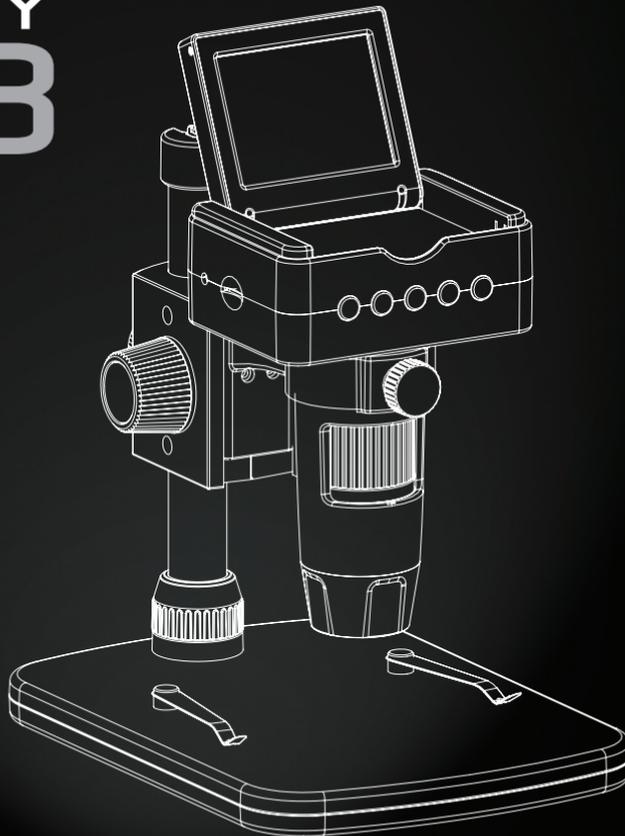


# DISCOVERY DX-3

User Manual



The Veho DX-3 microscope allows you to explore the microscopic world. Highly useful for students, teachers, laboratory research, medical analysis, repair services or hobbyists.

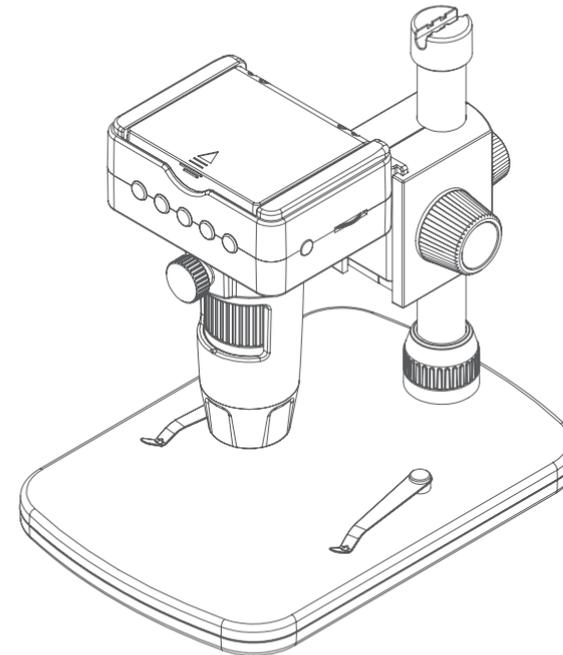
Please take a moment to read through this manual to ensure you get the most out of the microscope. Keep this manual safe for future reference.

Before using the microscope, please read the safety precautions below. Always ensure that the unit is operated correctly:

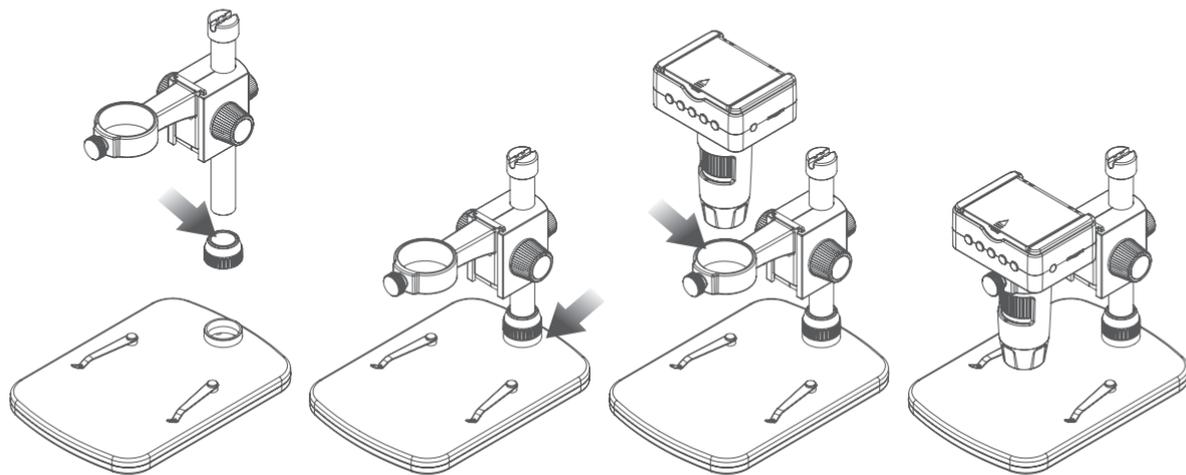
- The DX-3 microscope is not waterproof
- Use and store within a cool, dry environment (-5°C – 50°C), avoid using in damp conditions
- Do not point the lens towards the sun or a strong light source, this may damage the microscope
- Avoid touching the lens, unless with the supplied cleaning cloth
- Do not stare directly into the LEDs; they may damage your eyes

If you require assistance or have any questions about the DX-3 Microscope, please contact us through our Live Chat on our website at:

[veho-world.com](http://veho-world.com)



- Veho DX-3 Microscope
- Height adjustable stand
- AC adapter
- Capture remote control
- HDMI cable
- USB cable
- TV cable
- microSD card
- Calibration ruler
- Software CD
- Quick start guide



1

Place the metal pole and mount through 'Screw 7'.

2

Next, insert metal pole into the stand and tighten 'Screw 7'.

3

Slide microscope through mount ring and tighten 'Screw 5'.

4

Ensure the USB cable is secured in top of metal pole.

To install the PortableCapture HD software, use the supplied software CD or visit our website download area at:

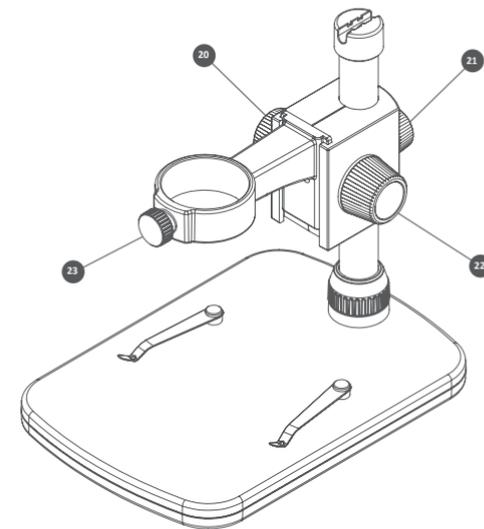
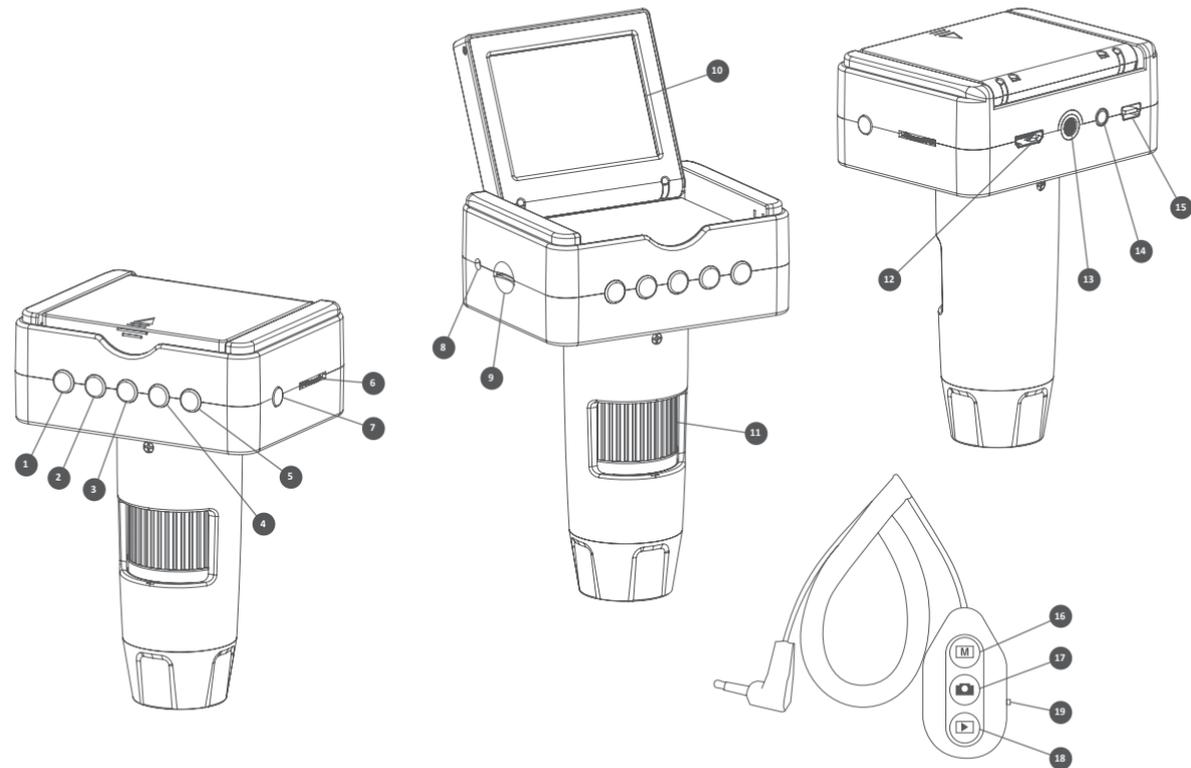
[veho-world.com/downloads](http://veho-world.com/downloads)

Once downloaded onto your desktop, double-click the install button for 'PortableCapture HD' and accept to install the software onto your PC; the installation will begin.

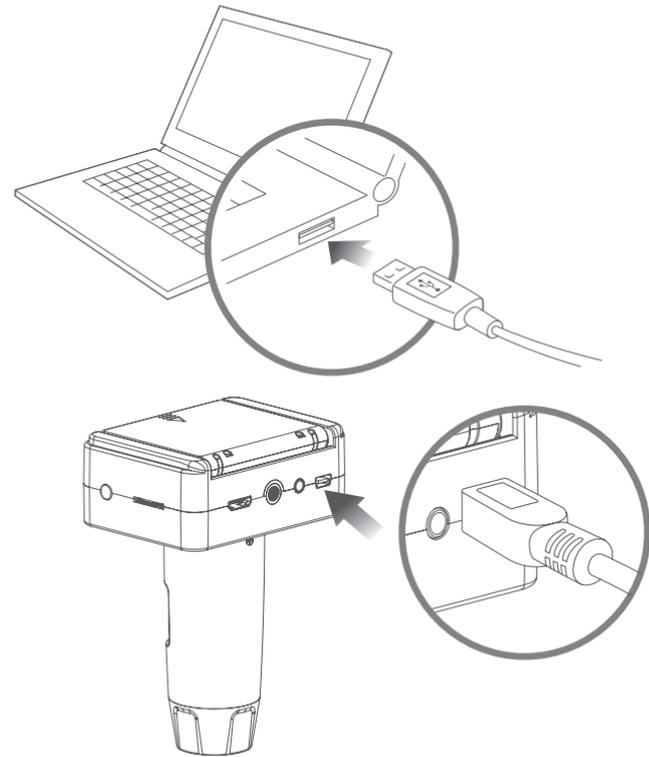
### Operating system requirements

- Windows - 7/8/10  
Mac OS - 10.9 - 10.13
- P4 1.8 or above
- RAM 1GB
- Video Memory 126M
- USB port 2.0

