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WANHAO 3D PRINTER

Duplicator Five

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USER MANUEL

Resolution 0.02mm
Speed 300mm/second
Software: Wanhao Maker

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A1 The Duplicator 5 Experience



This User manual is designed to help you start your experience with Duplicator 5. Within these pages, we want to show you how simple and easy it is to produce great prints.You might be familiar with earlier types of Wanhao printers or other 3D-printers. It is essential that your read this manual carefully as there are a lot of new procedures with Duplicator 5.

WANHAO is excited to welcome you to the world of the WANHAO Duplicator 5. Following this guide will help ensure that you are getting the most out of your machine, and that you continue to make amazing things,

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A2. Specification of the Duplicator 5

Data

Print Technology		Fused filament Fabrication(FFF)
Build Volume		300*200*590mm
Layer Resolution	Ultra high	20 micron
	High	60 micron
	Medium	100 micron
	Low	200 micron
Position precision	X	12.5 micron
	Y	12.5 micron
	Z	5 micron
Filament diameter		3MM +-0.15mm
Nozzle diameter		0.4 mm
Print speed		30mm/s-300mm/s
Travel speed		30mm/s-350mm/s
Software		
Software Package		Wanhao Maker
File Type		STL
Support		Windows(XP32 bit/7+)
		Mac OS X(10.6 64bit +)
Electrical		
AC Input		100-240V
		4 AMPS
		50-60Hz
		200Watt max
Power Requirements		24V DC@9.2AMPS
Connectivity		Stand-alone printing from SD-card
		USB (firmware)
Physical dimensions		
Frame Dimension		Length 460mm
		Width 400mm
		Height 860mm
Shipping box		Length 550mm
		Width 490mm
		Height 940mm
Net Weight		35kg(77lbs)
Gross Weight		44kg(96lbs)
Temperature		
Ambient Operating Temperature		10°- 38°C
Storage Temperatuer		0° - 40°C
Operating Nozzle Temperature		180°- 260°C
Sound		
Average Operational noise		48dBA.

WARNING: The Duplicator 5 generates high temperatures and has hot moving parts that can cause injury. Never reach inside of the Duplicator 5 while it is in operation. Always control the Duplicator 5 from the push wheel on the front or with the power-switch on the back. Allow the Duplicator 5 to cool down for 5 minutes before reaching inside.

CAUTION: When opening the Duplicator 5 for service, ensure that the power supply is turned off and the cord is disconnected from the wall socket.

CAUTION: Only use power supply provided with your Duplicator 5 .

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B1. Unboxing

1. Place the Duplicator 5 box on a stable surface, Placing it centrally on the floor will provide the best accessible position for unpacking.



2. Lay down the printer, Open the box from the bottom



3. Turn the bottom cardboard outwards and open from the top box.



4. Pull the Box from the bottom to top



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B2. What's in the box

Besides your Duplicator 5 supplied with SD card in the 3D printer, there are a lot of essential accesoires that comes with this 3D printer. All the following parts should be in the box, please check contents.



1 pc
printer



1 pc
build plate



1 pc
spool holder



1 pc
clamp



1 pc
USB cable



1 pc
Print raiser



1 pc
Print
wrench



1 pc
SD card
reader



1 pc
Power
supply unit



1 pc
SD card



1 pc
3mm
filament

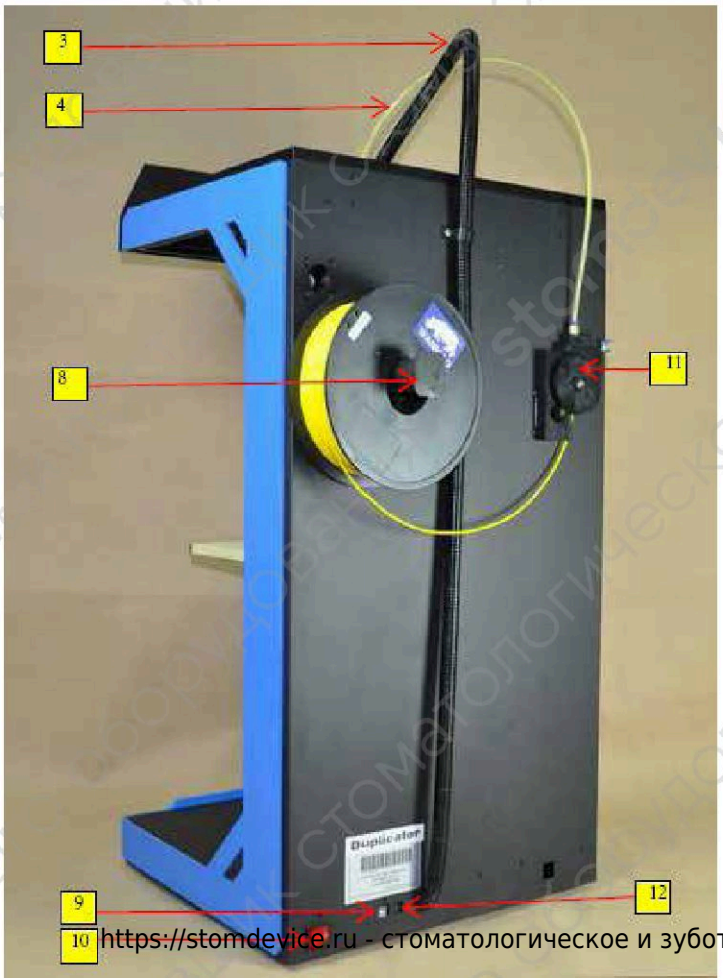
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B2 Duplicator 5 glance

