vintage visual

AGO Film Processor Complete User Manual

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1. Safety instructions

Chemical Use

Before using AGO, always familiarize yourself with the corresponding chemical datasheet and development data. Always follow the process time and temperature according to the datasheet and make changes to the program if needed.

Only operate your AGO film processor using conventional photochemicals and follow the chemical manufacturer's safety instructions when working with photochemicals.

Avoid Water Immersion

The processor cannot be rinsed or immersed in water. Use a wet cloth for cleaning. Do not put the processor under water.

Prohibited chemicals

AGO is made of ABS plastic and EPDM rubber. It is very important to avoid using concentrated chemicals that may react with these materials.

For instance, strong solvents like acetone have the potential to soften, warp, or dissolve ABS plastic, thereby compromising the product's integrity. Avoid exposure to concentrated acids (e.g., sulfuric acid, hydrochloric acid) or strong bases (e.g., sodium hydroxide), as prolonged contact can cause deterioration or discoloration of the ABS plastic. Additionally, steer clear of contact with strong oxidizing agents such as chlorine bleach solutions, as these can accelerate the degradation of ABS plastic, leading to embrittlement or surface cracking.

Strict Adherence

For safety reasons, it is imperative to ensure that children do not operate the AGO device. The AGO is designed for adult use only, as it involves electronic components and may present potential hazards if mishandled or used improperly. To prevent accidents or injury, please keep the AGO out of reach of children and ensure that it is stored in a secure location inaccessible to them. Additionally, when using the AGO in the presence of children, always supervise its operation closely to avoid any unintended incidents.

Only use the processor as described in this user manual.
Any deviation may result in improper operation.

Note: Always prioritize safety and adhere to the guidelines provided in this section to ensure the proper and safe operation of your AGO Film Processor.

2. Features

Time Compensation

An innovative time compensation feature enables AGO to produce consistent results during black and white and color film development. AGO is equipped with a temperature sensor and processes specific algorithms that adjusts time according to the temperature of the liquid you pour into it. This is done throughout the process. AGO doesn't heat the chemicals for you, chemicals must be heated before to be in the right temperature range. AGO allows you to have some flexibility while developing so you don't need to meticulously follow the temperatures during developing and can deviate a few degrees warmer or colder.

Understanding the unique characteristics of different chemicals is crucial for accurate compensation. AGO includes various compensation graphs tailored to different types of chemicals:

Black and White Chemicals: The compensation aligns with the Time/Temperature chart published by Ilford, which is commonly associated with black and white film development.

Color Chemicals (C-41, E-6, ECN-2, RA-4):
Each type of color chemical has its own compensation graph, ensuring that AGO adapts intelligently to the specific requirements of color film development.

Included premade compensation graphs:
B&W - General
B&W - Cinestill DF96
C-41 - Tetenal
C-41 - Cinestill
C-41 - Arista Unicolor
C-41 - Bellini
E-6 - Cinestill D6
E-6 - Arista
ECN-2 - Cinestill

Compensation graphs in the current software version can be seen at vintagevisual.eu/support.
You can update your AGO at the support page to get the latest version.

Automated Agitation

AGO offers versatility in agitation, featuring both horizontal rotational and vertical stick agitation modes powered by a compact yet powerful electric motor. While we typically recommend the rotational mode for its chemical efficiency and compatibility with time compensation on AGO, we've also included the stick agitation option to accommodate chemicals that may not be compatible with constant agitation. Be noted that we have disabled time compensation on stick agitation, as normally the temperature sensor doesn't touch liquids in a vertical position.

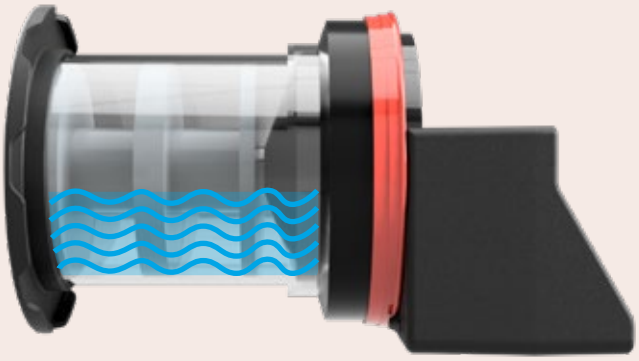
2. Features

Reduced Chemical Consumption

Savings in chemicals have been achieved thanks to rotational agitation where there is no need to totally submerge the film to the chemicals. To achieve the most efficient chemical usage during rotational agitation, we recommend acquiring a Paterson tank that aligns with your needs. There's no need to develop a single roll of film in an 8-reel tank.

