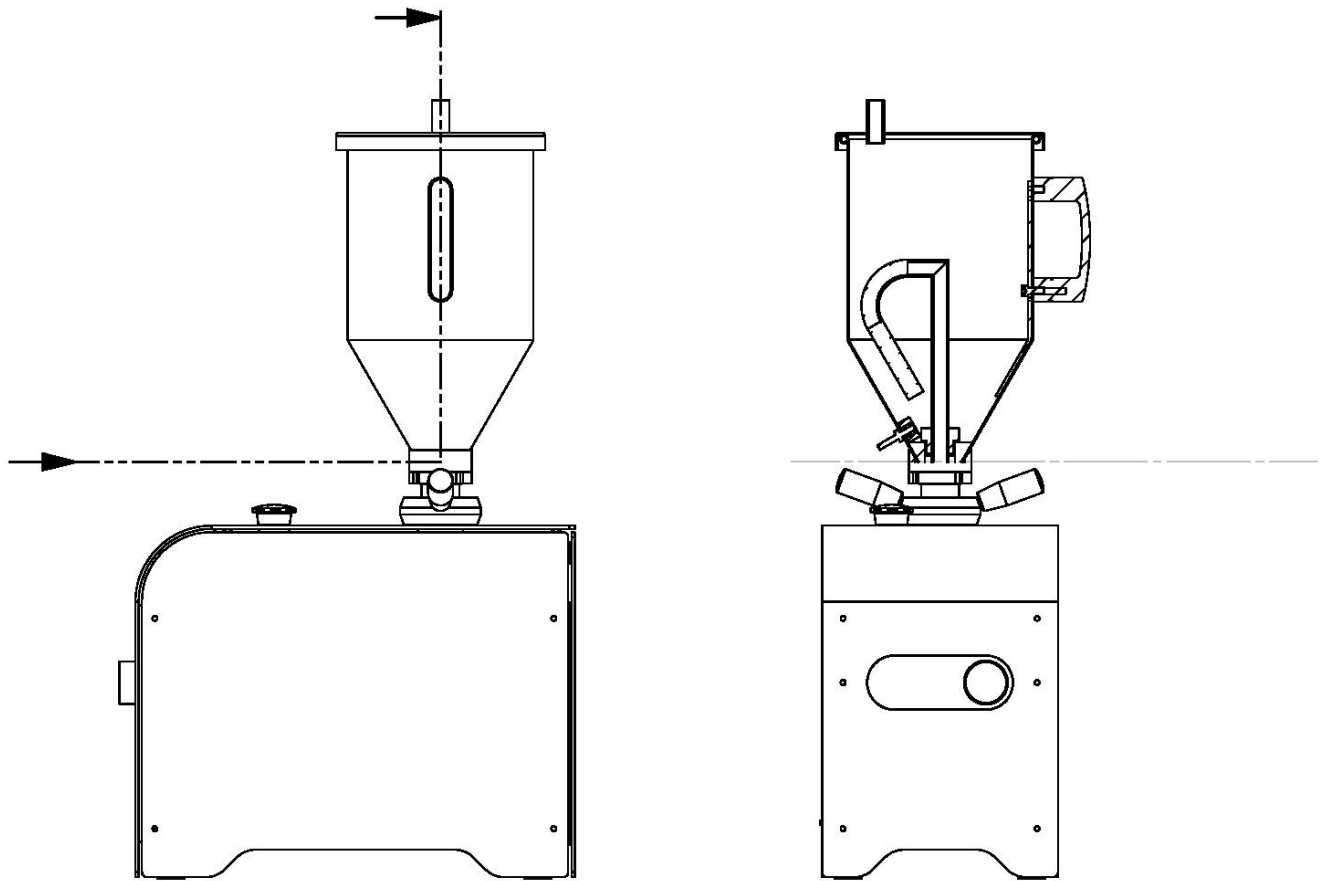


3devo



Version 1.0 June 2019

English user manual

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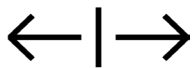
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1. Safety instructions

The AIRID Polymer dryer is a machine, designed to dry polymers using hot air whilst stirring the polymers. The use of high temperatures and-or moving components may cause serious harm if improperly used.