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1. LED display
2. Push and Rotate button
3. Extruder Cable
4. Filament tube
5. MK10 Extruder
6. Building Plate
7. Building Plate Screw





8. Spool Holder
9. USB Socket
10. Power Switch
11. Material Feeder
12. Power Socket

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C1 Install Power Supply

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Now the next step is to give the Duplicator 5 power. This is done by attaching the external power supply.

Detaching the power supply

1. If the power supply has to be detached, the first step is to make sure the Duplicator 5 turned off. This is done by pressing the power switch to 0.
First make sure the power switch is in the OFF position, this is when the button at the back is pressed to [0].



2. The corresponding power cable (for your country) has to be inserted in the power brick of the power supply.



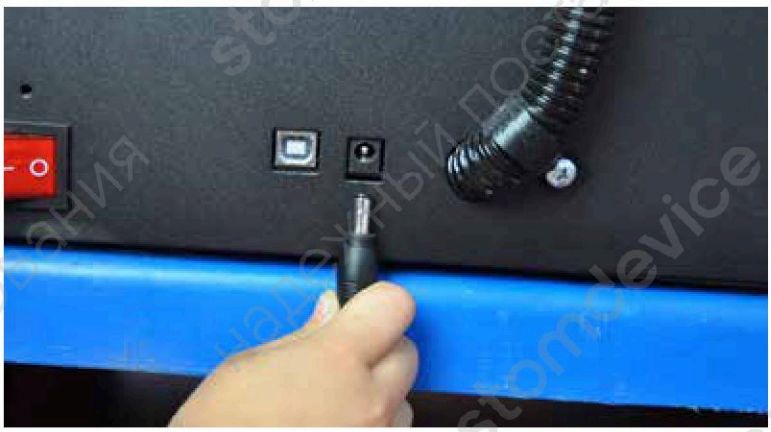
3. The connector has to be inserted at the back of the Duplicator 5, in the round hole next to the on/off switch and USB slot. The flat side of the power plug has to face towards the top of the Duplicator 5.



4. Now plug the external power supply into the wall socket.

2. Next take the power plug out of the wall socket.

3. The plug has a sliding collar. When removing the plug from the machine, gently slide the collar outwards which will release the plug and allow it to come out with ease.



CAUTION: Please make sure not to pull the cable. Excessive force may result in breaking this component.

4. The main cable in the power brick can be detached by pulling it out gently.

D2. How to level the building plate

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1. Navigate the Rotate button and Push the button



2. Navigate the Rotate button to Utility and Push the button



3. Navigate to Calibrate plate and push the button



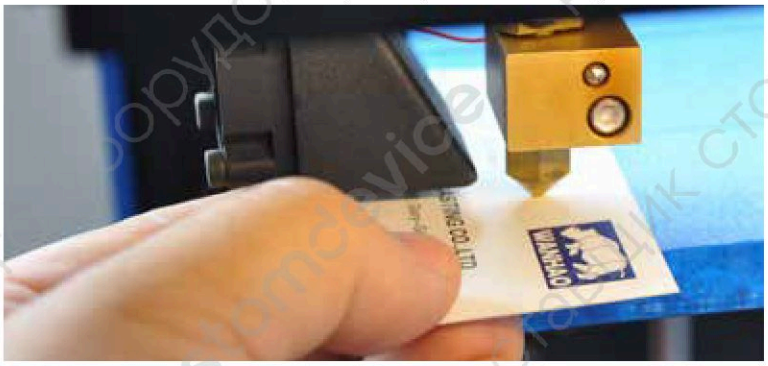
4. Prepare a name card, Wait until auto-homing finished



