noztek Pelletizer Efficient and Reliable Machine User Manual

noztek

Pelletizer

Efficient and Reliable Machine
User Manual

Contents

Introduction

The Noztek Pelletizer is an innovative compounder offering dual functionality, ideal for both laboratory and full production environments.
Designed for efficiency and reliability, this machine comes with two cutting blades catering to distinct purposes. One blade is tailored for microcompounding, particularly suited for research and development in the pharmaceutical industry, while the other is geared towards intensive production. With a consistent cutting speed, it effortlessly handles challenging composite filaments in both small-scale and large-scale production batches. The cutting rotors ensure stability and precision, yielding uniformly shaped pellets of superior quality.

Warranty

We guarantee outstanding quality for our products and services.
Customers who purchase Noztek-manufactured equipment for professional use are guaranteed that they will be free from defects in workmanship and materials for 1 year from date of shipment. If your machine is found to be faulty, we will repair or replace the machine. The warranty and functional guarantee does not cover damages caused by wear and tear or improper use.
TO INSURE THAT YOUR WARRANTY IS HELD IN EFFECT, PROPER OPERATION PROCEDURES MUST BE OBSERVED.
NOTE: READ THE SAFETY PRECAUTIONS BEFORE OPERATING THIS MACHINE.
For a full breakdown please read our Limitations of Warranty Cover below.
Limitations of Warranty Cover:

- You must own the machine
- The original invoice is decisive as this is your warranty claim (please keep a copy of this)
- Repair or replacement of machine will be determined by Noztek
- Warranty only covers manufacturing or material defects

Warranty does not cover:

- Incorrect use of machine /damage due to misuse
- Damage from force or fall
- Foreign objects inside of machine
- Water damage or dirt
- User failing to follow proper usage instructions
- Normal wear and tear in machine’s lifespan
- Unauthorized repairs by consumer

While we stand by the quality of our products, it’s important to note that our liability is limited. This warranty represents your sole remedy, and there are no other expressed or implied warranties.
In the rare instance of a covered defect, we offer remedies such as repair or replacement after assessing the reported fault.
Noztek have the right to reject any warranty claim if we feel the request falls outside of our limitations

Filing a Claim:

Need assistance? Our customer support team is ready to help. Refer to the contact information provided in this manual to start the claims process.

Safety

Caution: Injury Risk
This equipment contains moving parts. To prevent injury, keep hands, fingers, and other body parts clear during operation. Avoid wearing loose clothing or jewellery that may become entangled in moving components. Tie back long hair and secure loose items before using the equipment. Always follow safety instructions provided in the user manual.

Caution: High Voltage Zone
This equipment contains high-voltage components. To avoid the risk of electrical shock:
Do not use liquids near the machine: Keep all liquids, including water, away from the equipment. Liquids can conduct electricity and increase the risk of electrical shock.
Do not modify internal wiring: Modifying internal wiring or electronic components poses a serious hazard. Only authorized personnel should perform any maintenance or modifications.
SAFETY GUIDELINES

- Before operating, ensure you have a thorough understanding of the equipment.
  Carefully review the provided instruction manual for complete guidance.
- Understand the proper, safe usage and limitations of the equipment.
- Never use this equipment for any purpose other than its intended use.
- Do not modify the equipment in any way.
- Do not make adjustments or perform maintenance while the system is in operation or energized.
- Non-Flammable Cleaning: Refrain from cleaning the equipment with flammable solvents.
- Material Removal Safety:
  Never put your hands into the feed section to remove material.

Product Specification Sheet

1. Product Information:
   • Product Name/Model: Noztek Pelletizer
   • Brand/Manufacturer: Noztek
   • Serial Number: See invoice
   • Date of Manufacture: 2023
2. General Description:
   The Noztek Pelletizer is an innovative compounder offering dual functionality, ideal for both laboratory and full production environments.
   Designed for efficiency and reliability, this machine comes with two cutting blades catering to distinct purposes. One blade is tailored for microcompounding, particularly suited for research and development in the pharmaceutical industry, while the other
   is geared towards intensive production.
3. Technical Specifications:
   • Voltage Requirements: 220VC or 110VC.
   • Power Rating: 10A.
   • Frequency (Hz): 50 Hz or 60 Hz.
   • Operating Temperature Range: -40°C to 85°C (-40°F to 185°F)
   • Dimensions (including weight and size): W:44cm x H:30cm x D:25.5cm. 35 KG.
   • Material Composition: Stainless steel
   • Color/Finish: Brushed stainless steel
4. Key Features:
   Interchangeable cutting discs
   The Pelletizer presents two interchangeable cutting discs tailored to distinct operational requirements.
   The first cutting disc, equipped with six edges, is meticulously crafted for precision in laboratory environments. It synergizes seamlessly with our Noztek FusionX lab extruder, ensuring meticulous pelletization for research and

development endeavors.

Conversely, the second cutting disc, boasting 24 blades, is engineered to facilitate precision at higher speeds, catering to the demands of larger-scale production processes. This specialized disc is optimized for seamless integration with our comprehensive Noztek full system, delivering enhanced efficiency and productivity.

Super Hardened Steel Cutting blades

Both the cutting blade and the static cutting blade are constructed from a highgrade stainless steel, specifically selected for its durability and resilience in blade manufacturing. Through a rigorous hardening process, they are further fortified to withstand prolonged usage under demanding conditions.