ROTATIONAL AGITATION

350ml



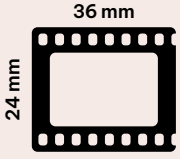
STICK AGITATION

580ml

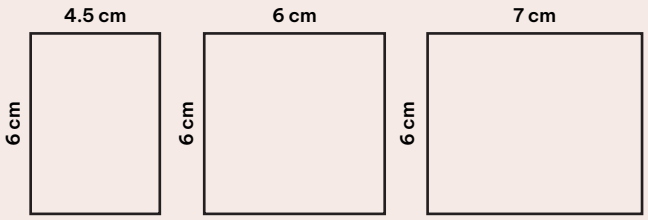
Compatible with all your favorite film formats

AGO enables you to develop a wide range of films compatible with the Paterson tank. This includes the commonly used 135 full frame and 120 medium format films. Additionally, for those working with large format film or paper, AGO offers compatibility with special film reels, what you can find from Vintagevisual.eu web store.

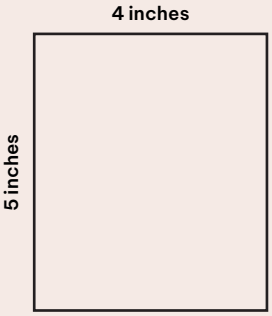
FULL FRAME
35mm



MEDIUM FORMAT
120



LARGE FORMAT
4x5



2. Features

Wi-Fi connectivity

WiFi connectivity allows user easily to update AGO software via computer or smartphone.

User interface makes it possible to create your own programs for different processes.

Pre-made and custom programs

To simplify the user experience further, AGO comes with pre-programmed settings tailored to specific developing kit. It is possible to tailor each individual step of the program for your needs, like change processing times, agitation methods and turn on or off the time compensation.

Custom programs can be entered to your machine via AGO's web interface when connected with WiFi.

Paper development

While enlarging your photos on paper in a darkroom isn't anymore that popular, it is definitely an interesting experience to make your own photos using enlarger. To facilitate paper developing capabilities we have made a special reel that suits the Paterson 5 tank, called REEL - Paper 5. This allows you to develop black and white or RA-4 color paper. AGO has a RA-4 program which also features time compensation.

3. Machine overview

Contents of the Package:

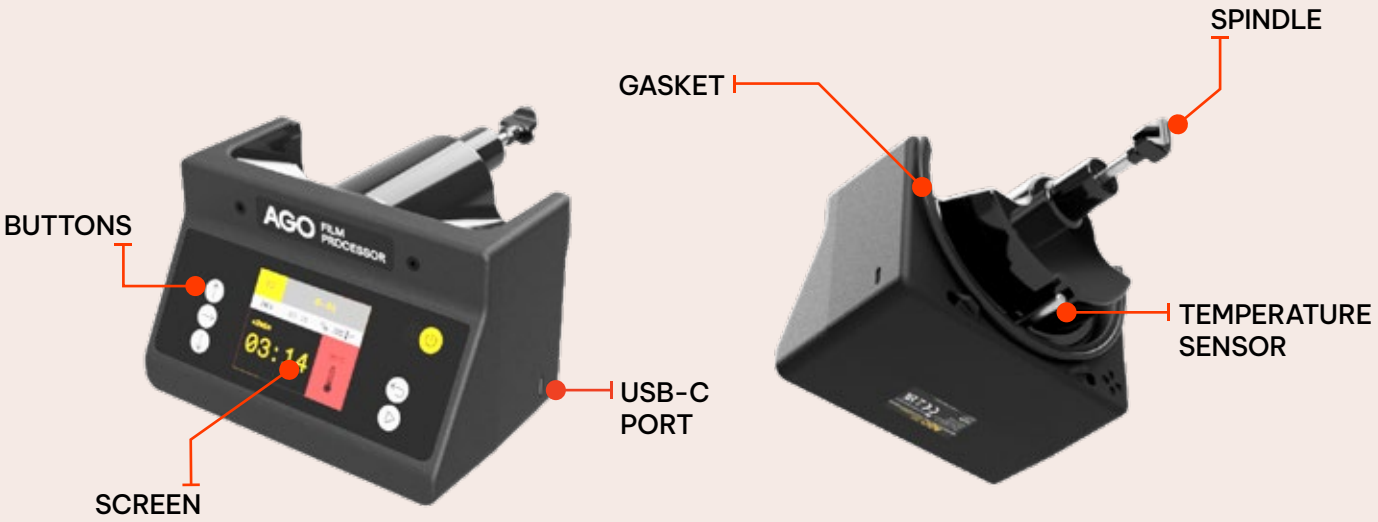
- AGO film processor
- Two-reel Paterson developing tank including two developing reels
- Tank rear stand
- USB-C charging cable
- Instructions booklet
- Funnel drilling label
- Adapter for “old” Paterson Super System IV tank