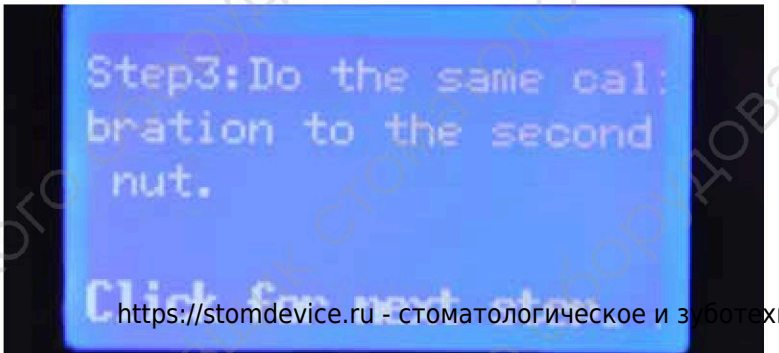
5. Push the button and adjust nut below the plate



6. Insert one name card between the nozzle and plate(0.1mm thick)



7. Navigate to Step2, 3 and 4



8. Adjust the rest 2 nuts and ensure name card can go through



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D3. Loading filament material

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1. Now that we have completed the initial leveling tasks we [CONTINUE] and go to the step where we are going to insert filament material in the material feeder.
Navigate the control button to ---Utility---Load





2. Wait the extruder to heat up to 220'C. Warning, never touch the nozzle while printer power on. You are only allowed to touch the nozzle when the printer is power off.

3. Please make sure you have a filament spool positioned over the spool holder,
guided along the filament guide, with the filament in counter clockwise direction.





4. This step needs some extra focus.
The wheel in the material feeder will start rotating slowly. Take the material and put it in the hole at the bottom of the material feeder. There is a hole where it should go into right above the sticker. Follow the display instruction with the supporting images below but WAIT! before pushing and check the next page for more instructions.

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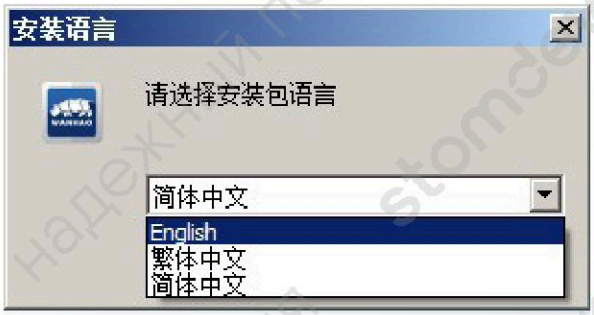
How to Install Wanhao Maker

Wanhao Maker software prepares your 3D model into Machine language which required to make 3D object. Wanhao Maker is developed by Wanhao International Team aimed to make 3D printing as affordable and easy as possible. It contains most function you need to prepare a 3D file for printing. It is fully preconfigured to work on every Duplicator 5. Wanhao comes with a easy setup program that helps you install the latest firmware as well as to calibrate your printer. While you make decisions on the look and quality of your 3D
object, Wanhao Maker's slicer engine prepares your model at the background. Faster than ever. From there It is just seconds away from your printer and ready to become your physical object.

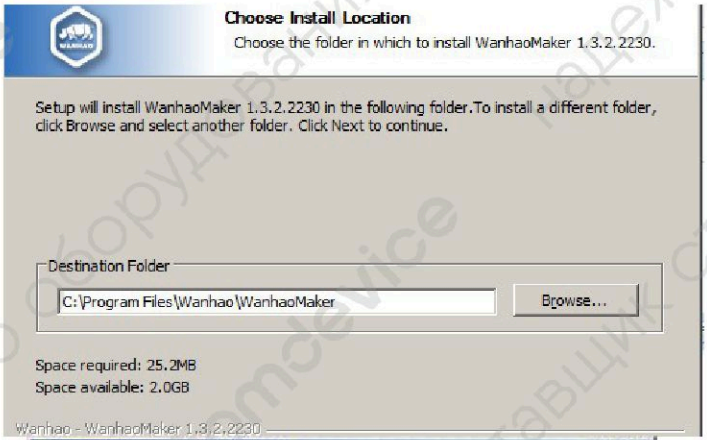
1. Down load Wanhao Maker or copy software from SD card. Double click the Wanhao Maker. EXE to install softwar