This meticulous treatment guarantees an extended lifespan for the blades, enhancing their performance and contributing to the consistent production of high-quality pellets.

Touch Screen Display

The machine features a sophisticated 7-inch Thin-Film Transistor (TFT) touchscreen, providing an intuitive and responsive interface for operating and configuring the equipment.

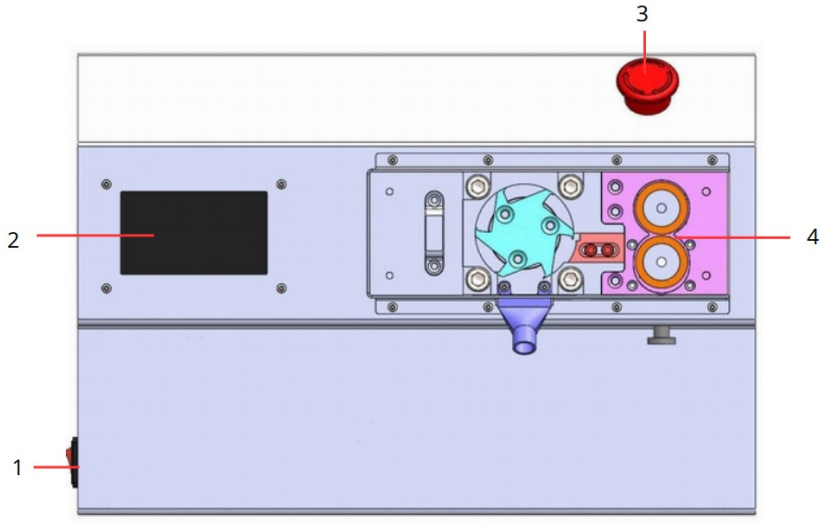
5. Safety Information:
   • Warnings: See safety sheet
   • Recommended Safety Gear: See safety sheet
   • Emergency Shutdown Procedures:
   In the event of an emergency, firmly press the red emergency switch located at the front of the machine. This action will swiftly deactivate the power supply, bringing all ongoing processes to an immediate halt.
6. Operating Instructions:
   • Step-by-step instructions for safe and proper use of the product: See safety sheet and guide
   • Start-up and Shutdown Procedures: See guide
   • Control Panel Layout: See guide
   • Maintenance and Cleaning Guidelines: See maintenance sheet.
7. Technical Diagrams:
   • Available upon request.
8. Performance Data:
   – Motor
   Motor: 57 RPM with 35 Nm of torque.
   – Pellet Output Capacity:
   – Maximum feed-in rate: 4 meters per minute (Speed may vary depending on desired pellet size output).
   – Minimum feed-in rate: 1 meter per 6.5 minutes.
   – Quantity Output:
   – Maximum quantity output: 1440 pellets per minute (Maximum quantity output may vary depending on desired pellet size output and feed-in rate).
9. Accessories and Included Items:
   • Mains cable
   • 6 edge cutting blade
   • 24 edge cutting blade
10. Warranty Information:
    • See warranty sheet.
11. Compliance and Certifications:
    • CE
12. Technical Support and Contact Information:

• info@noztek.com
• https://noztek.com/contact/
• 44 (0) 203 384 6208
• Noztek Head office
Unit C3 Dolphin Enterprise Centre
Eversheed Way
Shoreham West Sussex
BN43 6QB ENGLAND

Set-up Instructions

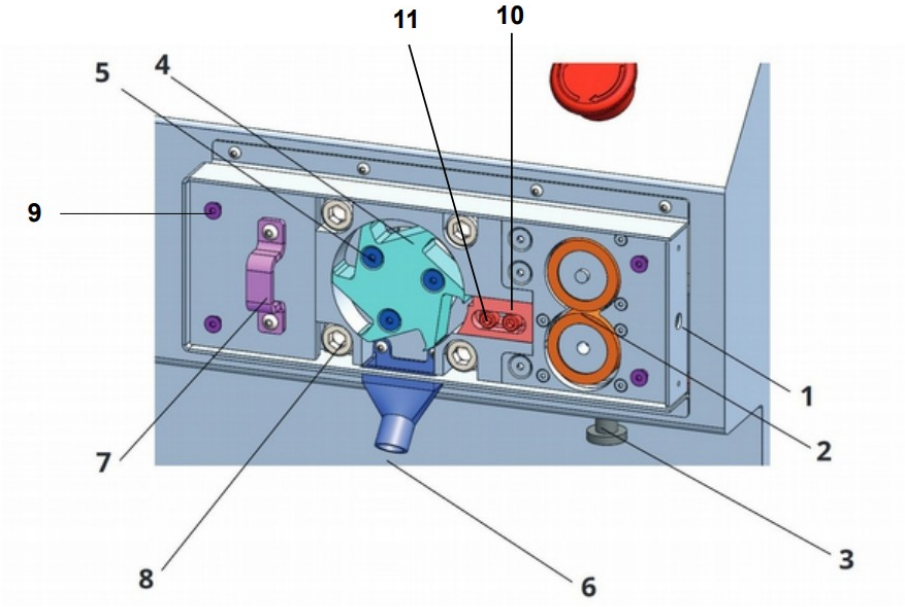
1. Unpacking and Placement:
   Caution: Do not plug the machine into the mains or turn it on during set-up.
   Carefully unpack the machine and accessories. Place the machine on an even, stable surface.
2. Power Connection:
   Once the initial steps are completed, you can plug in the mains cable into the machine. Before doing so, double-check that the mains voltage (e.g., 220VAC or 110VAC) matches the voltage specified on the machine (refer to the sticker on the machine).
   Note: Always follow these set-up instructions meticulously to ensure the safe and effective operation of the machine. If you encounter any issues or have questions, refer to the comprehensive user manual for further guidance.