Physical and Electrical Specifications:

Size: 88 x 136 x 170mm
Weight: 556g
Power: 2 x 18650 Li-ion
Charging: USB type C, 5V 3A
Protection: IP56

Machine components

AGO is controlled using the buttons and a screen in front of the machine. On the right side there is a USB-C port for charging the batteries. On the rear side is a spindle which connects to the tank spindle to transfer the rotation, temperature sensor which measures the chemical temperature and a gasket which makes a firm sealing together with the tank.



3. Machine overview

Assembling

After inserting films in darkness to Paterson tank follow these steps to prepare the device before starting developing process:

1. Attach rear stand to tank
2. Attach AGO to tank- funnel holes facing down and press AGO firmly to tank using your upper bodyweight
3. Place the AGO on a flat surface and you're ready to start developing

3. Machine overview 3

Buttons

All AGO functions can be accessed using six buttons and the screen. Push the buttons for different operations.

Buttons are divided into three groups.

1. Left side buttons UP, RIGHT and DOWN are used to move and change values in the given page you are at.
2. Right side buttons BACK and FORWARD/ START are used to move between different pages. Also the FORWARD/ START button starts the process.
3. The ON / OFF button is used to turn on or off the device. The ON / OFF button must be held for 2 seconds to initiate the action.

External user interface

AGO is equipped with an external user interface where it is possible to easily upload new firmware to AGO or to make new custom programs for AGO. All of this can be done through WiFi on your mobile or desktop device.

See detailed info in part 9 - Programs configurator.

4. Film development information 4

Chemical consumption

Before starting the development process sufficient amounts of chemicals must be prepared. AGO can be used in vertical stick agitation position or horizontal rotational agitation position. Chemical consumption for stick agitation can be found underneath the Paterson tank.

Rotational agitation chemical consumption depends on the size of the tank, volumes are specified in following table:

Tank	Tank size No. of 135 films	Minimum chemical volume
35mm tank	1	250ml
Universal tank	2	350ml
Multi-reel 3 tank	3	450ml
Multi-reel 5 tank	5	650ml
Multi-reel 8 tank	8	950ml

Black and white film processing

When using the rotational agitation method for B&W film processing it is advised to reduce developers process time by 15%. This is strictly only for B&W developers, not for other B&W or color chemicals. Users should take it into account and insert themselves the reduced time to AGO before starting the process.

Chemical compatibility

Compensation graphs in current software version can be seen:
vintagevisual.eu/support

5. Getting started

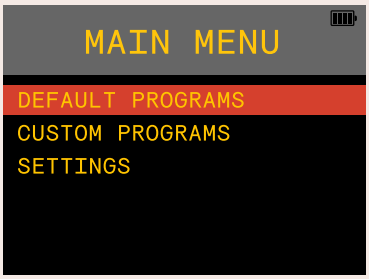
Now that you've successfully assembled your AGO Film Processor and prepared your films for development, let's delve into the user-friendly interface and the steps to initiate the film development process.

1. Turn Ago ON

Hold down on/off button for 2 seconds and the AGO Film Processor logo should emerge. Charge battery if your AGO doesn't turn on. Battery logo should emerge on screen once the charger is attached.

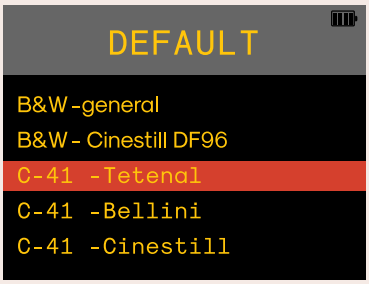
2. Battery check

Before proceeding look that you have at least one bar of battery. Otherwise attach a charging cable to proceed.



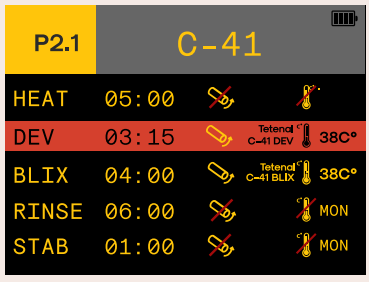
3. Choose the program

From the main menu choose the Default programs. From the programs menu choose a suitable program.