Read and adhere to all safety instructions and user instructions carefully before using the machine. Do not allow persons younger than 18 years old to use the machine. This machine is not intended for users with a low reaction response time, physical or intellectual impairments. The manufacturer is not liable for any damage or other problems caused by the user's failure to observe these instructions.

WARNING



Remain distant from the air outlet and the inside of the hopper with any body part. During the drying process, the hot air may cause non-contact skin burns.



Don't enter the hopper opening with any body part when the drying process is activated. Entanglement with the stirring rotor tube could result in injury.



Never modify or manipulate any of the safety switches or other components of the machine, this can cause dangerous situations.



Always wear a gas mask and if possible an air extraction system when using the dryer. Always inspect datasheets from the materials that are to be processed for potential health risks and correct drying temperatures.



Inspect datasheets of the to be processed materials for flammability. Some plastics can emit flammable dust or gasses that have potential ignition risks. Always make sure to have a fire extinguisher nearby and know how to use it.



Wear heat resistant safety gloves while handling the hopper during and/or up until 1 hour after the drying process. Skin contact with any surface of the hopper other than the handles themselves during or shortly after the drying process could potentially cause skin burns.

WARNING



Do not leave the Dryer in operation unattended.



Never change or remove guards when the machine is powered.

CAUTION



The machine is designed to dry plastics only. Any non-plastic materials can potentially damage the machine itself.



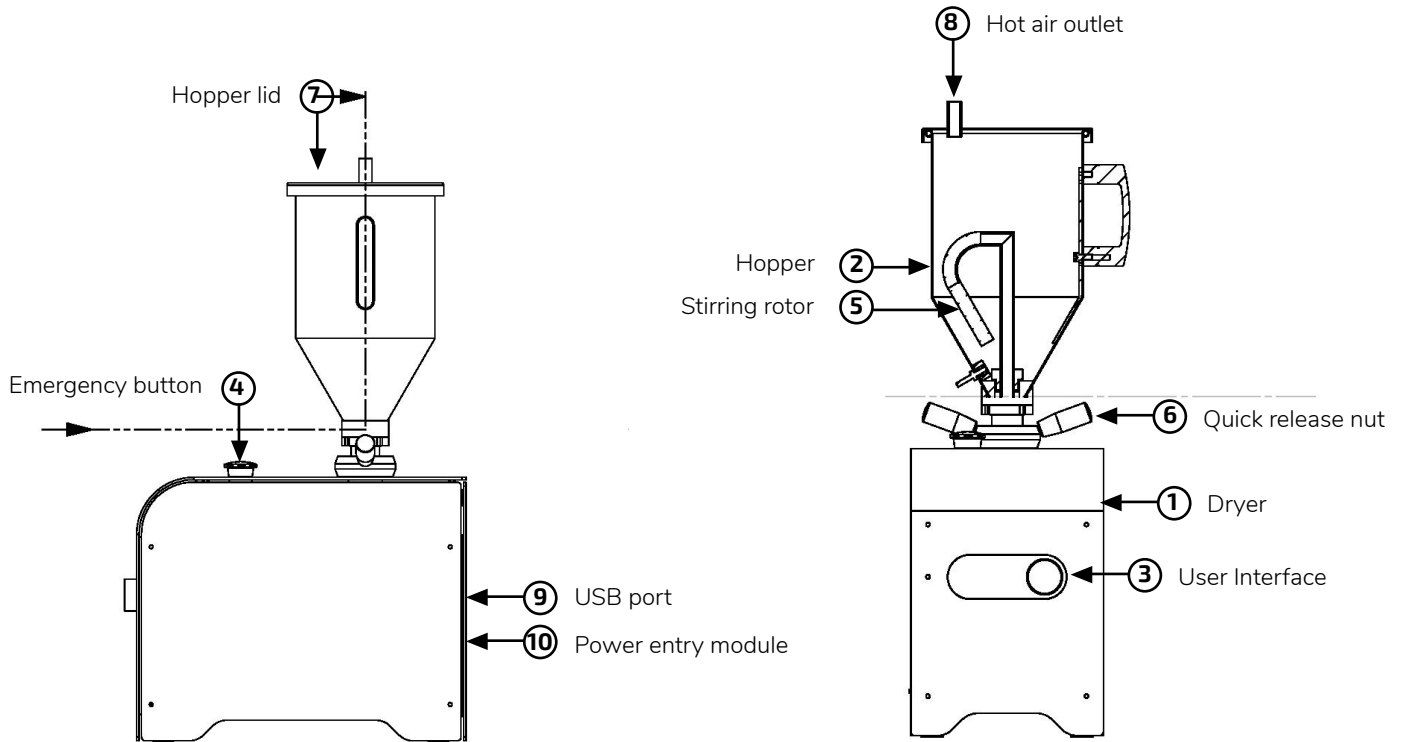
Check if the voltage in your power socket corresponds to that of the purchased product. Consult the sticker on the back of the machine.



