestic market



2021 The largest industrial SLA printer 2700Pro (2700*900*800mm) in China entered into the overseas market. And Kings P440 SLS printer was mass-produced and entered into the market with success.

2022 Kings industrial SLM printers entered into overseas market with largest printing size 625*625*1100mm. Investment from Morgan Stanley and Guosen Securities (State Owned)



2012

Kings team with experts from Chinese Academy of Sciences established a group to the research and develop **polymer materials for rapid prototyping**.

2017

A breakthrough was made in the R&D of SLS **nylon powder materials** which has been successfully applied on German EOS equipment.

2019

The SLS equipment with **completely independent intellectual property rights** was born. The self-developed control software, optimized scanning and heating system effectively improved the printing speed.

2021

SLS printer **Kings P440** achieved mass production. In the same year, **self-developed nylon powder PA1200** and **glass fiber reinforced nylon powder PA1200GF** with high reusability were successfully issued to the market.



Kings team has more than 10 years of experience in additive manufacturing, and has been committed to the R&D and production of rapid prototyping polymer materials for many years.

We now have 4 patents and 8 utility models. In 2023, the number of invention patent declarations shall not be less than 5, and the number of soft works and utility models shall not be less than 10.





02

Products Issued

2.1|Kings P440

2.2|Kings Nylon powder

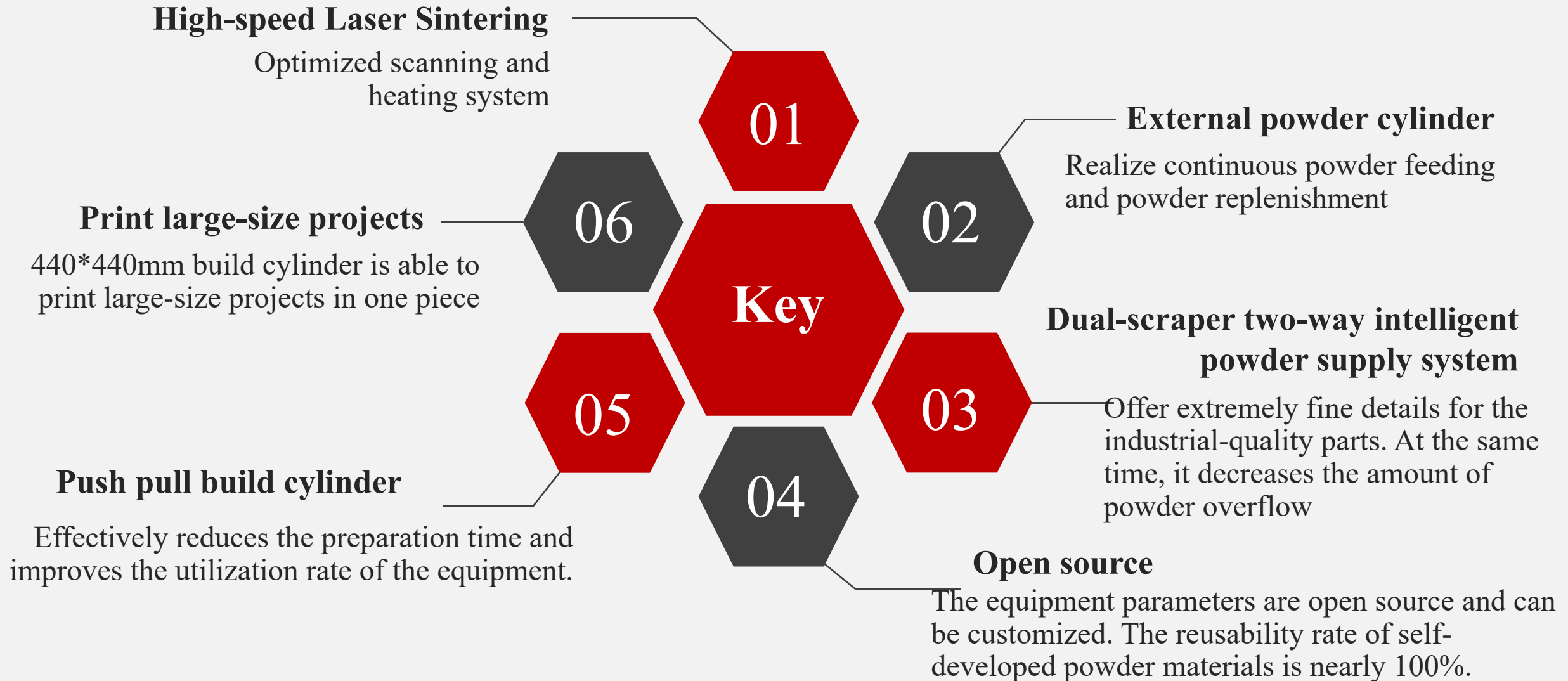
Main Technical Data



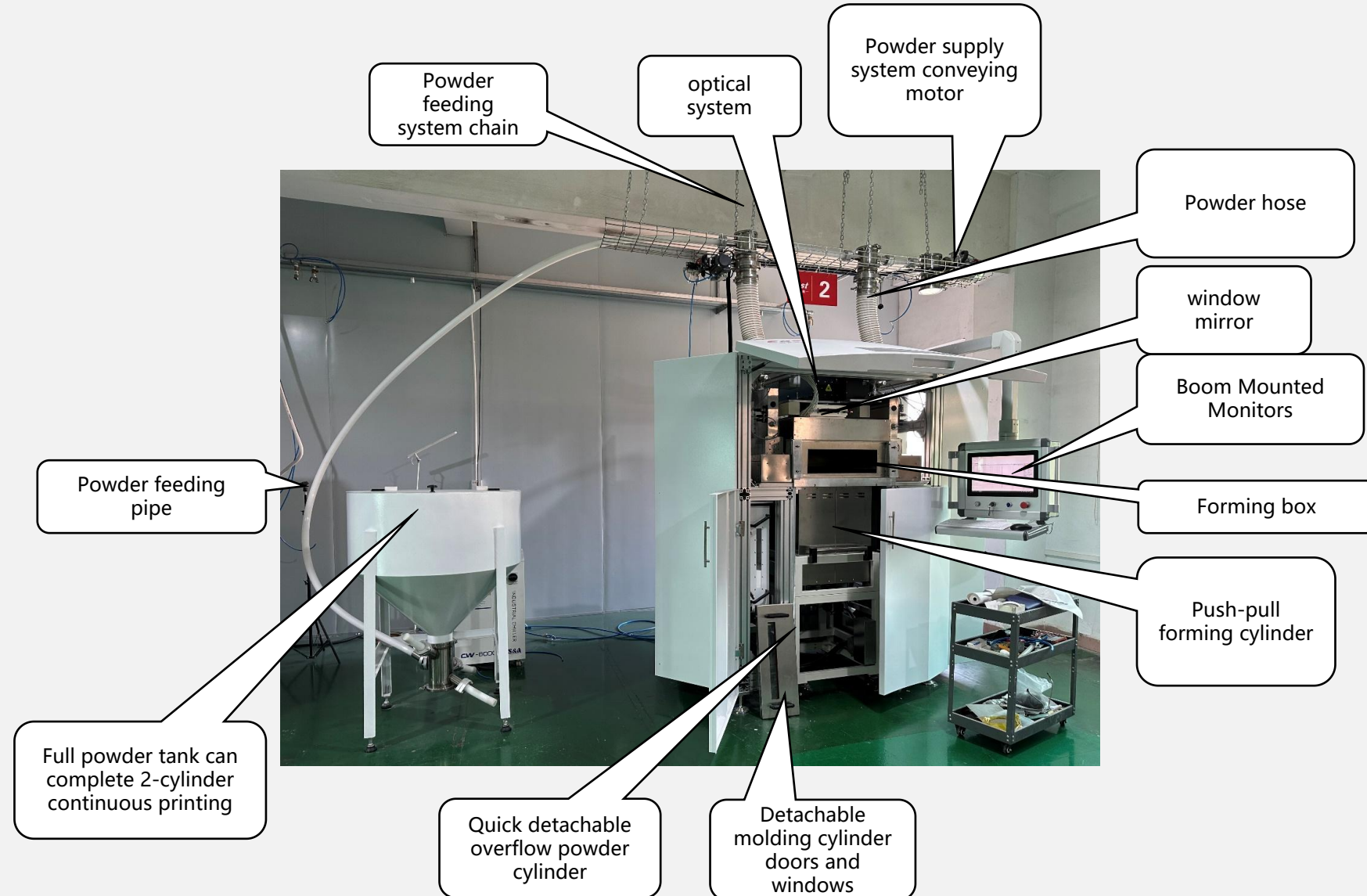
Kings P440

- Kings P440 SLS 3D Printer
- Cylinder Size:440mm(X)*440mm(Y)*450mm(Z)
- Machine Size:185cm(W)*133cm(D)*227cm(H)
- Laser Type:CO2
- Temperature Control System:8-zone independent temperature zone control
- Equipment Net Weight:1980kg
- Environmental Requirements:20-30 degrees Celsius, humidity less than 30%

Key Technology



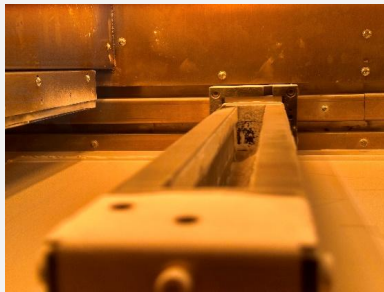
Machine Structure



Machine Structure



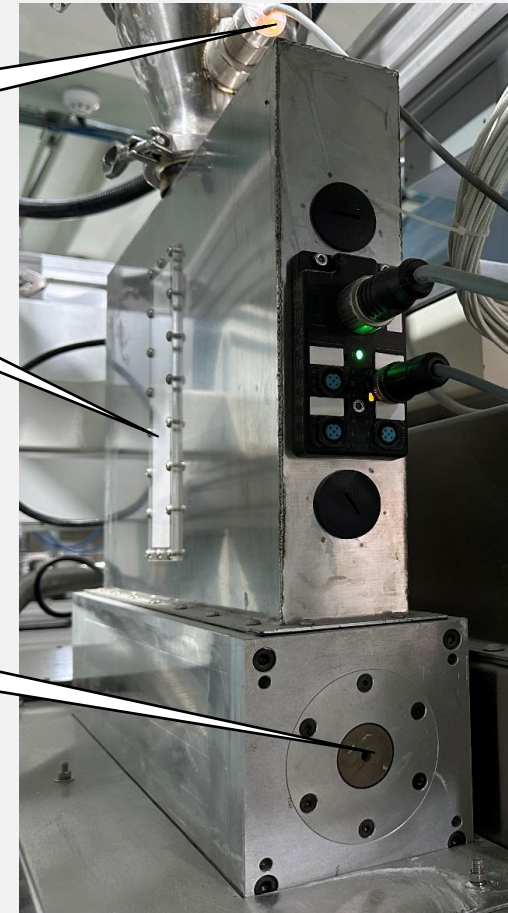
Dual-scraper two-way intelligent powder supply system