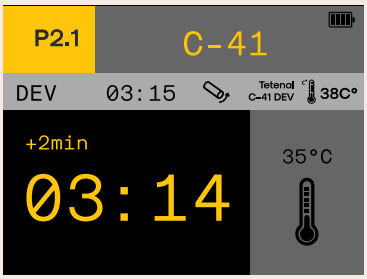
4. If needed make changes to program

This is the program overview page where you should make sure that every aspect of the process is as you want before starting the process. Here for each step of the development process you can customize the time, choose the agitation method and decide whether to enable time compensation or not.



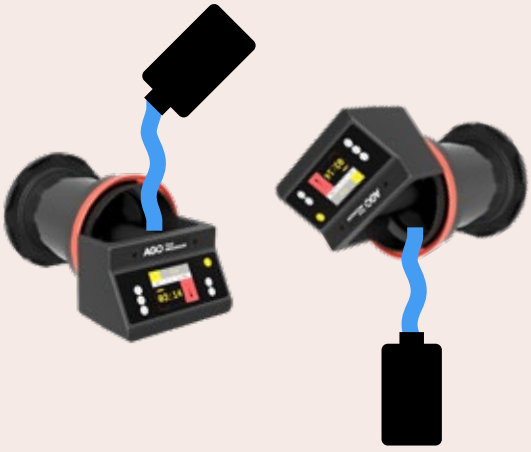
5. Getting started

5. Start the process



Now just pour in the right chemical. When using the rotational agitation method, pour your chemicals into the tank slowly by the AGO's sink and press START. After the time gets to zero it is time to pour out the chemicals.

You can pour out chemicals without detaching AGO from the Paterson tank. Just hold from the tank holding everything upside-down and pour out the chemicals. The liquid should be flowing out over the rim of the tank.



Now pour in the next chemical and press START again. Carry on once you get all the steps done.

6. Film washing

Last step in the process is usually film washing. We suggest doing it so the tank is vertically and under the tap, using running water. Use the processor's running motor for better washing or detach it and use it as a timer.

7. Hang film to dry

After the process is done remove film from film reels and hang them to dry.

8. Clean up

Always clean your AGO after the development process. Easiest way is to use wet cloth to remove chemical residue from the device. Don't submerge the device in water.

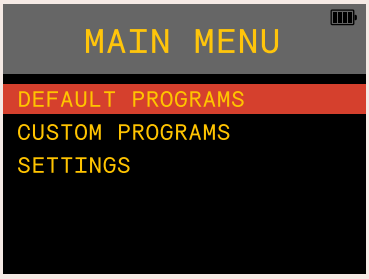
6. Using the machine

Programs

AGO has two kinds of process specific programs stored in its memory- Default programs and Custom programs. All the stored programs can be modified and all the changes will be saved.

Default programs

These are standard chemistry specific development processes to which we have been able to develop our time compensation functionality so far.



Custom programs

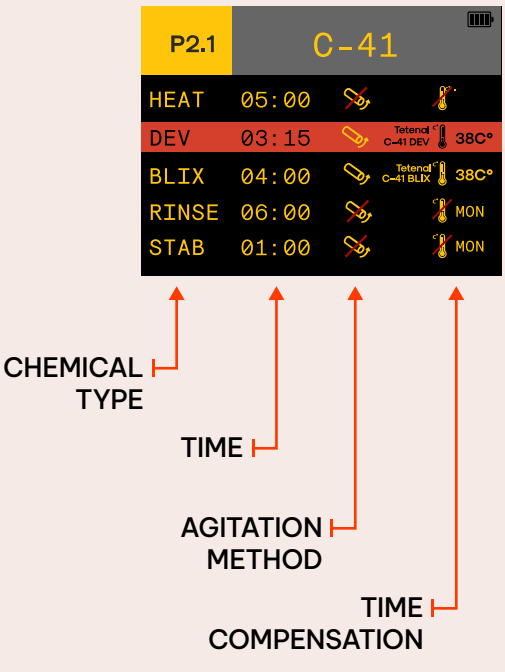
You can make custom programs yourself using the program configurator through the external user interface.There you can name the programs and adjust every aspect of the process. Also you can apply our time compensation formulas to different places. Custom programs are especially useful for different B&W film-developer combinations so you don't have to always look at the development time and adjust the program.

Program overview page

Here, you have the flexibility to modify each step of the process according to your preferences. Customize the time, agitation method, and choose whether to enable time compensation or not.

If you are using time compensation and it has a specific temperature behind, you should use corresponding time. This can be found in the chemical producer data sheet.