Important Note:
Layout overview
Ensure that you acquaint yourself with the proper handling guidelines for the material you are using.
Strict adherence to guidelines is paramount: Only introduce materials intended for pelletizing into the machine.
Neglecting to do so may compromise the functionality and potentially damage the equipment.
Pelletizer main layout overview:



1. Power Supply AC inlet universal 100-240 AC 50/60 HZ.
2. Touch screen interface.
3. Emergency stop button.
4. Pelletizer assembly (detail below).

Pelletizer operational layout overview:



1. Filament feed inlet.
2. Roller wheels.
3. Roller wheel adjustment lever.
4. Cutting blade (interchangeable for 24 edge blade).
5. Cutting blade bolts (x3).
6. Pellet Funnel.
7. Screen handle.
8. Main block motor bolts (x4).
9. Screen removal bolts (x4).
10. Static cutting blade.
11. Static cutting blade bolts. (X2).

Machine operation instructions

Machine Activation:
Plug in the mains cable and switch on the illuminated MAINS POWER SWITCH located at the left side of the machine.
See: Pelletizer main layout overview (1).
Activating the machine will illuminate the touchscreen, readying it for operation.
In the next section, the touch screen operation modes are explained.

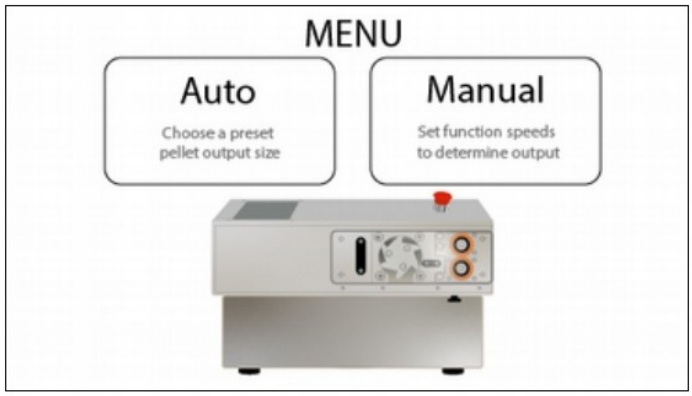
Interface

Interface modes
There are two main operation modes, auto mode and manual mode.
Manual mode provides greater flexibility over the desired result. This mode works with both pre-extruded filament and directly from a live extruder.
It's important to keep in mind that when using direct extrusion, the roller speed must match the extrusion speed of the extruder.
Auto mode is designed for use with pre-extruded filament, for example, directly from a spool. It features pre-set values for ease of use. It is not recommended to use this mode when feeding filament directly from a live extruder because the speeds are set and may not match your extrusion speed.
In the following section, both modes are elaborated upon in greater detail.

Auto mode operation

Mode selection

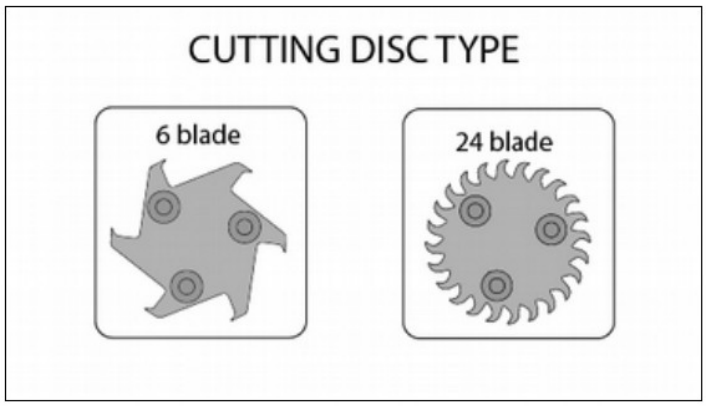
On the first initial screen press the “Auto” button to go into “Auto” mode.
The pre-sets in this mode only work for a filament diameter of 1.75mm. For diameters higher than 1.75 mm we would recommend using the manual mode for greater control over the output. Auto mode is designed for use with preextruded filament for example
directly from a spool.
It is not recommended to use Auto mode when you feed in filament directly from a live extruder as the preset speeds are unlikely to match your extruding speed.



