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Digital Solution for Investment Casting



WaxJet 400



Digital Solution for Investment Casting

The traditional precision casting process produces finished parts via the method of mold creation and wax pattern pouring. In this production mode, the production of small-batch complex structured parts faces problems of high cost, long cycle time and difficulty in multiple revisions of design verification.

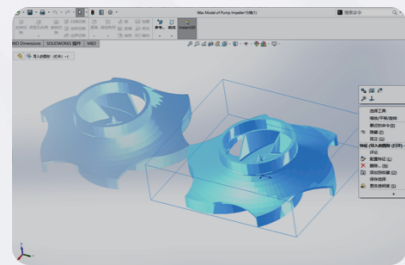
In recent years, the application of multi-jet 3D printing technology has overcome these challenges one by one, realized the rapid production and delivery of castings, shortened the wax pattern manufacturing cycle from 14 days to 1 day, reduced the overall cost by 30-50% on average, and ensured the stability and consistency of quality.

WaxJet 400 has successfully assisted a large number of domestic and foreign precision casting enterprises in increasing the production efficiency and profitability, while bringing digital and intelligent changes to the structural design, process formulation and manufacturing of precision casting products.

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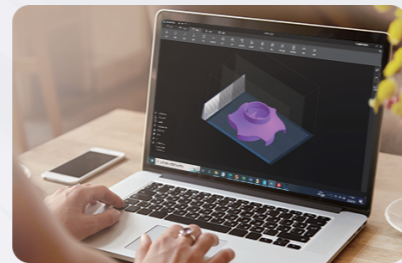
01 Digital empowerment, bringing process transformation & high productivity



01 Prepare the model data

02

Send the model data to the printer



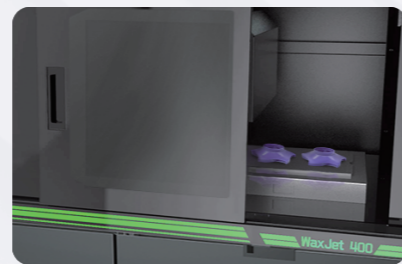
03

Click on the screen to print, unattended printing finished



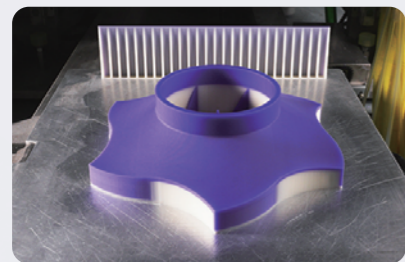
04

Open the door and take out the plate



05

Remove the wax patterns on the constant temperature heating platform



06

Dissolve the support wax in the wax washing solution



07

Obtain the wax patterns



Why choose digital technology?



Production on Demand

The personalized data, even one single piece, can also be arranged for production. The flexible production reduces the overall manufacturing cost by 20%.



Moldless Manufacturing

It saves the cost of mold-making and retouching and shortens the time to market by 2/3.