MON at the end of the row indicates that this step does not have time compensation but the system still checks if the temperature is in the range as specified in chemical manufacturers data sheet.



6. Using the machine

Resetting default programs

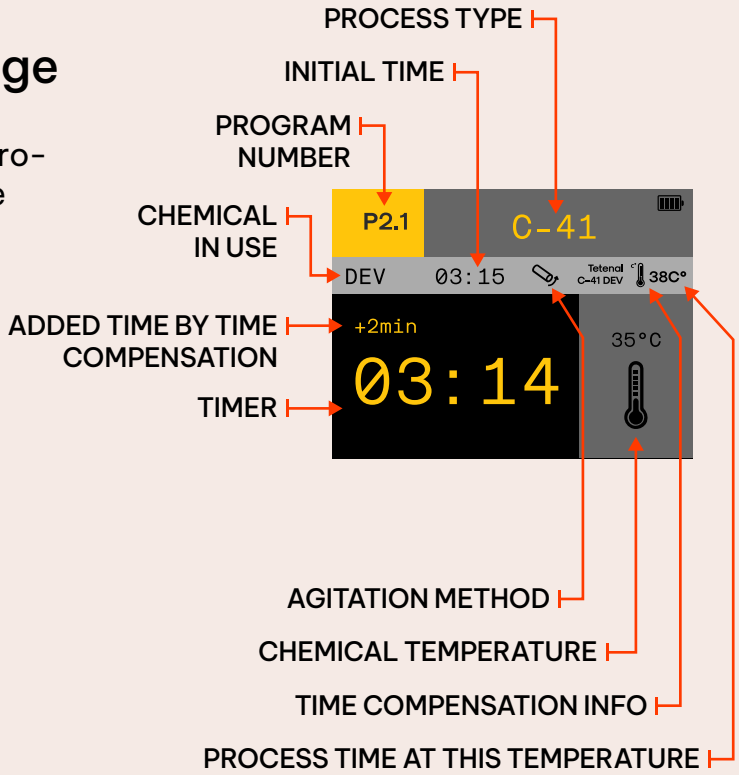
By pressing shorty ON/OFF button in program overview page it possible to reset the program values to as it was initially. After asking if you want to reset this program press FORWARD/START button to confirm it or BACK button to decline.

Ongoing process step page

During an active process, this page provides real-time information about the ongoing processing step.

You can track:

- What chemical is in use (e.g., DEV, STOP, etc.).
- Initial time.
- Agitation method.
- Time compensation type.
- Timer.
- Compensated time.
- Temperature.



Motor

After the timer gets to zero the motor works another 15 seconds. Once this is over AGO goes automatically to the next process step.

Temperature

These steps which have time compensation or MON look if the temperature is in the right temperature range. Temperature ranges are taken from the corresponding chemical datasheet. Temperature is in range if the background of the thermometer is gray. Once the temperature is out of the range the background goes to red.

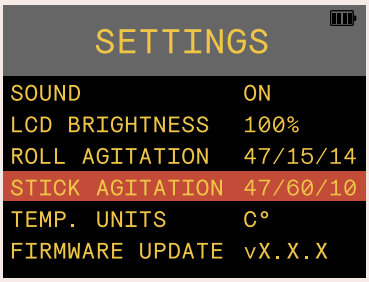
NB! Once you are committed to the process with out of range chemical temperature, you should still carry on , there is a good chance that you still get sufficient results as our time compensation formulas also tries to do its best out of the suggested temperature range.

7. Settings menu

Settings Page

The settings page allows you to customize additional parameters to enhance your user experience.

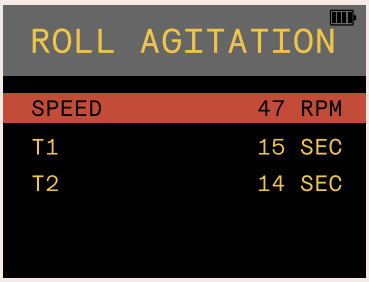
- Sound: Turn on or off the notification sound
- LCD brightness: Adjust the brightness of the screen
- Roll & Stick Agitation Parameters: Fine-tune the parameters for both agitation modes.
- Temp. unit: Choose between Celsius or Fahrenheit scale.
- Firmware update: Enable Wi-Fi for firmware updates and programs configurator.



Roll Agitation

In this mode, the rotation direction inverts as specified by T1 and T2. The shaft rotates continuously until the end of the process.

