

ENTERPRISE PROFILE

As the pioneer of binder jet 3D printing systems in China, Guangdong Fenghua Zhuoli Technology Co., Ltd (FHZL in short) is the first Chinese company engaged in the independent R&D and commercialization of sand 3D printing technology. FHZL is also the first Chinese enterprise who has successfully manufactured state-of-the-art 3D printers and exported them to all over the world, such as Japan, India, Brazil, Russia & Belarus.

With over 20 years' experience, FHZL has launched sand casting 3D printers in full range sizes-PCM450, PCM800, PCM1200, PCM1800, PCM2200, PCM2500, which have been widely used in various industries like automobile, military, aerospace, pumps&valves, art & design etc.



A WIDE RANGE OF SERVICE

- BINDER JET INDUSTRIAL 3D PRINTER
- SAND 3D PRINTER & CONSUMABLES
- METAL 3D PRINTER & CONSUMABLES
- CERAMIC 3D PRINTER & CONSUMABLES
- INTEGRATED AUTOMATED PRODUCTION LINE BASED ON 3D SAND PRINTING
- RAPID MANUFACTURING FOR CASTING PARTS ON DEMAND

Guangdong Fenghua Zhuoli Technology Co., Ltd

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Industrial 3D printer manufacturer



Pioneer of Binder Jet 3D Printing Systems in China

ADVANTAGE

BRAND

Independent R&D and manufacturing with dozens of patents
 Constitutor of national standard & industrial standard
 More than 20 years' experience and expertise
 Products sell well at home and abroad
 Two domestic service centers: Foshan&Chengdu
 One international service center: Moscow, Russia

PRODUCT

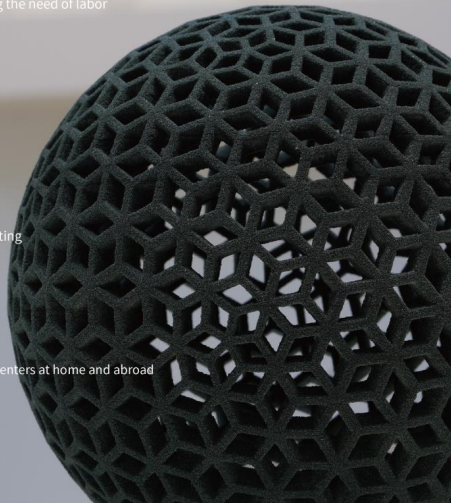
Less printhead, but higher efficiency
 Leading build speed
 Stable performance
 IOT digital monitoring system reducing the need of labor
 Full range printing solutions
 CE certified
 ISO 9001 certified

COST

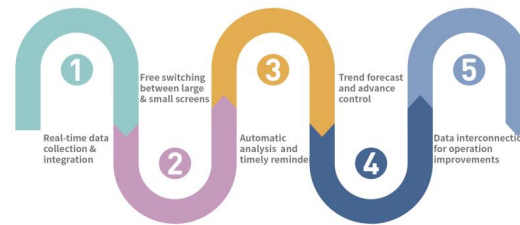
Lower maintenance cost
 Less labor cost
 Optimization of consumables:
 Overflow sand reuse during printing
 New sand & Used sand mixing for printing
 Faster payback for foundries

SERVICE

7x24 hours after-sales service
 Professional service teams in 3 service centers at home and abroad
 Face to face training for free
 Lifetime warranty for each machine



DIGITAL PLATFORM



3D打印机监控画面

序号	工单号	打印开始时间	打印结束时间	总打印层数	已打印层数	完成率(%)	已打印产量 (kg)	预计完成时间
1	001	2022/09/28 14:01:25	2022/09/28 21:06:13	200	200	100	85.13	2022/09/28 21:06:23
2	002	2022/09/27 14:23:02	2022/09/27 14:56:10	323	323	100	57.18	2022/09/27 14:56:10
3	003	2022/09/29 14:41:19	2022/09/29 17:51:36	432	432	100	64.12	2022/09/29 17:51:36
4	004	2022/09/30 08:33:13		783	239	29.4	25.55	2022/09/30 14:15:10

3D打印机实时监控画面

打印速度: 80%
 打印温度: 28.5 °C
 打印湿度: 58

打印效率: 70.4%
 打印质量: 70.2%
 固化效率: 70.5%

打印产量: 85.13 kg

打印速度: 80%
 打印温度: 28.5 °C
 打印湿度: 58

打印效率: 70.4%
 打印质量: 70.2%
 固化效率: 70.5%

打印产量: 57.18 kg

打印速度: 80%
 打印温度: 28.5 °C
 打印湿度: 58

打印效率: 70.4%
 打印质量: 70.2%
 固化效率: 70.5%

打印产量: 64.12 kg

打印速度: 80%
 打印温度: 28.5 °C
 打印湿度: 58

打印效率: 70.4%
 打印质量: 70.2%
 固化效率: 70.5%

打印产量: 25.55 kg

INTEGRATED SOLUTION

Printing

Automated production line with multiple 3D printers, auto transfer of job boxes via AGV/RGV transportation system.