Blade type

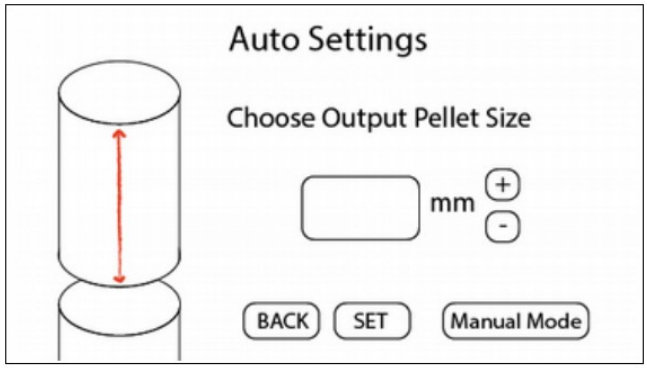
Select the blade that is installed on the pelletizer (6 or 24 edges).
Keep the following information in mind regarding pellet length:

- 6 Edge blade: Length-per-pellet range is from 0.3 mm minimum to a maximum of 10 mm
- 24 Edge blade: Length per pellet range is from 0.3 mm minimum to a maximum 5mm



Pellet size setting

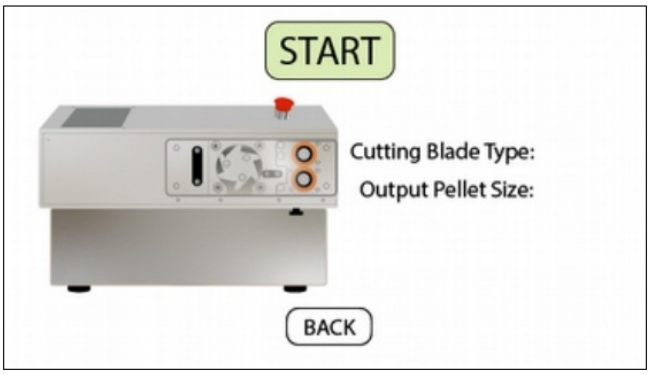
Select your preferred pellet size on this screen. The machine will calculate the necessary speeds to achieve your desired result. Utilize the (+) and (-) buttons to input your desired value. Press the SET button to save your setting and proceed to the next page.



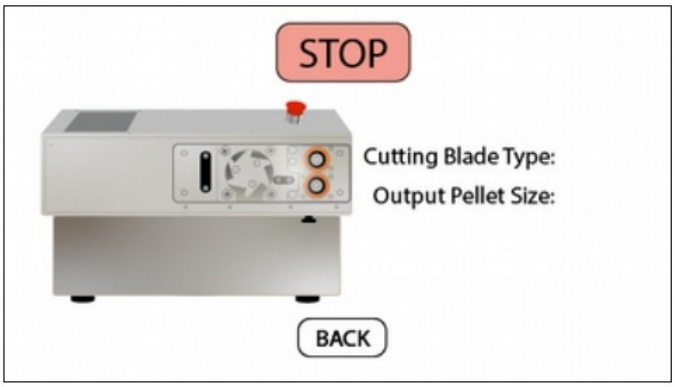
Auto ready

Please review your settings before proceeding. Once satisfied, press “Start” to activate the machine. However,

before doing so, please read page 16 for instructions on how to load filament into the machine. If you are not satisfied with the settings, press the “Back” button to adjust them.



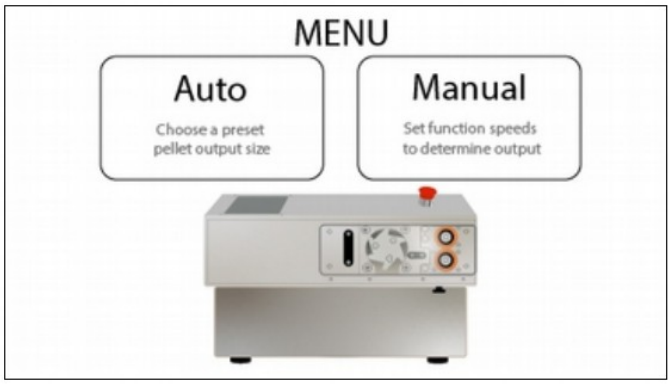
Auto stop
To halt the process, press the red “Stop” button. Never turn off the machine to stop the pelletizing process; always press “Stop” first to prevent potential motor damage.



Shutdown Procedure:
When finished, switch off the machine using the MAINS POWER SWITCH. These instructions ensure safe and efficient operation of the pelletizer.

Manual mode operation

Mode selection
On the first initial screen press the “Manual” button to go into “Manual” mode.



Manual speed settings
In this mode you have full manual control the cutter speed and the roller speed.

- Cutter speed values are from 0 Min to 60 Max.

  The cutter speed controls how fast the blade rotates.
- Roller speed values are from 0 Min to 255 Max.

  The roller speed controls how fast the filament feeds into the cutting blade.

  The higher the value the faster it feeds.

  Experimentation with the settings is necessary to achieve your desired output size and speed. It is

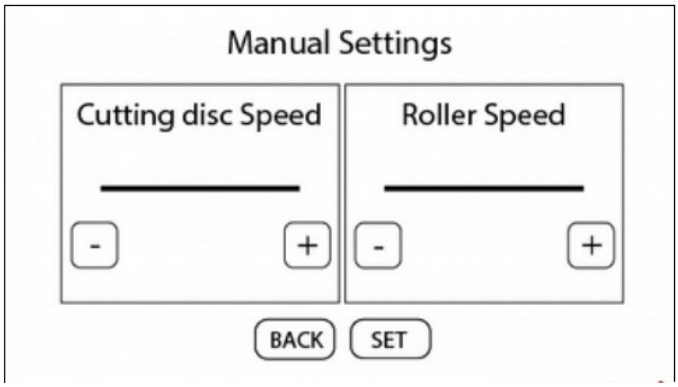
recommended to start at a lower speed and gradually increase it until you attain the desired result.