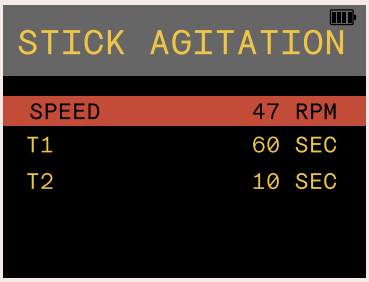
- Speed: Rotation speed, measured in revolutions per minute (rpm).
- T1: Rotation time clockwise.
- T2: Rotation time counter-clockwise.

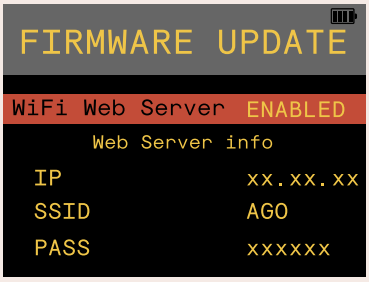


Stick Agitation

This mode involves continuous rotation for T1 duration, followed by rotation for T2 seconds every minute.

- Speed: Rotation speed, measured in revolutions per minute (rpm).
- T1: Constant rotation time after the start.
- T2: After T1, the duration of rotation every minute.





Firmware update

Once enabled it creates a WiFi router that you can access with your desktop or mobile device. After connected with AGO go to your internet browser and type in the IP

- IP: To be used as URL in your browser
- SSID: WiFI router name
- PASS: Password to access the route

8. Firmware update

Keeping your AGO Film Processor's firmware up to date is crucial to ensure that you benefit from the latest features, improvements, and compatibility enhancements. Be notified when new software is out by registering your AGO at www.vintagevisual.eu/support.

Follow these steps to initiate a firmware update:

Download new firmware

1. Go to www.vintagevisual.eu/support
2. Under Software update, download new software

Enable Wi-Fi Connection

1. In Settings navigate to Firmware Update page
2. Enable Wi-Fi Web Server

Connect your mobile or desktop device

1. Connect to AGO Wi-Fi: From your device, connect to the AGO Wi-Fi network. The network details, including the password, are displayed on the AGO processor.
2. Insert IP in Browser: Open a web browser on your computer and insert the IP address shown on the AGO processor to the URL tab.

Choose and Update Firmware

1. Press on the update tab and Choose File.
2. Firmware Selection: Choose the new firmware file from your desktop or mobile device. Ensure that you have downloaded the latest firmware version from the official AGO website or designated sources.
3. Initiate Update: Start the firmware update process. The AGO processor will begin updating its software with the new firmware.
4. Wait for Completion: Allow the update process to complete. The AGO processor will automatically restart and apply the new firmware.

8. Firmware update

Verification: Once the update is complete, verify the successful installation by checking the software version in the settings menu.

Congratulations! Your AGO Film Processor is now equipped with the latest software, ensuring optimal performance and compatibility with various film development processes. Regularly checking for updates and keeping your AGO software current allows you to make the most of this innovative film processing tool.

Remember to periodically visit the official AGO website or designated sources to stay informed about the latest firmware releases, feature enhancements, and any additional resources that can elevate your film development experience.

9. Programs configurator

Programs configurator can be used to make your own custom programs. It is especially useful when you want to experiment with alternative processes or just make different B&W film-developer combinations so you don't have to always change the parameters in AGO.

While we are working on making the programs configurator with proper design and good user experience we still publish this current version as it isn't actually complicated to write your own programs using a text editor.

Features of the programs configurator

1. Name and construct programs for your needs
2. Choose for each step: process time, agitation method and other features.
3. Possible to apply our time compensation graphs to different process steps.
4. Download and share programs with others

How to use programs configurator

First connect your AGO with your desktop or mobile device to access the external user interface, as described in Firmware update paragraph. And navigate to List file. There you will see all the listed Default and Custom programs currently stored in AGO. You can download all the programs individually and delete only custom programs.

Easiest way to make your own program from scratch is to download one default program from AGO and modify the program using a text editor. Bear in mind to understand how programs are constructed and used the same style when modifying the program.

File name can be up to 31 characters, including extension

Uploading the program

Once you are ready with your new program, navigate back to the external user interface and choose Upload File. There you can choose the new program file and upload it to AGO. Programs should emerge immediately to the custom programs list.

NB! Programs should be constructed using the Chelsius scale.
Afterwards in AGO it is possible to change to Fahrenheit.