Sand Core Cleaning

Rapid sand core removal via primary cleaning platform & further sand cleaning via secondary sand cleaning room.

Sand Core Coating

Auto catch, transport and coating for well cleaned sand cores done by industrial robot.

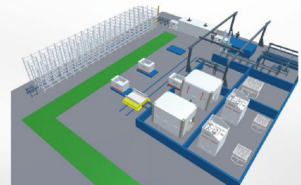
Sand Core Drying

Well coated sand cores sent to the industrial dryer via conveying channel for auto drying.

Digital Warehousing

Stacked smart warehousing & Specialized RGV system for auto inbound and outbound deliveries.

FHZL has been applying its own 3D printers to gravity casting since the last 2 decades to provide thousands of sophisticated casting parts and 3D printed sand cores to foundries. Taking advantage of this rich experience, FHZL is devoted to customized automated production lines for the traditional foundries who are facing challenges of high-efficiency, labor-saving and pollution-free serial production in Industry 4.0. Fully automatic process from sand core 3D printing, collection, cleaning, coating, drying to warehousing, supported by FHZL Digital Monitoring Platform, end-users can keep track of the production progress, machine status or consumable consumption simply via cellphone/computer application.



OUR CLIENTS









PCM1200

SAND 3D PRINTER



PIONEER AND LEADER OF
SAND 3D PRINTING TECHNOLOGY IN CHINA

CHARACTERISTIC

-  Compact Structure, stable performance
-  Leading build speed: 18 second/layer
-  Optimization of consumables
-  Prompt after-sales response
-  Low maintenance cost
-  Cost-effective for medium & small sized casting parts



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TECHNICAL SPECIFICATION +

Model	PCM1200
Max build size (mm)	1200 (L) × 1000 (W) × 600/800 (H)
Printing resolution (dpi)	300x400 or 400x400
speed (S/Layer)	18
efficiency (L/h)	120
Layer thickness (mm)	0.2-0.5
Printing accuracy (mm)	±0.3
Printing material	silica sand, ceramic sand, synthetic sand, CB sand
Binder Type	Furan resin, Inorganic binder, Green binder







PCM1800

SAND 3D PRINTER



PIONEER AND LEADER OF
SAND 3D PRINTING TECHNOLOGY IN CHINA

CHARACTERISTIC

-  Compact Structure, stable performance
-  Optimization of consumables
-  Low maintenance cost
-  Leading build speed: 22 second/layer
-  Prompt after-sales response
-  Cost-effective for medium & small sized casting parts



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TECHNICAL SPECIFICATION +

型号	PCM1800
Max build size (mm)	1800(L) × 1000(W) × 700/1000(H)
Printing resolution (dpi)	300x400 or 400x400
speed (S/Layer)	22
efficiency (L/h)	150
Layer thickness (mm)	0.2-0.5
Printing accuracy (mm)	±0.3
Printing material	silica sand、ceramic sand、 synthetic sand、CB sand
Binder Type	Furan resin、Inorganic binder、 Green binder

PCM2200

SAND 3D PRINTER



PIONEER AND LEADER OF
SAND 3D PRINTING TECHNOLOGY IN CHINA

CHARACTERISTIC



Competitive price, high automation



Ideal for designs without geometry limitation



Leading build speed: 24 second/layer



Available for automated production lines



Best choice for large-sized parts



Create complicated sand molds
in short time in no need of physical patterns



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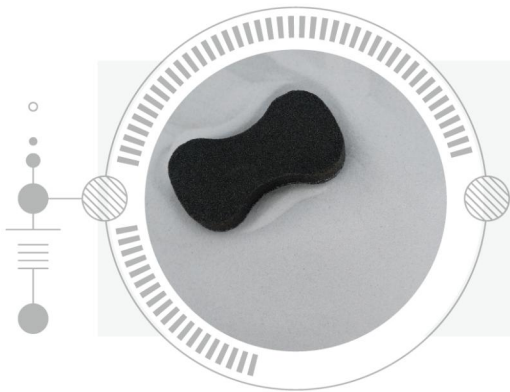