# Guide to the DX-3 Microscope & stand



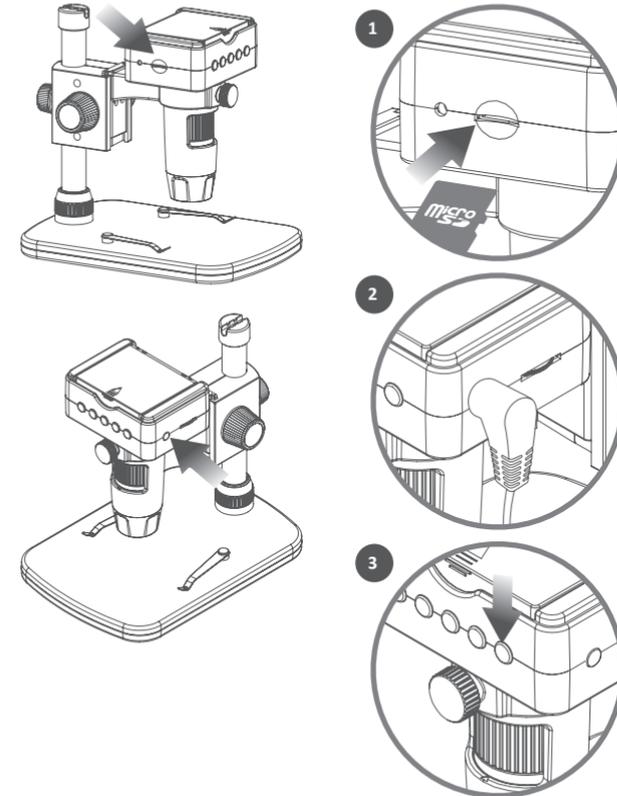
- 1 Up
- 2 Down
- 3 Setup/Menu
- 4 OK
- 5 Power button
- 6 LED Dimmer
- 7 Remote control input
- 8 Charging indicator
- 9 microSD slot
- 10 2.4" LCD
- 11 Focus wheel
- 12 HDMI output
- 13 Tripod screw
- 14 TV output
- 15 Power input
- 16 Mode selector
- 17 Capture
- 18 Playback
- 19 Zoom function
- 20 Lock/unlock wheel
- 21 Pole screw
- 22 Height adjustment wheel
- 23 Clamp screw



We recommend fully charging the microscope before its first use.

To charge the microscope, plug the supplied USB charging cable into the DC/USB port, connecting the USB end into a computer USB port or suitable plug. The LED charging indicator will turn solid red, turning off when fully charged.

**TIP:** Use a Veho Portable Pebble (<https://bit.ly/2IJLEoQ>) to charge the device while using away from a socket.

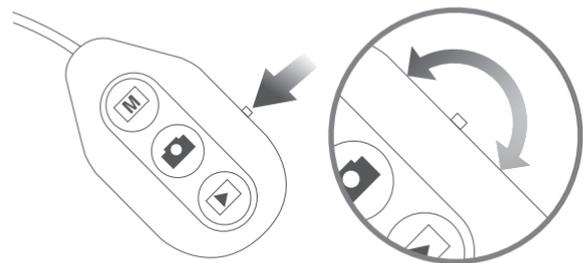


With the microscope turned off insert the microSD card (1), you may need to reformat the card which is done within the microscope settings.

Next, plug the remote control into the correct port (2) and power on the microscope. Press and hold the power button (3) for approx 1 second.

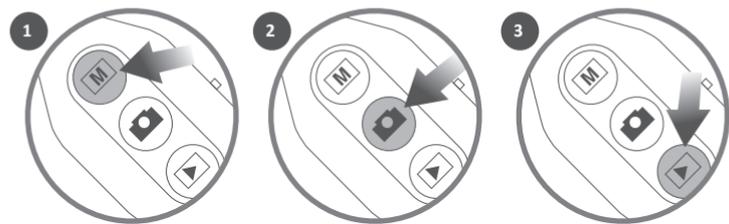
To power off the microscope press and hold the power button again, also for approx 1 second.