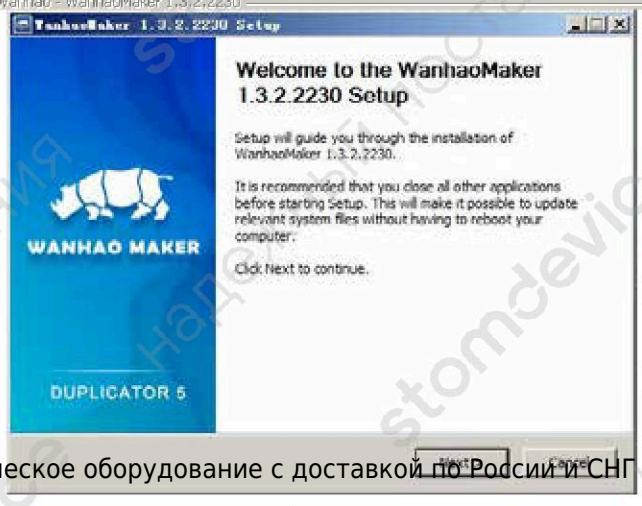
2. Language selection. We provide 3 language at present, English, Simplify Chinese, Chinese



3. Folder route. Please take default route for faster slicing speed.

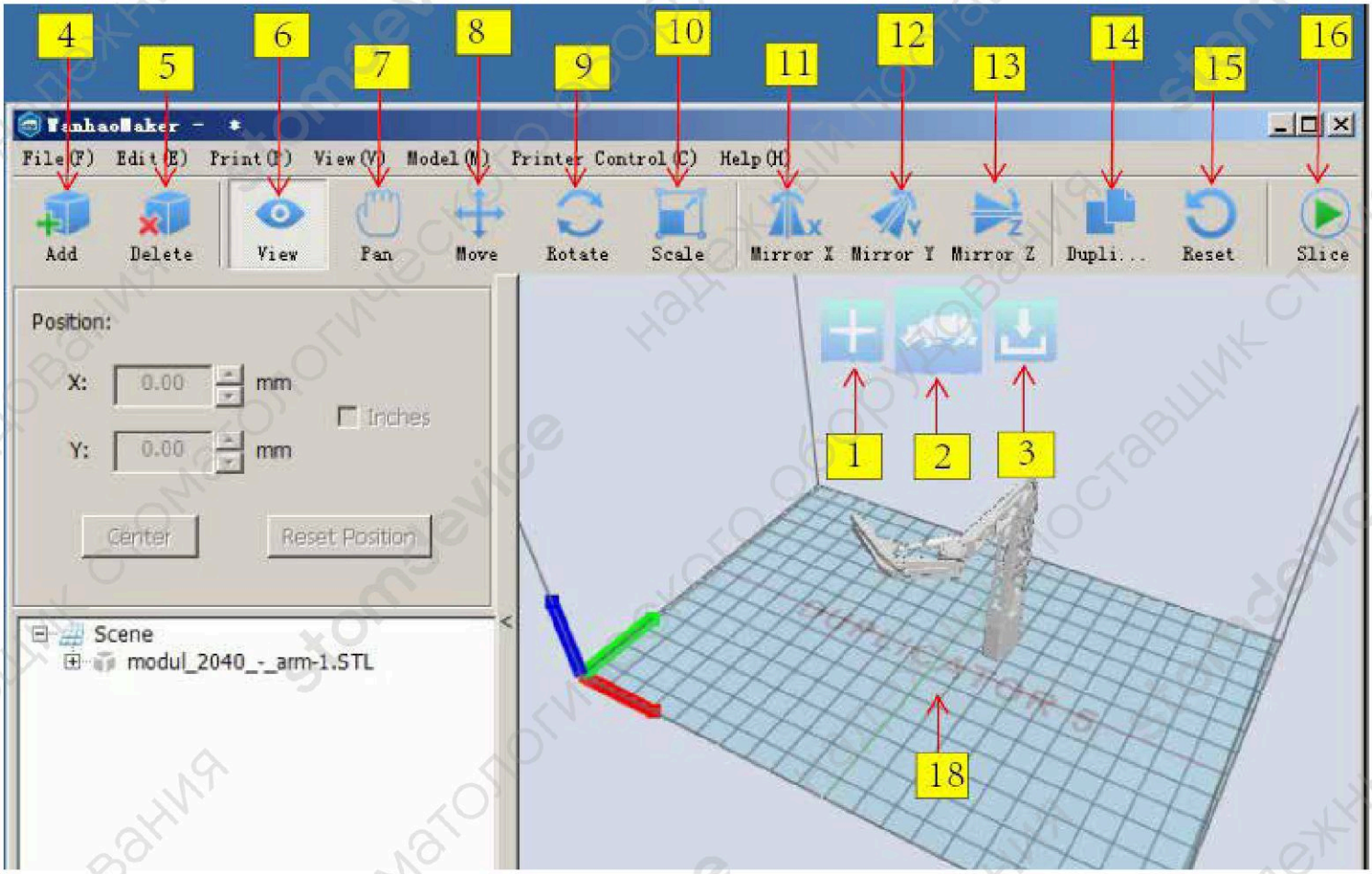


4. Installation wizard will continue to finish the rest steps.



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Wanhao Maker Interface



1. Load file
Click this button to load an object to your print area. You can add as many objects as you can fit on the plate.