Global Leader in Productivity

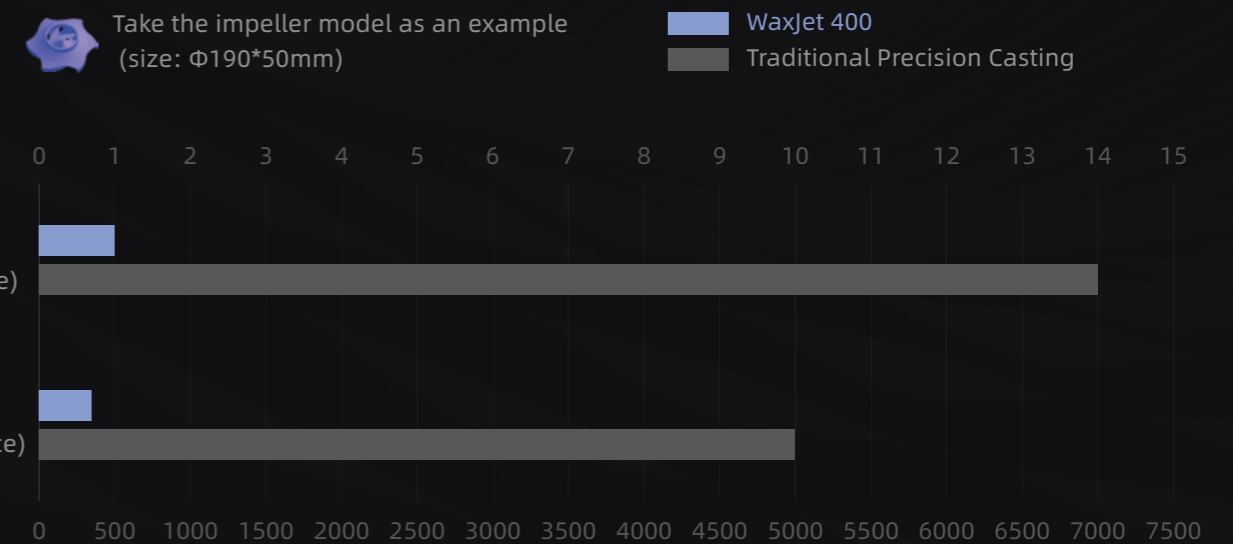
Output of 10KG wax patterns can be realized by a single device in a single month.



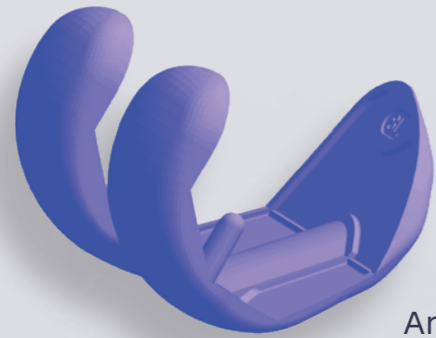
High Precision

The industrial-grade printhead and 1um-grade motion control perfectly present the creativity and details.

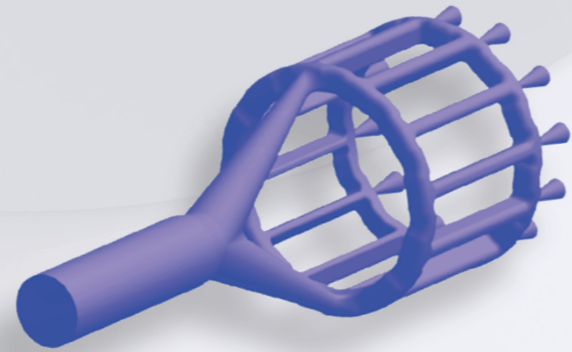
Time and Cost Comparison Between 3D Printing Process and Traditional Process in the Development Phase



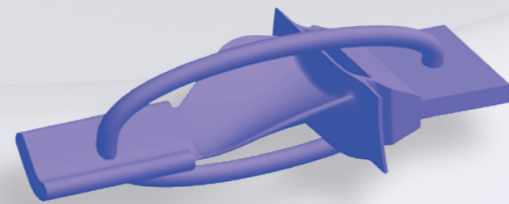
02 One machine covering multi-field applications