Diameter input range is from 0.5 mm min to 3 mm max.

- 6 Edge blade: Length-per-pellet range is from 0.3 mm minimum to a maximum of 10 mm.
- 24 Edge blade: Length per pellet range is from 0.3 mm minimum to a maximum 4 mm.

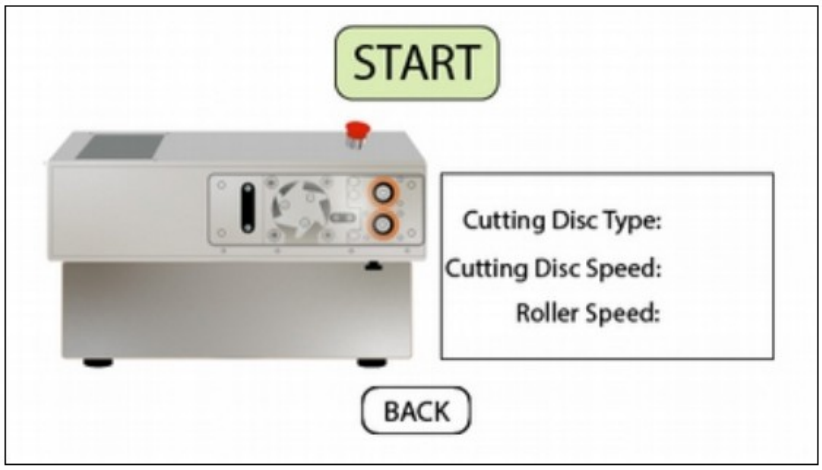
  (For input diameter larger than 1.75mm it is recommended not to exceed 4 mm length.)

Press the “+” and “–” buttons to adjust your target value accordinglyPress “Set” to save the value and proceed to the next page. Press “Back” to return to the home screen



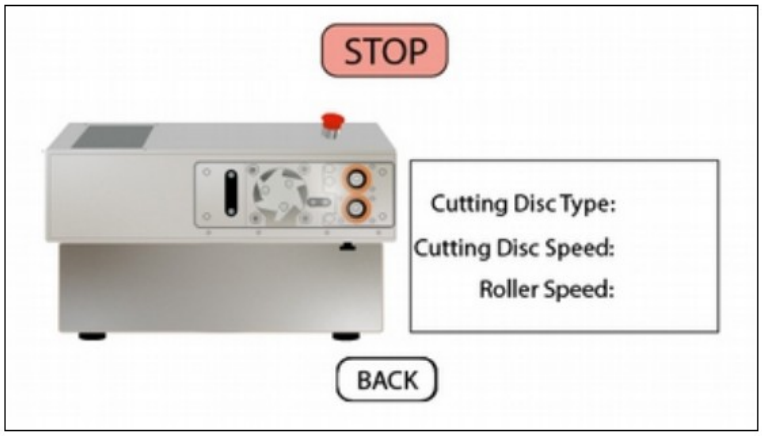
Manual ready

Please review your settings before proceeding. Once satisfied, press “Start” to activate the machine. However, before doing so, please read page 16 for instructions on how to load filament into the machine. If you are not satisfied with the settings, press the “Back” button to adjust them.



Manual stop

To halt the process, press the red “Stop” button. Never turn off the machine to stop the pelletizing process; always press “Stop” first to prevent potential motor damage.

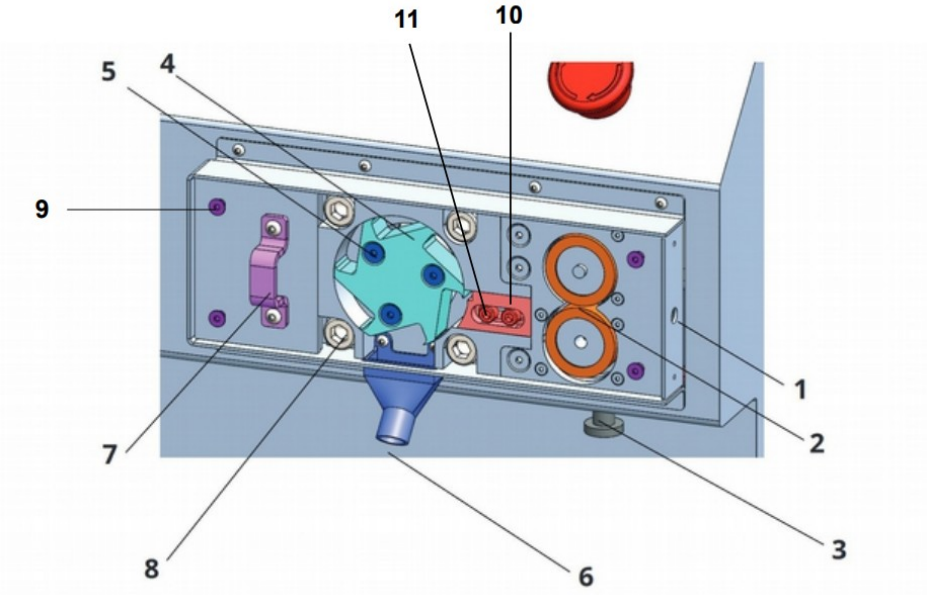


Shutdown Procedure:

When finished, switch off the machine using the MAINS POWER SWITCH.