Material level
detection
proximity switch

Material level
visual window

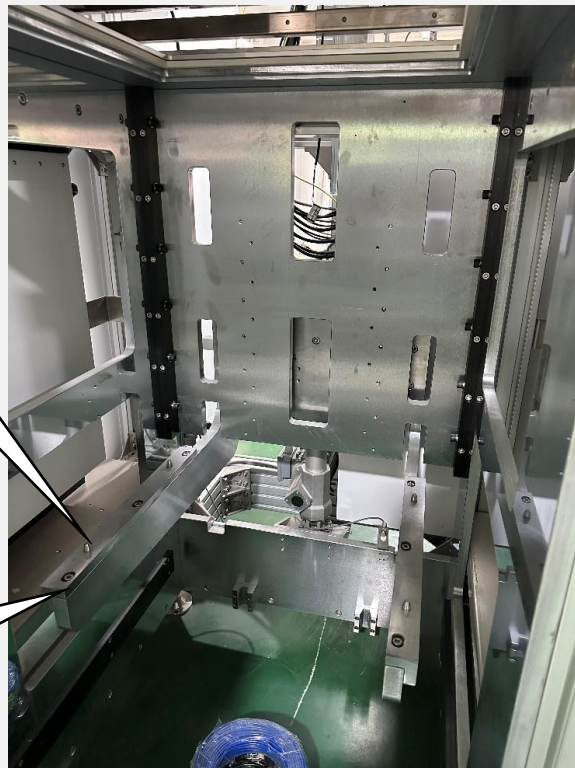
Powder feed
roller



Machine Structure



Forming cylinder structure and lifting device



4 locating
pins for
forming
cylinder

Forming
cylinder lifting
L plate



Forming cylinder lifting
electric push rod

Forming cylinder
limit switch



Forming
cylinder
platform and
sealing ring

Machine Structure



How to disassemble the overflow powder cylinder

It needs to be sealed tightly when working



Installation location



Operating handle



Lift the handle of the powder overflow cylinder and make the powder overflow cylinder move down