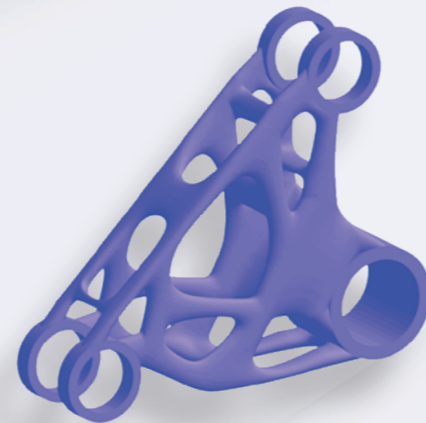
Artificial joint



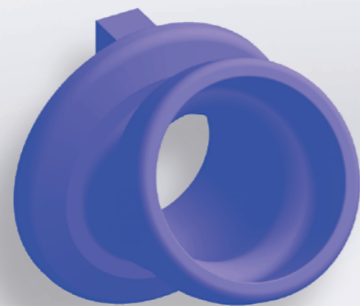
Needle roller



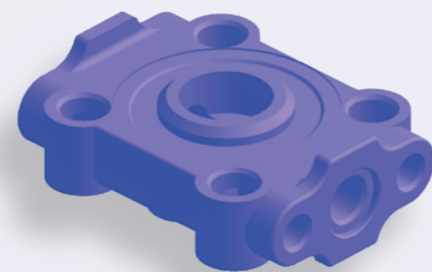
Blade



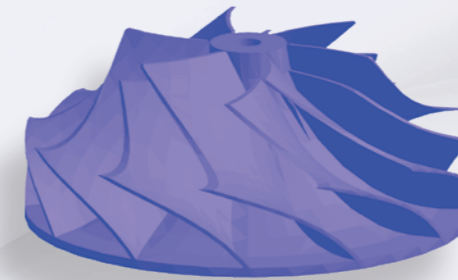
Lightweight part



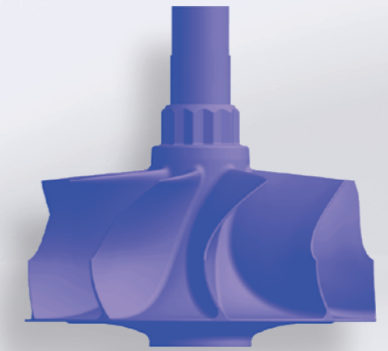
Pipeline



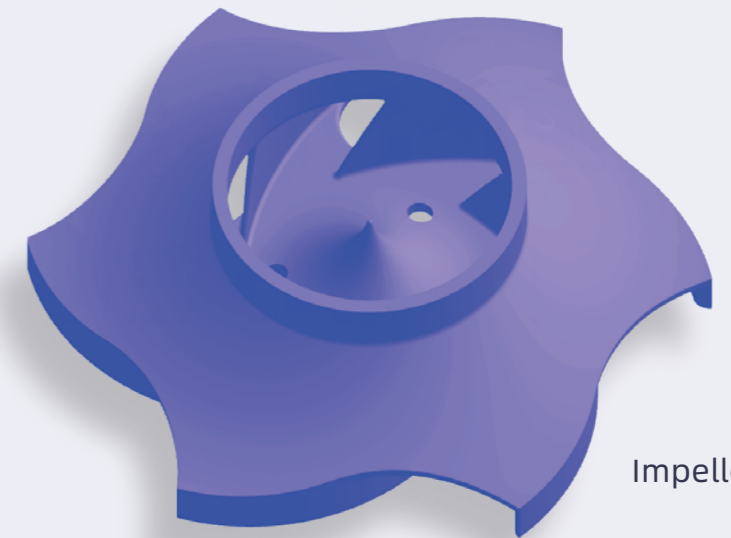
Differential pressure flange



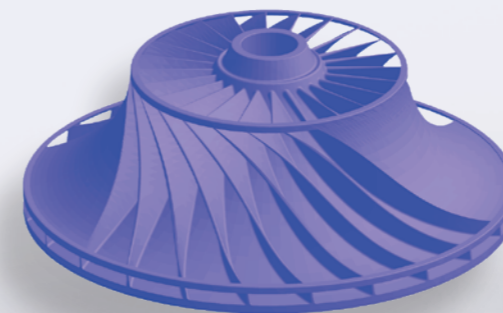
Turbine



Turbine



Impeller

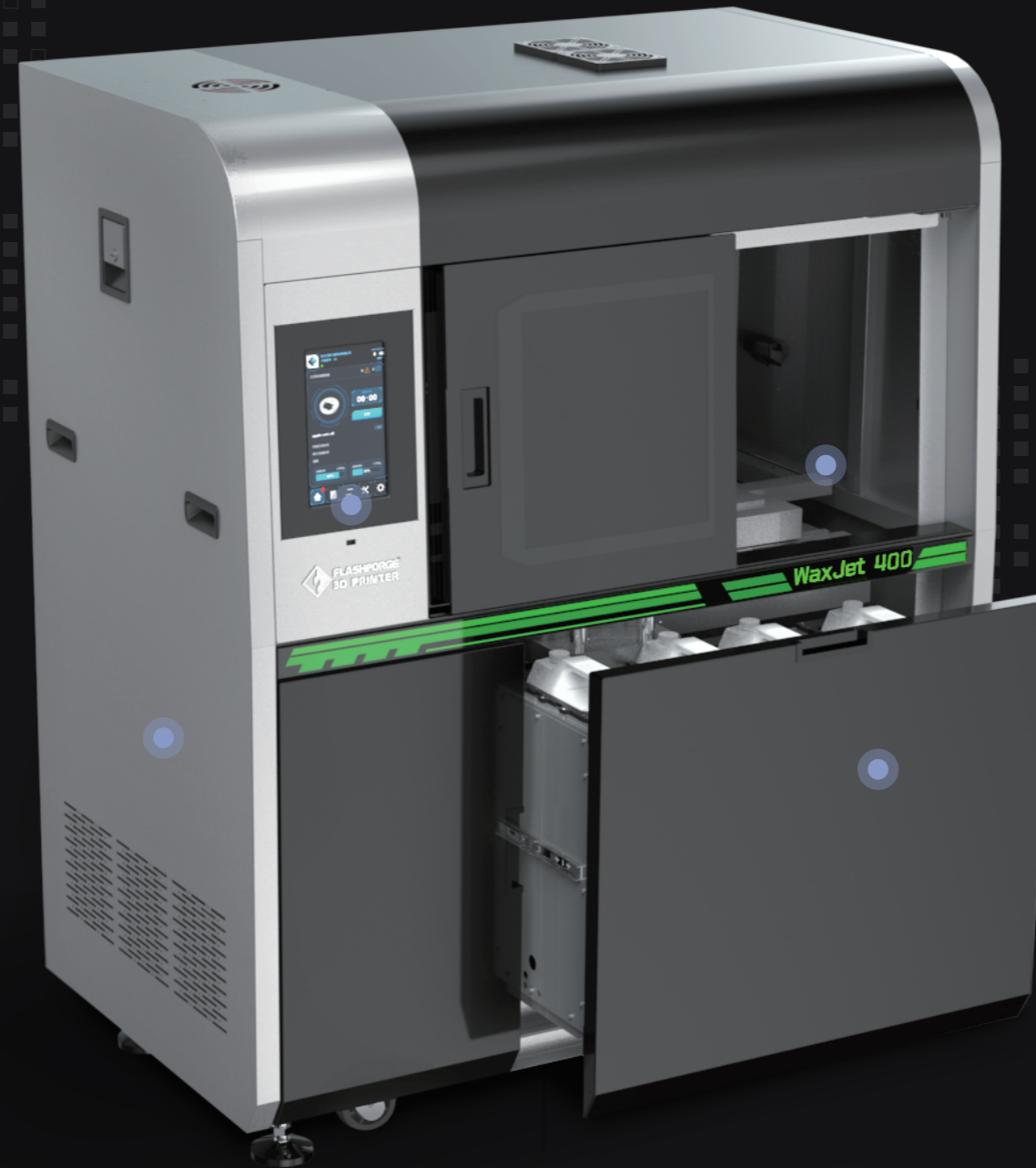


Impeller

Easy to use, equipped with exclusive pre-sales training

WaxJet 400

A large-size and high-precision multi-jet wax 3D printer



Interface

One-button Automatic Printing

Import the model data via WaxJetPrint. Find the file data in the print queue and click the "Print" button. The system will automatically complete printing the model.



Machine Program

Maintenance Plan

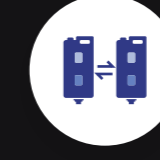
The maintenance plan is pre-installed in the equipment. According to the hours of use of spare parts, it will prompt the user to maintain the equipment in order to keep the equipment in good running condition.



Build Plate

3D Automatic Layout

Import in batch, customize the attributes, and select the area and height for automatic layout. The automatic 3D layout function selects the optimal solution through preset iteration times.