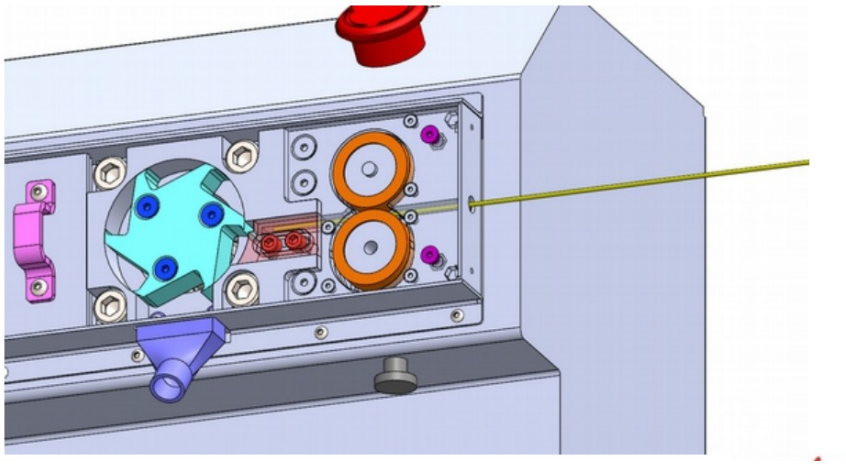
These instructions ensure safe and efficient operation of the pelletizer.

Loading Filament

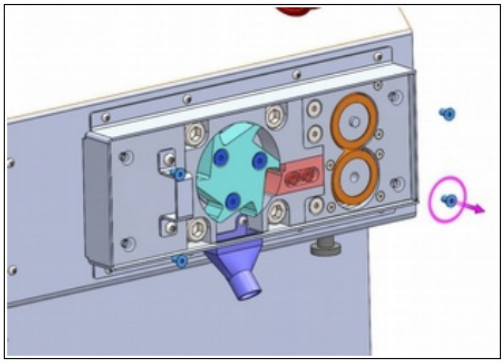


Loading Filament steps

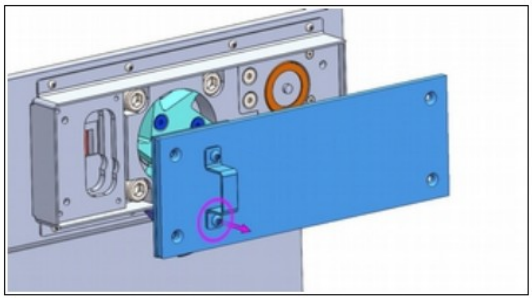
1. Pull and hold the roller wheel adjustment lever downwards (3).
2. Feed filament through the filament inlet opening (1).
3. Push the filament 60mm towards the static cutting blade area (10).
4. Release the roller wheel adjustment lever (3).
5. Please refer to the image below for a visual representation of the correct setup.



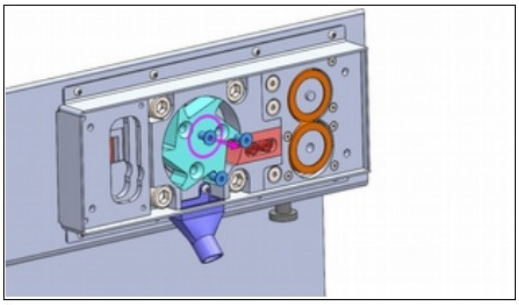
Maintenance: blade replacement
Important Note:
Always ensure the machine is turned off and unplugged before commencing any maintenance operations. Failure to do so could result in serious damage to the machine or risk of injury.
Step 1: Undo and remove the 4x bolts from the safety screen and the safety switch panel.



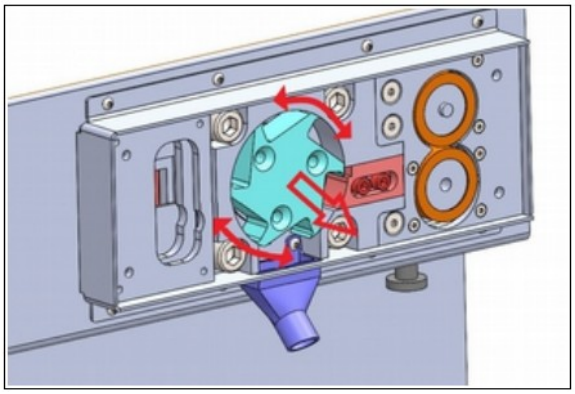
Step 2: Remove the safety screen and the safety switch panel.



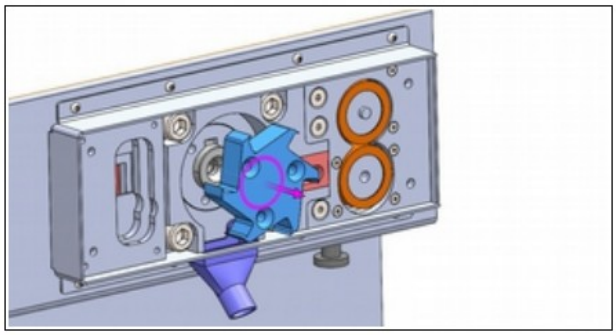
Step 3: Undo and remove the 3 bolts screwed into the cutting disc.