TECHNICAL +
SPECIFICATION

型号	PCM2200
Max build size (mm)	2200(L) × 1000(W) × 800/1000(H)
Printing resolutio (dpi)	300x400 or 400x400
speed (S/Layer)	24
efficiency (L/h)	160
Layer thickness (mm)	0.2-0.5
Printing accuracy (mm)	±0.3
Printing material	silica sand、ceramic sand、 synthetic sand、CB sand
Binder Type	Furan resin、Inorganic binder、 Green binder

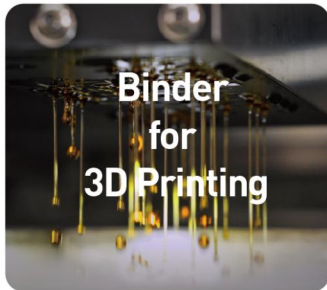
MATERIALS FOR 3D PRINTING



Sand for 3D Printing

Specification: 70/140mesh, 100/200mesh

Strength: A wide variety of sand types can be used, such as silica sand, ceramic sand and all kinds of synthetic sand. End user can source similar sand from local market according to the specification offered by FHZL.



Furan resin

- Good fluidity and slight odor
- No clogging of nozzles, high stability
- Conducive to high tensile strength, low gas evolution & good dimensional accuracy

Inorganic binder

- No odor
- No emission, green and environmentally-friendly
- Low consumption

Green binder

- Fast hardening, high compressive strength
- Non-corrosive, non-moisture-absorbent
- Low consumption, easy to store

Cleaner for 3D printing



1. High-efficiency in dissolving binder



2. Non-corrosive, non-harmful to printheads



3. No odor, good cleaning performance



4. Low consumption, low cost

Other material



Ceramic Powder



Metallic Powder

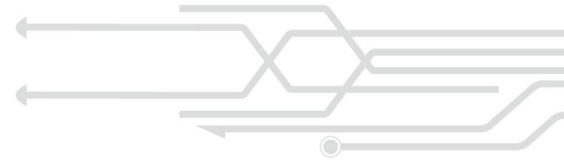


Polymer Materials

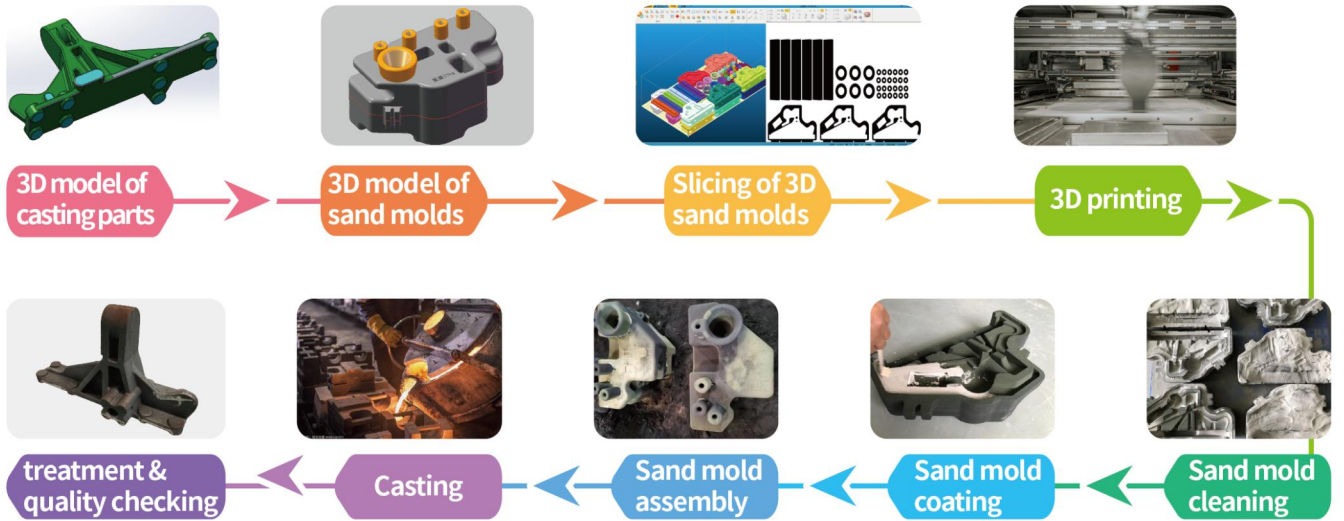


Composite Material

SAND 3D PRINTING APPLICATION



Production Process



Cases for 3D printed sand molds

Art & Design

Industrial



Cases for casting parts