Material Chamber

Automatic Reloading

2*2 material cartridge configuration; When one bottle of material is used up, it will automatically switch to another bottle.

04

One-click printing, offering accurate restoration of details

Branded screw rod motor

It adopts the finishing rolling process and is equipped with Kerk nuts to eliminate the movement clearance, which ensures the 0.015mm guide accuracy and movement stability of the three axes.

Stable-output piezoelectric printhead

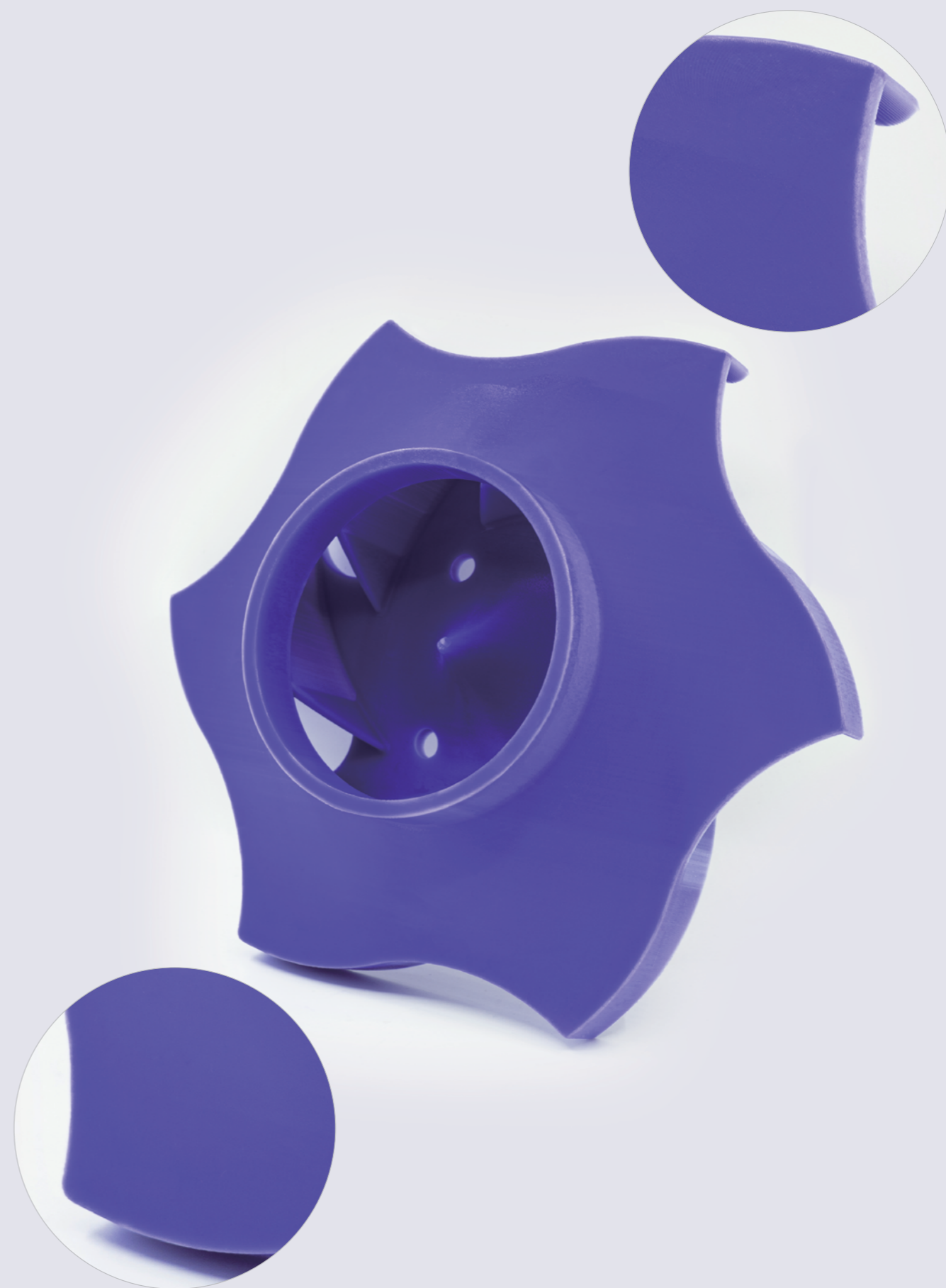
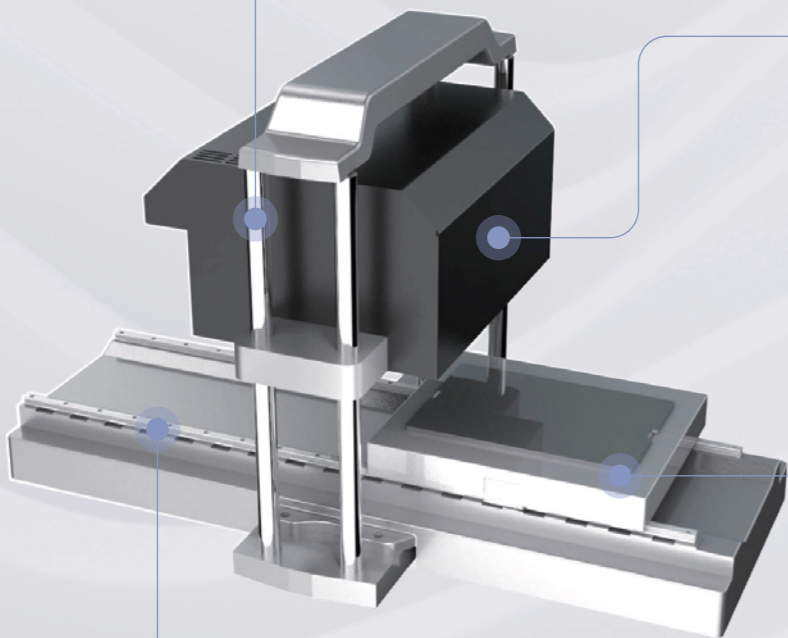
The maximum working temperature up to 130°C, the high-speed integrated circuit, and the highest ignition frequency up to 43KHz ensure that the nozzle continuously outputs round and full ink drops.