2. Start Making
Press this button to start Slicing. There will be more options after pressing the button

3. Save toolpath (SD)
When you press this button the prepared toolpath will be saved on the SD card.

4. Load file
Click this button to load an object to your print area. You can add as many objects as you can fit on the plate.

5. Delete
Click on any item then delete an object from the plate.

6. View
Check the object from different angle.

7. Pan
To Move the plate from all directions, so you can check more clear.

8. Move
Move the object left, right, front and back wards.

9. Rotate
Move the object with different angle. X, Y, Z axis can be with suitable angle for printing.

10. Scale
To enlarge to shrink the object

11. Mirror X
Options to mirror the object from X axis

12. Mirror Y
Options to mirror the object from Y axis

13. Mirror Z
Options to mirror the object from Y axis

14. Duplicate
To duplicate the object in same size.

15. Reset
Let the object back to start position

16. Start Making
Press this button to start Slicing. There will be more options after pressing the button

18. Build plate
This is the plate your object to be printed

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Preparing a 3D model

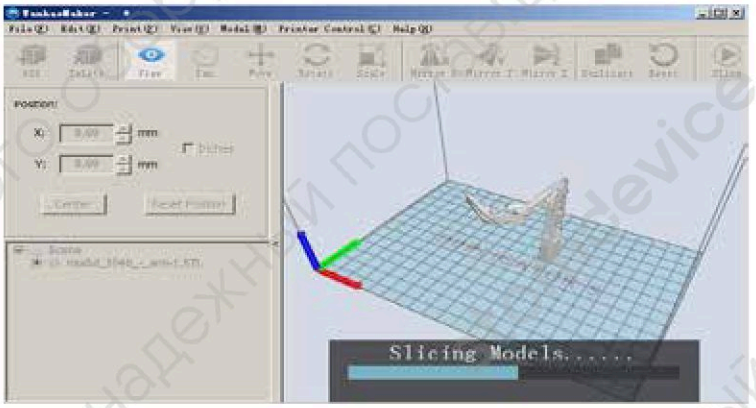
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1. Most 3D printable files that you will find on www.thingshares.com are in the STL format. Or you can use your own STL file.



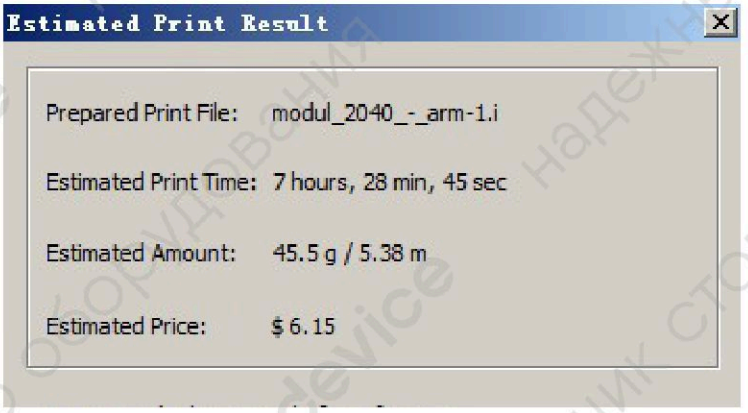
2. When you have loaded a STL file into Maker . By clicking Making, you might notice the progress bar.

4. When the 3D model is prepared, the Save toolpath button shows up and gives you the option to save the prepared model in a directory.



Finish page, Maker gives you an indication about your print on
- Estimated Print Time
- Amount of material required
- And the weight of your 3D print

5. After you inserted the included SD-card into your computer, Maker changes the Save toolpath Button into the Toolpath to SD Button.



6. Just after you choose for the Toolpath to SD button you will see the same progress bar but now it saves the file on the SD card. Or you can copy the toothpath *.i file into SD card directly.

7. When finished saving It will give you the notification that your file has been saved.





8. Before taking out the SD-card make sure you always choose the safely eject.

9. Then insert the SD card into the printer socket. Navigate to Print from SD card to print.