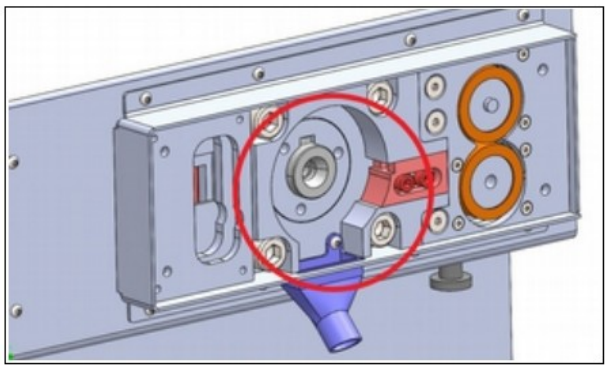
Step 4: Wiggle the cutting disc clockwise and counterclockwise while pulling ittowards you to loosen it. The blade should gradually lift away.



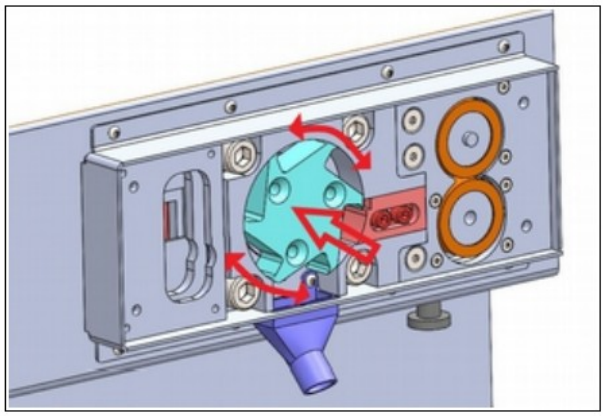
Step 5: Remove the cutting disc completely.



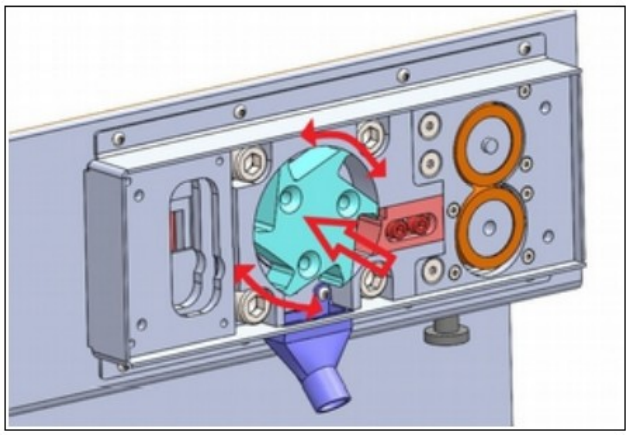
Step 6: While the cutting disc is off, clean the area from any dust and debris using a soft brush.



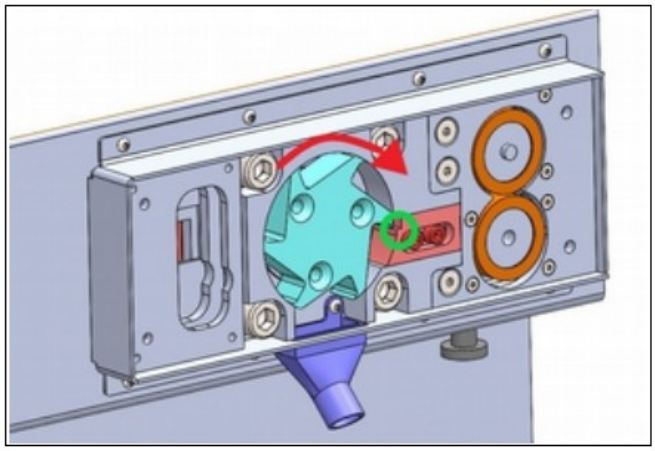
Step 7: Insert a new cutting disc and use the same wiggling motion to get the new blade in place.



Step 8:
Important Note:
After positioning the blade, rotate it slowly clockwise. It should move smoothly without catching on the static blade. If it does catch, refer to the static blade adjustment section before proceeding. Never secure the cutting disc if it catches on the static blade, as this will damage both components.



Step 9: Align the three holes of the cutting disc with the coupling part behind it. Secure the cutting disc by screwing the 3 bolts removed in Step 3 back into place.
Reattach the safety screen and safety switch panel removed in Step 2.
Secure the safety screen by screwing the 4 bolts removed in Step 1 back into place.



Maintenance: static blade adjustment or replacement
Important Note:
Always ensure the machine is turned off and unplugged before commencing any maintenance operations. Failure to do so could result in serious damage to the machine or risk of injury.
The static blade comes pre-calibrated and should not be adjusted unless:

- You are replacing the main cutting blade and while installing it, you feel it catching on the static blade (As shown in Step 7 and Step 8 of the blade replacement maintenance page.)
- The static blade has become dull and requires replacement.

Adjustment:

Step 1:

To adjust the static blade (2), loosen the 2 static blade bolts (1), but do not unscrew them completely. (If you are replacing the static blade, remove the 2 bolts and washers completely, take out the static blade by hand, insert a new one, then reposition the bolts and washers, ensuring they are not fully tightened to allow movement of the static blade.)