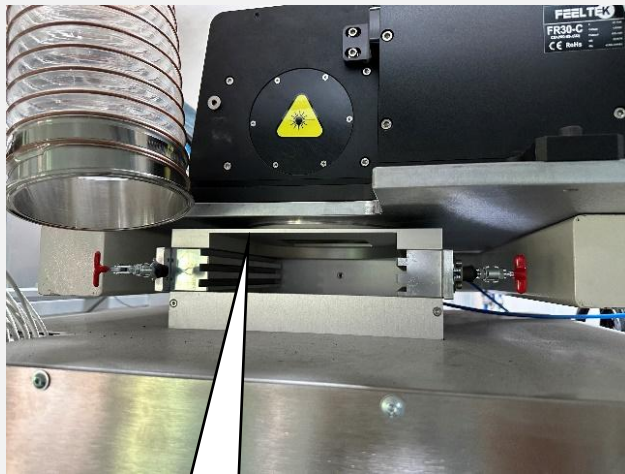


Pull out the spill tank forward

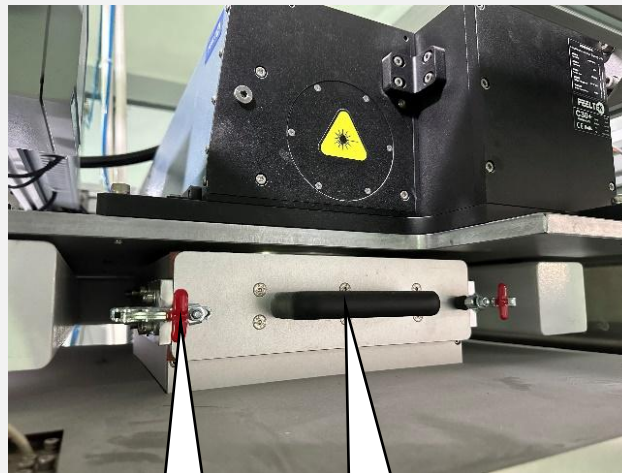
Machine Structure



Window mirror and temperature control system

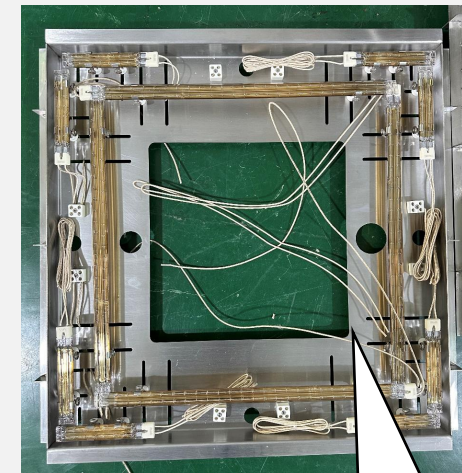


Labyrinth seal structure



Quick release lock

Handle



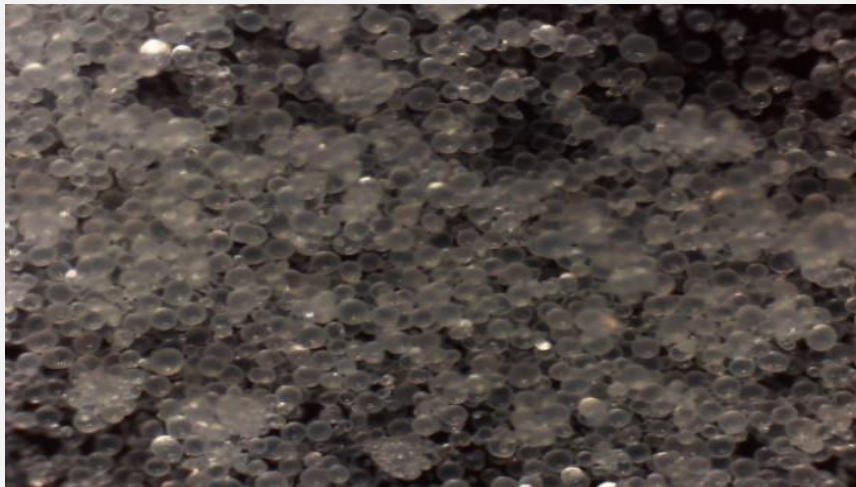
Eight zone temp control layout

GFPA1200

Material: GFPA1200 nylon powder (white)

Advantage:

- Maintain color stability in repeated use.
- Excellent mechanical properties can still be maintained when the powder reuse rate is close to 100%.
- Particle size D50 is about 50 microns with narrow and uniform distributio . Powder sphericity and fluidity are extremely high.



Mechanical property 力学性能

测试项目	Value	Unite	Test standard
Tensile Modulus 拉伸模量	1600	MPa	ISO 527
Tensile Strength 拉伸强度	46	MPa	ISO 527
Strain at break 断裂伸长率	20	%	ISO 527
Charpy impact strength冲击强度	38	KJ/m ²	ISO 179