When drying powders, make sure to properly clean the inner wall of the stirring rotor thoroughly after pouring powders from the hopper into a storage container. Not cleaning the inside of the stirring rotor tube can cause the powder to find its way to the hot air duct of the machine. This can cause very dangerous situations.

2. Overview

2.1. Machine features



1. Dryer

The dryer makes it possible to dry polymers material such as granules, shredded material and powders*. This is possible with the following components;

3. User interface

The user interface is used to operate the dryer. The menu can be operated with the round wheel next to the display by rotating and pushing. Parameters like temperature, drying time, stirring speed, blower speed can be controlled via the user interface. It also enable the user to choose existing presets and create new ones.

2. Hopper

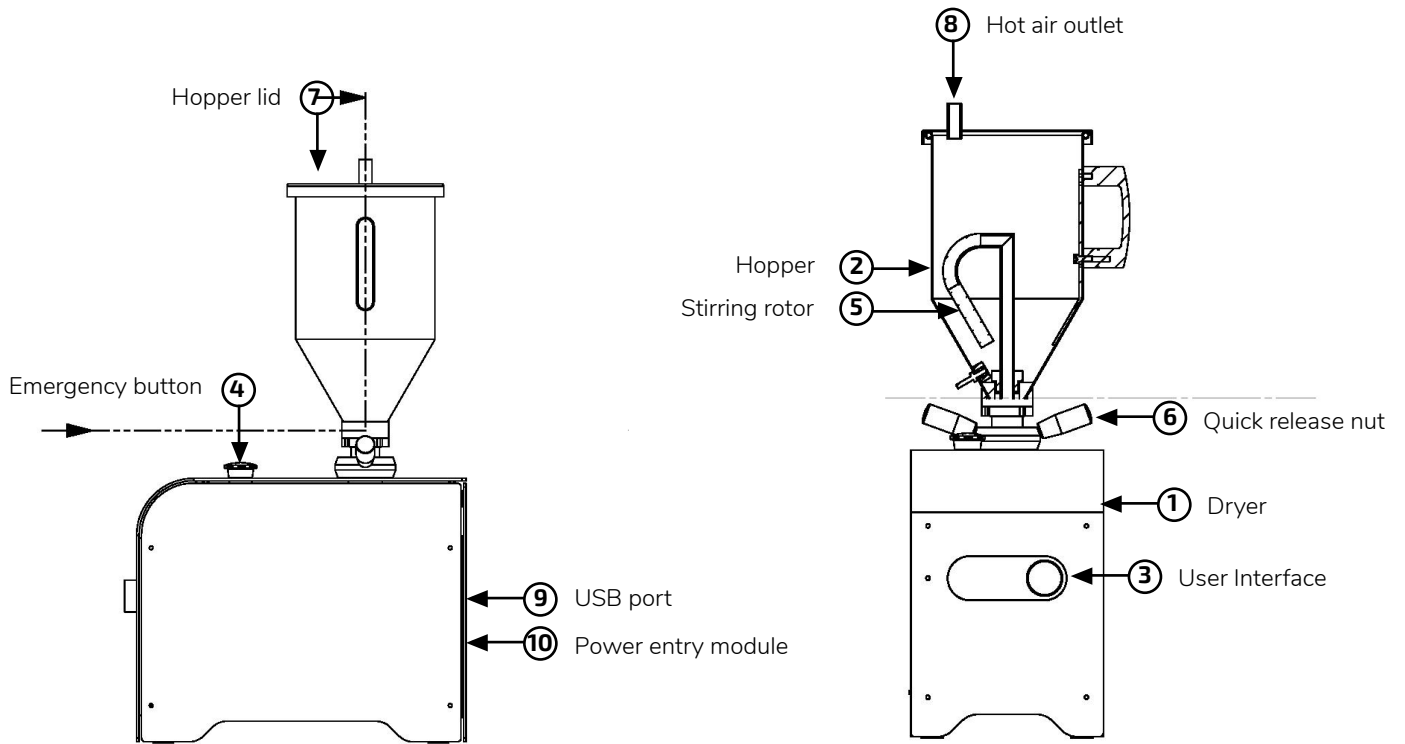
The hopper prevents the user from getting in contact with the (hot) plastic and prevents plastic from escaping the machine.