9. Programs configurator

Program explanation

A brief explanation on data that is stored in the program. Following program has three processing steps.

```
{
 "designator": "C2",   (Nummering of programs, generally P is for Default and C for Custom programs)
 "name": "B&W",   (Type of process: B&W, C-41, E-6, ECN-2, etc.)
 "category": "BW",   (Category: BW, C41, E6, ECN2 or Other)
 "expanded_title": " - general",   (Extended title indicates manufacturer or film-chemical combination)
 "steps": [   (Following are descriptions of each individual processing step)
  {
   "name": "DEV",   (Step name, use max of 5 characters. "DEV", "BLIX", "FIX", "RINSE", "PRE", etc.)
   "time": 600,   (Processing step time in seconds)
   "agitation": "Roll",   (Agitation method: "Roll", "Stick", "Off")
   "compensation": "On",   (Time compensation: "On", "Mon", "Off)
   "min_temperature": 18,   (Indicates when temperature is too low)
   "rated_temperature": 20,   (Temperature according to process time, taken from datasheet)
   "max_temperature": 24,   (Indicates when temperature is too high)
   "formula_designator": "1.1.1",   (Specific compensation graph in internal memory)
   "logo_text": "B&W DEV"   (Compensation graph name)
  },
  {
   "name": "STOP",   (This process step doesn't have any temperature control measures)
   "time": 60,
   "agitation": "Roll",
   "compensation": "Off"
  },
  {
   "name": "RINSE",   (This process step only monitors the temperature but doesn't adjust the time)
   "time": 120,
   "agitation": "Roll",
   "compensation": "Mon",
   "min_temperature": 24,
   "max_temperature": 43
  }
 ]
}
```

Other information

Database of compensation graphs and designators applied to them can be seen here: www.vintagevisual.eu/support

10. Maintenance

Cleaning

Proper maintenance of your AGO Film Processor is essential to ensure its longevity and optimal performance. Regular cleaning after each use will contribute to the consistent delivery of high-quality film development results.

Follow this guidance for cleaning:

1. Ensure that the casing of the machine is not opened during the cleaning process. The screws at the front of the device should be tightly secured to maintain casing integrity.
2. Ensure that the AGO processor is powered off and disconnected from the power source before starting the cleaning process.
3. Use wet cloth: The AGO processor cannot be fully immersed or rinsed in water. Instead, use a wet cloth for cleaning. Avoid the use of cleaning agents.
4. Gentle Cleaning: Use only soft fabrics when cleaning the front side of the AGO processor. Avoid using abrasive materials or excessive force, especially around the shaft, temperature sensor, and front panel.
5. Dry Thoroughly

By adhering to these cleaning guidelines, you contribute to the overall care and maintenance of your AGO Film Processor.

NB! Avoid pouring water to the back of the device where the pressure equalization membrane is located. If you see drops of water, wipe or blow it clean.

10. Maintenance

Changing Batteries

Changing the processor's batteries yourself will void your warranty.
If you need to change the batteries contact the nearest reseller to you (Find resellers at vintagevisual.eu/dealer-locator).

If your warranty is expired, you may change the batteries yourself by following the guidelines below.

Battery type and model: 2 x 18650 Li-ion
Make sure to buy authentic Panasonic/Samsung batteries from a reputable supplier.

Battery changing guidance:
1. Ensure your machine is switched off
2. Unscrew the two screws in front and two in back
3. Carefully open AGO while making sure not to harm wiring inside the machine.
4. Remove the battery lock and remove old batteries
5. Add new batteries and attach battery lock
6. Close the AGO casing carefully, look that the seal between casings is correctly in the groove and screw back the front panel.
7. Attach charger
8. Power ON

NB! Do not use sharp tools or methods which can potentially damage the device.

11. Troubleshooting

While the AGO Film Processor is designed for seamless and reliable film development, occasional issues may arise. If you encounter any challenges during the film development process, follow these steps to troubleshoot and potentially resolve the issue:

Problem: Unresponsive User Interface

Check Power Connection: Ensure that the AGO processor is properly connected to a power source.
Reboot the Processor: Power off the AGO processor, wait for a few seconds, and then power it back on.

Problem: Inconsistent Film Development Results

Check Chemicals: Ensure that you are using fresh and properly mixed chemicals as per the manufacturer's recommendations.
Verify Temperature: Confirm that the chemical temperature is within the specified range for the selected film and developer combination.
Inspect Agitation: Check the agitation mode and time. Adjust if necessary based on the film type and developer used.

Problem: Wi-Fi Connection Issues

Check Wi-Fi Settings: Ensure that the Wi-Fi settings on your mobile or desktop device are correctly configured.
Reconnect to Wi-Fi: Re-establish the Wi-Fi connection by disabling and then re-enabling it in the settings.