Charpy notched impact strength缺口冲击强度	7.5	KJ/m ²	ISO 179
Flexural modulus 弯曲模量	1400	MPa	ISO 178
Flexural Strength 弯曲强度	50	MPa	ISO 178

Other properties 其它参数

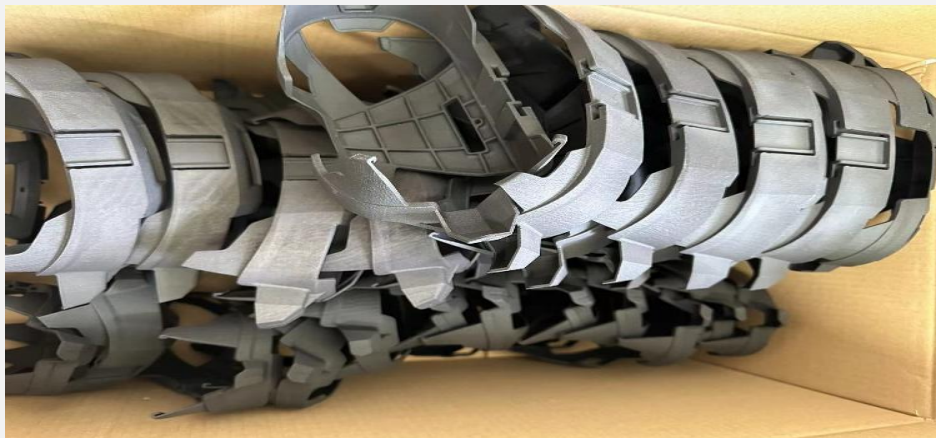
Other properties 其它参数	Value	Unite	Test Standard
Powder Melting temperature(10°C/min)粉末熔化温度	187	°C	ISO 11357
Vicat softening temperature(50°C/h50N)维卡软化温度	100	°C	ISO 306
Density (lasersintered) 制件密度	0.94	g/cm ³	Own method
Density(Powder)松装密度	0.52	g/cm ³	Own method
Particle Size (D50)	50	µm	Laser Diffraction

GFPA1200BLACK

Material: GFPA1200BLACK nylon powder (black)

Advantage:

- Both fiber laser and carbon dioxide laser can be used for sintering
- Excellent mechanical properties can still be maintained when the powder reuse rate is close to 100%.
- Particle size D50 is about 50 microns with narrow and uniform distributio . Powder sphericity and fluidity are extremely high.