4. Emergency button

The emergency button cuts off all power from the machine. Resetting this knob can be done by rotating the knob counter clockwise.

5. Stirring rotor

The stirring rotor makes sure the air is equally distributed and keeps the plastics in motion to minimize clumping



6. Quick release nut

The quick release nut enables the user to lock on the hopper and unlock the hopper from the dryer. The machine can only operate when the hopper is placed and the quick release nut locked.

7. Hopper lid

The hopper lid guards the stirring rotor and sustains the temperature inside of the hopper. Removing the hopper enables the user to place material in and out of the hopper.

8. Hot air outlet

The hot air outlet gives an exit for the evaporated water. The tube can also be used to attach to an air suction system.

9. USB port

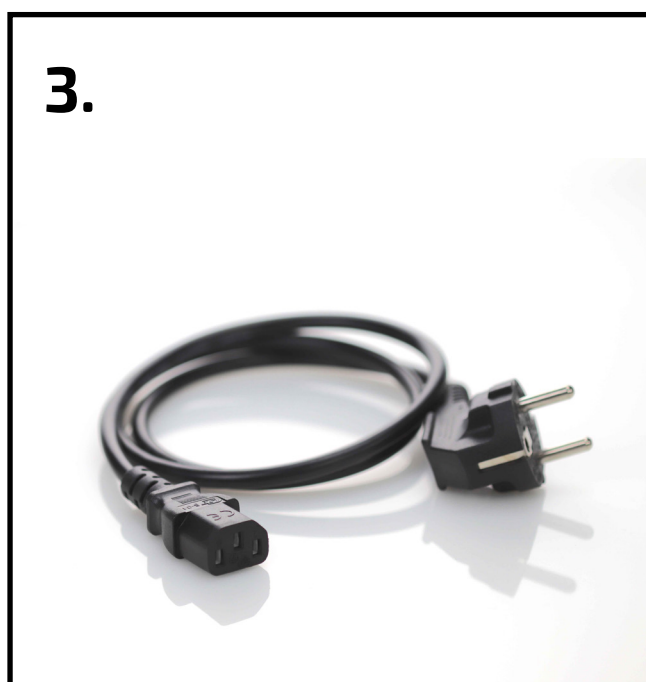
The USB port can be used for any existing or future software updates.

10. Power entry module

Press the switch to ("I" mode) to power on the machine. Press the switch to ("O" mode) to disconnect all power from the machine.

2.2. Included accessories

1. Quick start guide
2. Hopper
3. Power cable
4. USB cable



2.3. Technical specifications

Type	AIRID Polymer Dryer
Color	Black powder coated casing, stainless steel polished hopper
Working principle	Hot air drying
For drying	Plastic granules, regrind and powder
Weight	18kg
Power	(230 V 50 Hz)
Dimension with hopper	220 mm x 425 mm x 720 mm (Width x Depth x Height)
Dimension without hopper	220 mm x 425 mm x 360 mm (Width x Depth x Height)
Operating temperature	Up to 160 degrees C
Drying capacity	1 kg/3hr (for PA6)
Stirring speed adjustability	15 to 30 rpm
Airflow adjustable	Yes
Cleanable hopper	Yes
Hopper volume	5 liter
Recommended material amount	1 to 3 kg
Ability to create presets	Yes

3. Instructions



The manufacturer is not liable for any problems caused by the user's failure to observe these instructions. Wrong use of the machine or manipulating safety switches may lead to severe injuries or failure of the machine.