Problem: Software Update Failure

Check Firmware Compatibility: Ensure that you are attempting to update with the correct and compatible firmware version.
Retry the Update: Restart the software update process, following the steps outlined in the software update section.

Problem: Film Sticking or Jamming

Inspect Film Loading: Ensure that the film is loaded correctly onto the Paterson tank reels without any twists or entanglements.
Check Reel Rotation: Confirm that the reels rotate smoothly during the film development process.

Problem: Abnormal Noise During Operation

Inspect Mechanical Components: Check for any foreign objects or obstructions around the mechanical components. Remove any debris if present.
Contact Customer Support: If the issue persists, contact AGO customer support for further assistance.

11. Troubleshooting

Problem: Ongoing Leaks

Inspect Gaskets: Check the gaskets and tank sealing surface for any signs of wear or damage. Try another tank.
Ensure Correct Assembly: Confirm that all components are correctly assembled, and the Paterson tank is securely attached to the AGO processor.

Additional Tips:

Review User Manual:
Refer to the user manual for specific troubleshooting tips and guidelines.

Contact Customer Support:
If issues persist or if you encounter problems not covered in this guide, reach out to AGO customer support for personalized assistance.

By following these troubleshooting steps, you can address common issues and enhance the overall reliability of your AGO Film Processor. Always refer to the user manual and reach out to customer support for comprehensive assistance when needed.

Find Frequently Asked Questions at www.vintagevisual.eu/support

12. Warranty

Vintage Visual (Vintage Visual OÜ) warrants each new AGO product against defects in materials or workmanship for two years from the date of purchase and agrees to repair or replace any defective Vintage Visual AGO Film Processors without charge. Shipping costs are non-refundable. This warranty is transferable. **All warranty claims must be accompanied by the original proof of purchase.**

THIS WARRANTY DOES NOT COVER DAMAGE RESULTING FROM ACCIDENT, MISUSE OR ABUSE, LACK OF REASONABLE CARE, SHIPPING DAMAGE, MODIFICATIONS, THE AFFIXING OF ANY ATTACHMENT NOT PROVIDED WITH THE PRODUCT OR LOSS OF PARTS.

Use of unauthorized chemicals will void this warranty. Vintage Visual will not pay for warranty services performed by a non-authorized repair or diagnostic service and will not reimburse the consumer for damages resulting from warranty service performed by a non-authorized repair service. No responsibility is assumed for any special incidental or consequential damages due to a defective Vintage Visual product.

In order to obtain warranty service, contact our customer support (support@vintagevisual.eu) for information. The product must be shipped postage prepaid to an authorized Vintage Visual service location. It is suggested that, for your protection, you return shipments of product by insured mail, insurance prepaid. Damage occurring during shipment is not covered by this warranty. Shipping costs are non-refundable. No other warranty, written or oral, is authorized by Vintage Visual.

Disclaimer

In no event shall Vintage Visual OÜ, or its employees, agents, suppliers, manufacturers, or contractors be liable for any damages of any kind of character, including without limitation any compensatory, incidental, direct, indirect, special, punitive, or consequential damages, loss of use, loss of data, loss of income or profit, loss of or damage to persons or property, claims of third parties, or other losses of any kind or character, and whether or not the possibility of such loss or damage has been notified to Vintage Visual OÜ.

Customer support contacts

When emailing a support request, please describe what has happened, take a picture if possible and attach it to the email. Also provide us with your machine's serial number and the software version found in the Info menu.

support@vintagevisual.eu

+372 5674 0835
Monday to Friday, 10:00-16:00 UTC

Reels made for rotational agitation with the AGO Film Processor

REEL- 4x5

Discover the REEL-4×5, an exceptional film spiral reel designed for precise development of 4×5 format film in Paterson tanks.

- It is compatible with Paterson 3 tank and fits 4 sheets of 4×5 film.
- It is easy to load in the dark and produces evenly developed negatives.
- Paterson 8 tank can fit two 4×5 reels to develop up to 8 sheets of 4×5 at once.

REEL- Paper 5

A versatile reel designed to transform your darkroom experience. Compatible with Paterson 5 tanks (and larger), this innovative reel revolutionizes the development of RA-4 paper and large-format films up to 8×10 inches. Now you can develop your paper with the AGO Film Processor with rotary agitation.

- Compatible with Paterson 5 tank and fits up to 8×10 inch paper or film.
- You can develop RA-4 paper – so called, rotary tube method
- You can develop B&W paper- even if you lack the room for trays
- You can develop large format film- up to 8×10 inch film

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