Step 2:

Ensure that the cutting blade bolts (4) are removed from the cutting blade (3), and you can freely spin the blade by hand, as shown in Step 7 of the blade replacement maintenance page.

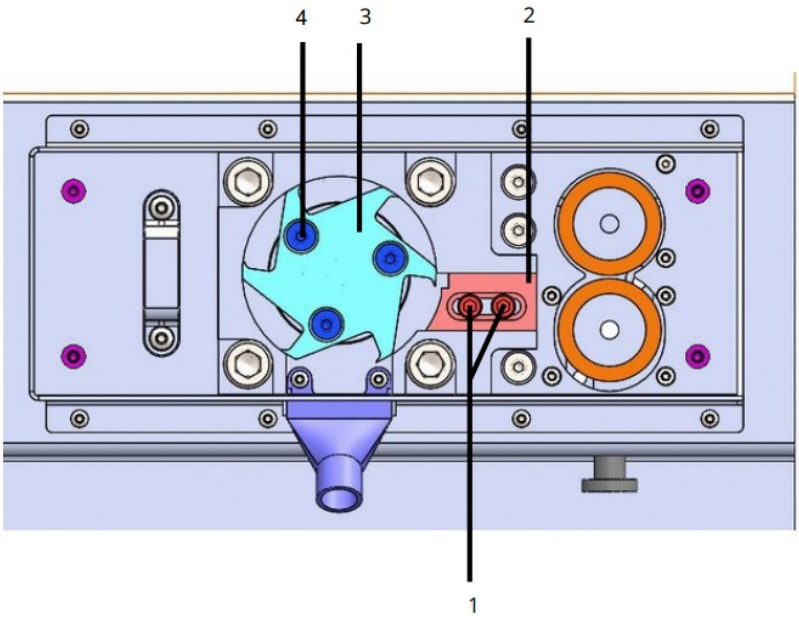
Step 3:

Gently push the static blade (3) slightly to the left so it reaches the cutting blade area. Now, using your hands, spin the cutting blade counterclockwise 360 degrees a few times. This action will push the static blade back to the right into the correct position. Tighten the bolts of the static blade. Once tightened, use your hands again to spin the cutting blade clockwise for a few rotations. If you feel it catching on the static blade, restart the process and repeat the previous steps until there is no catching. When it spins without catching, the adjustment or replacement is successful.

Step 4:

You can now bolt the cutting blade (3) back in place using the corresponding bolts (4) and reinstall the protection screen.

Overview:



1. Static blade bolts and washers (x2).
2. Static blade.
3. Cutting blade.
4. Cutting blade bolts (x3).

Maintenance: cleaning

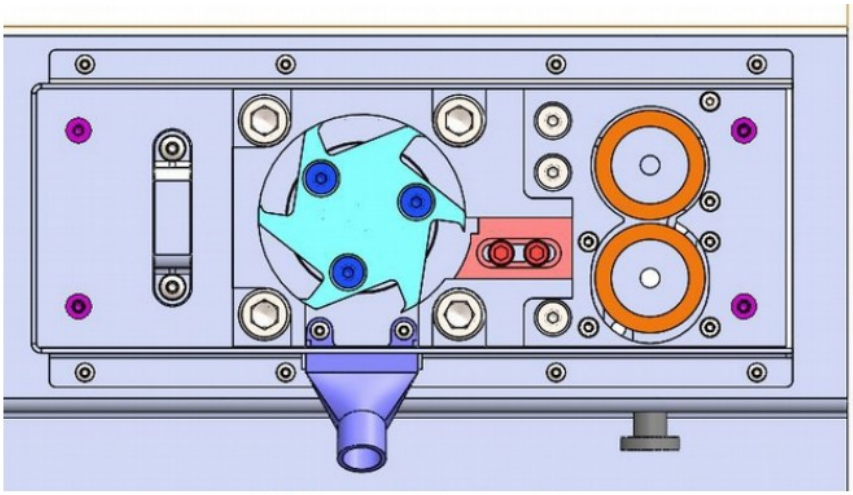
Important Note:

Always ensure the machine is turned off and unplugged before commencing any maintenance operations. Failure to do so could result in serious damage to the machine or risk of injury.

Avoid using any liquid cleaning agents to clean the inside of the assembly.

How to clean:

To clean the inside of the (1) Pelletizer blade assembly, you must remove the protection screen. Please follow step 1 and step 2 of the blade replacement maintenance page. We recommend using a soft brush to clear and loosen any debris and dust from the area. Afterward, you can use either a vacuum cleaner or compressed air to remove all remaining particles.



(1) Pelletizer blade assembly

CONTACT NOZTEK

For more in-depth troubleshooting assistance, we encourage you to explore our FAQ help section on our website at www.noztek.com. In the event that your specific query is not addressed within this resource, please do not hesitate to reach out to our dedicated Noztek expert team for direct support and guidance.

noztek

Pelletizer

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Documents / Resources

noztek Pelletizer USER MANUAL 	noztek Pelletizer Efficient and Reliable Machine [pdf] User Manual Pelletizer Efficient and Reliable Machine, Efficient and Reliable Machine, Reliable Machine, Machine

References

- User Manual