Mechanical property 力学性能

测试项目	Value	Unite	Test standard
Tensile Modulus 拉伸模量	1600	MPa	ISO 527
Tensile Strength 拉伸强度	46	MPa	ISO 527
Strain at break 断裂伸长率	20	%	ISO 527
Charpy impact strength冲击强度	38	KJ/m ²	ISO 179
Charpy notched impact strength缺口冲击强度	7.5	KJ/m ²	ISO 179
Flexural modulus 弯曲模量	1400	MPa	ISO 178
Flexural Strength 弯曲强度	50	MPa	ISO 178

Other properties 其它参数

Other properties 其它参数	Value	Unite	Test Standard
Powder Melting temperature(10°C/min)粉末熔化温度	187	°C	ISO 11357
Vicat softening temperature(50°C/h50N)维卡软化温度	100	°C	ISO 306
Density (lasersintered) 制件密度	0.94	g/cm ³	Own method
Density(Powder)松装密度	0.52	g/cm ³	Own method
Particle Size (D50)	50	μm	Laser Diffraction

GFPA12GF

Material: GFPA12GF glass fiber reinforced nylon powder (blue gray)

- Formed parts have high rigidity and high temperature resistance
- High molding efficiency. Nearly 100% reuse rate



Mechanical property 力学性能

测试项目	Value	Unite	Test standard
Tensile Modulus 拉伸模量	3000	MPa	ISO 527
Tensile Strength 拉伸强度	46	MPa	ISO 527
Strain at break 断裂伸长率	9	%	ISO 527
Charpy impact strength 冲击强度	36	KJ/m ²	ISO 179
Charpy notched impact strength 缺口冲击强度	6	KJ/m ²	ISO 179
Flexural modulus 弯曲模量	2800	MPa	ISO 178
Flexural Strength 弯曲强度	70	MPa	ISO 178

Other properties 其它参数

Other properties 其它参数	Value	Unite	Test Standard
Powder Melting temperature(10°C/min) 粉末熔化温度	187	°C	ISO 11357
Vicat softening temperature(50°C/h50N) 维卡软化温度	150	°C	ISO 306
Density (lasersintered) 制件密度	1.2	g/cm ³	Own method
Density(Powder) 松装密度	0.72	g/cm ³	Own method
Particle Size (D50)	50	µm	Laser Diffraction



03

Products in Developing

3.1|P440F&P440FD&P440H

3.2|P800

P440F&P440FD&P440H

Model: P440F

Features:

- 1/Equipped with high power fiber laser
- 2/Scanning efficiency increased by more than 50% compared with P440

Model: P440FD

Features:

- 1/Using two fiber lasers
- 2/The maximum size of the forming cylinder is 440mm
- 3/High material utilization rate. Can print black PA12 nylon and black PA12GF etc.
- 4/High molding efficiency. It can print 5-6KG products in 12 hours, which is several times that of carbon dioxide lasers

Model: P440H

Features:

- 1/Equipped with a higher-speed and higher-precision digital feedback galvanometer, the efficiency is 30% higher than that of the P440.
- 2/Print black or white materials with better detail quality.
- 3/Part strength is better than fiber optic version.



P800

Model: P800

Features:

- 1/Equipped with 2*100W high power dual lasers
- 2/The maximum size of the molding cylinder is 800mm, which can meet the requirements of integral molding of larger workpieces
- 3/Able to print PA12, PA12GF and gray-black nylon, etc.





04

Sales List

4.1|Printer

4.2|Accessory

Printer

No.	ITEM	QUANTITY	UNIT
1	SLS-440H equipment (including powder conveying system)	1	set
2	controlling software	1	set
3	Powder cleaning table (including powder sieve)	1	set
4	Chiller	1	set
5	50kg each of new powder and old powder (Free)	100	kg
6	Unloading trolley and unloading tools	1	set
7	Software Operation Manual	1	set
8	Equipment Operation Manual	1	set
9	Environmental Requirements Specification	1	set
10	Equipment Acceptance Letter	1	set

Accessories

Powder activation machine

No.	Model	Price	The number of nylon machines that can be supplied	Air compressor configuration (user-provided)
1	FHRS-100FB	5500USD	≤ 3 sets	≥ 4 kilowatt

Nitrogen generator

No.	Model	Price	The number of nylon machines that can be supplied	Air compressor configuration (user-provided)
1	NPM02	7500USD	≤ 3 sets	≥ 4 kilowatt



Thanks !

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