Self-developed 1um motion control

Based on the FOC motion algorithm, it can guarantee the three-axis 1um reciprocating positioning accuracy and offer adjustable speed control, realizing stable output of high-precision models.

Ultra-quiet guide rail

The double dustproof metal scrapers ensure the 1um travel accuracy of three axes and a long service life.

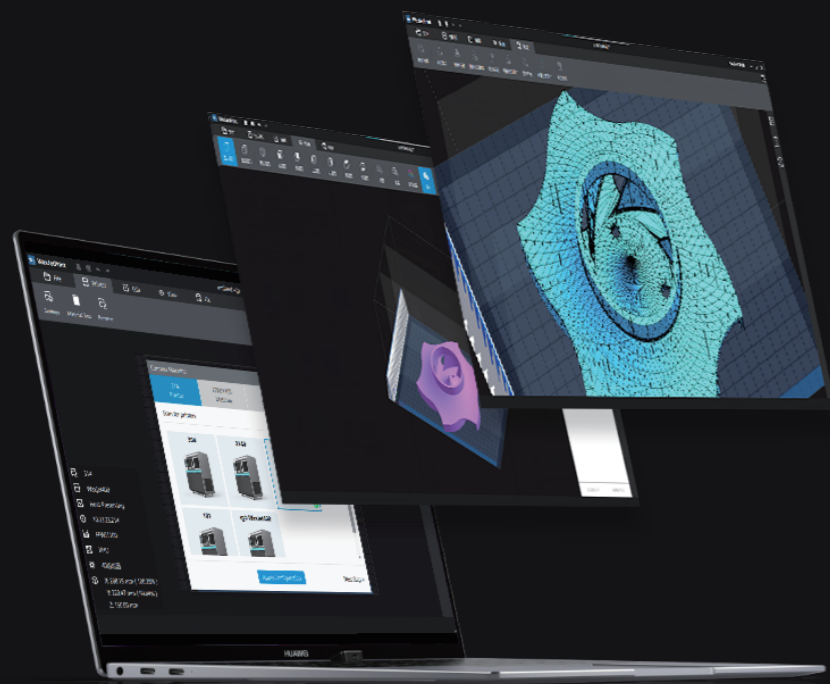


One-click printing, offering accurate restoration of details



Software - WaxJetPrint

An all-in-one software suitable for additive manufacturing



1 Fully automatic equipment connection
Multiple machines configurable in one station

2 Intelligent AI assistant
Efficient stacking and layout of 3D models

3 Equipped with diagnostic and repair functions

4 Embedded scheduling and reporting system
Data-driven business growth

Material Package

Special wax material for wax 3D printer:
Purple wax - Part material; White wax - Support material



Dimensional Stability

The 1.1% volume shrinkage, coordinated with the configuration of shrinkage compensation parameters ensures that the dimensional accuracy of the model is controlled within $\pm 0.04\text{mm}/20\text{mm}$.

Hands-free Support Removal

The 100% pure wax support material is completely soluble in the mixed solvent of anhydrous alcohol, isopropanol and PPG400 at 43°C.

Excellent Oxidation Resistance and Thermal Stability

When stored at room temperature, if unopened, it can be stored for about 5 years; Its service life after being opened is about 20 days.

Post-processing Package

Model cleaning kit





Fast response within
30 minutes



24/7 Support



1-Year Warranty

Worry-free after-sales service, putting customers first



Equipment Installation Support

Our after-sales engineers or authorized engineers offer on-site installation and training service to help users get started quickly.



Equipment Maintenance & Repair

We provide a standardized maintenance plan with regular return visits by after-sales engineers, including early warning, online support, on-site maintenance, efficient diagnosis and repair of equipment failures.



Remote Upgrade Service

Online communication provides the option to upgrade the latest functions of software, firmware and process in real time, so as to improve the print quality and print speed, support the types of materials to be released later, and achieve the most cutting-edge application productivity.

Branches



China

Guangzhou, Shenzhen, Hangzhou and Jinhua Flashforge service outlets

Overseas

Authorized distribution service outlets in Europe, Middle East and Asia

07 Technical parameters

Product Specification

Printing Technology	Multijet Printing (MJP)
Build Volume	289*218*150mm
Printing Mode	XHD: 1200*1200*1600dpi, layer thickness: 16 um
Dimensional Accuracy	±0.04mm/20mm
Power Supply	AC220-240V, 50Hz, 4KW
Equipment Dimensions	1352*775*1600mm
Net Weight	480kg
Gross Weight	630kg
Package Size	1530*900*1837mm

Software & Connectivity

Slicing Software	WaxJetPrint
Supported File Format	.stl/.slc
Email Notification	√
Hard Disk Capacity	500G
Connectivity	Network 10/100/1000, Ethernet/USB
Supported Operating System	Windows 7 / Windows 10 (64bit)
Working Environment	Temperature: 18-28°C; humidity: 30-70%

Material Specification

Material Name	FFWJ1100	FFMS3100
Material Type	Part material	Support material
Net Weight	3.0KG/bottle	3.6KG/bottle
Composition	100% Wax	Wax support material
Color	Purple	White
Density@95°C(liquid)	0.76g/cm ³	0.85g/cm ³
Melting Point	68°C	55°C
Softening Point	63°C	-
Volumetric Shrinkage ^①	1.10%	-
Linear Shrinkage	0.70%	-
Needle Penetration Hardness ^②	9	-
Ash Content ^③	<0.01%	-
Description	High-precision casting wax material	Hands-free dissolvable support material

*Conditions: ①Volumetric Shrinkage SH/T 0588-1994; ②Needle Penetration Hardness GB/T 4985-2010; ③Ash Content GB/T 14235.3-1993

08

Qualification certificate



SDS



SDS



Quality Management System Certification



Environmental Management System Certification



Occupational Health and Safety Management System Certification



RoHS



RoHS



CE



CE