3.1. Quick user guide

For the fast starters out there we have made a short and simple out of the box quick start guide. This is shipped in your box, or you can download it from www.3devo.com/manuals

3.2. Installation instructions

- Place the machine on a flat stable surface close to a power socket.
- Plug in the power cable and turn on the power switch at the back of the machine.
- Place hopper on the dryer so that rotational coupling on the bottom of the hopper is engaged.
- Tighten the quick release nut firmly
- Go to the menu on the user interface and press once.
- In the main menu go to "Material presets", choose your material and hit "apply"
- Pour your plastic granules, powder or regrind in the hopper close it with the lid
- Select Start Drying and select the amount and type of material you want to dry.
- Wait until the program is finished.
- Turn off the power switch at the back of the machine.
- Loosen the quick release nut by hand (be careful for the hot surfaces)
- Carefully lift the hopper and pour the material into the extruder or into a (vacuum) storage container.

3.3. Preparation instructions

Before drying a polymer in the polymer dryer, it is very important to find the correct drying temperature. Use the specified drying temperature stated on the original datasheet from the supplier. When there is no datasheet available, check if there is a preset on the machine already. If that is also not the case try to find a suitable temperature from literature or contact materials@3devo.com.

3.4. Adjusting and maintenance

For all adjustments and maintenance to the machine, make sure to turn the machine off and remove the power cable.

3.4.1. Installing and removing the hopper

Removing the hopper is useful in the following situations:

- Taking out the dried material.
- Cleaning the hopper

The hopper can be installed and removed really easily.

Step 1. To install the hopper, slide the hopper inside the mounting hole on top of the dryer. Make sure that the rotational coupling on the bottom of the hopper is engaged with the coupling inside the mounting hole.

Step 2. Tighten the quick release nut using the handle.

To remove the hopper:

Step 1. Loosen the quick release nut all the way by hand. Slide the hopper out of the mounting hole and gently lift up the hopper. Be careful for the hot hopper and other components.

3.4.2. Cleaning the machine



Make sure the machine is turned off and the power plug is removed before proceeding with the next steps!

In order to clean out the hopper it is highly recommended to let it cool down first and then remove this part. The machine can only be turned on when the hopper is placed in the correct way.

Step 1. Remove power plug from machine.

Step 2. Take off the hopper as explained in chapter 3.4.1

Step 3. Remove the lid and try to remove as much material as possible by hand.

Step 4. Use a vacuum cleaner to remove the remaining particles. When working with powders or regrind it is advisable to use an air blow gun for optimal results. Use a dust mask to prevent breathing in dust particles. It is also very important that the insides of the stirring rotor is completely clean after drying powders. Not cleaning the inside of the stirring rotor tube can cause the powder to find its way to the hot air duct of the machine. This can jam the air duct and cause dangerous situation.

4. Troubleshooting

Trouble	Probable cause	Measures
Material melts inside hopper	Drying temperature too high	1. Use lower drying temperatures. To clean the hopper; take off circlip on bottom of the hopper. Try to slide out the whole stirring rotor from the top.
Molten plastic inside hot air duct of the machine	Plastic reached the hot air duct of the machine via the stirring rotor tube	After rotating the hopper or pouring material out of the hopper can cause powders to find its way to the air inlet of the hopper. Properly clean the inner wall of the stirring rotor tube before putting the hopper back on the machine.
Hopper itself is rotating	1. Quick release nut is not tightened well enough. 2. Load is too high or stirring rotor is stuck	1. Tighten quick release nut more firmly. 2. If quick release nut is completely tightened. Check for any obstructions inside of the hopper and remove it.
Stirring rotor is stuck	1. Material is molten and hardened around stirring tube. Drying temperature might be set too high.	Take off circlip on bottom of the hopper. Go to setting and disable stirring rotor. Set temperature to melt the polymer on purpose. Try to slide out whole stirring rotor from the top using heat resistant gloves.

Trouble	Probable cause	Measures
Machine turns off or won't start.	1: Machine is not connected to power. 2: Hopper is not placed correctly.	1: Connect the machine to the wall socket and switch it on. 2. Check if coupling of the hopper is properly engaged. Then try to tighten the quick release nut using the handle all the way.
Material is not dry enough	1. Material is exposed too long in atmospheric air after drying (longer than two hours). 2. Parameters are not set correctly	1. If working not directly with the dried material. Store the dried material in a vacuum tight container. 2. Use longer drying times or higher drying temperatures. In case of any doubt, please contact materials@3devo.com

5. Transportation

Keep the original packaging. When the machine is shipped back to 3devo for service or maintenance the machine should be packed in the same way as how it arrived.

For additional questions, please contact us via service@3devo.com

6. Company info

3devo

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