## Using the remote control



### Using the zoom

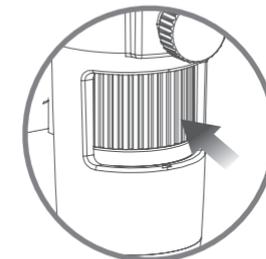
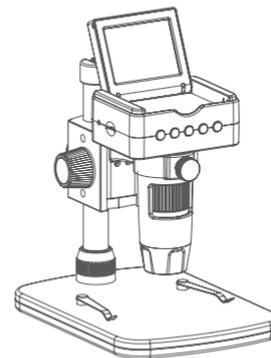
To zoom in and out use the Zoom function switch located on the side of the remote. This function works in preview mode, before capturing an image, and also during playback of images.



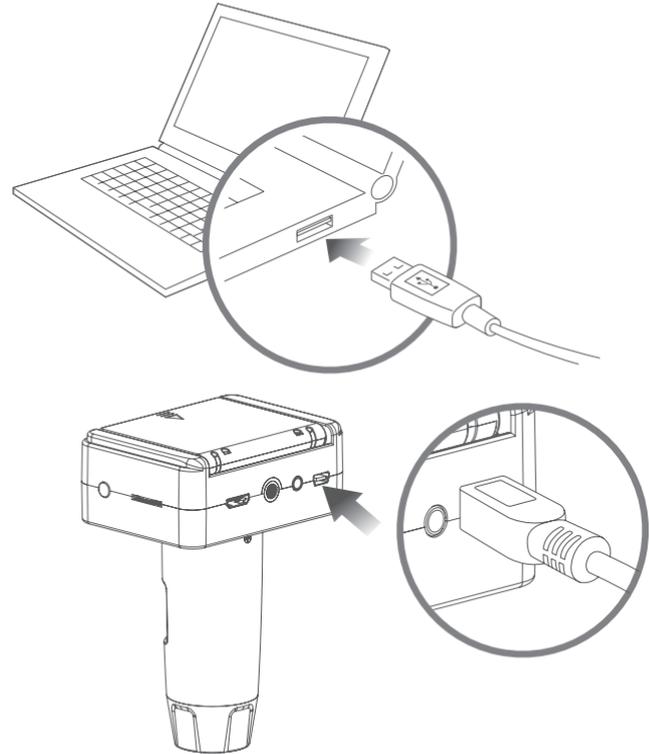
### Capturing and playback

On the remote control, select either photo or video mode (1). To capture an image or footage press the 'Capture' button (2). You can playback images and recorded videos by pressing the 'Playback' button (3), using the arrow keys to scroll through the list.

## Focusing the microscope

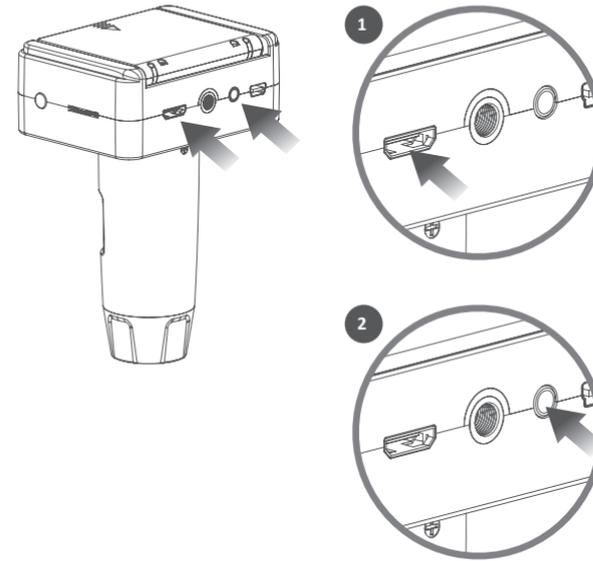


Firstly ensure the LCD screen is open. To focus the microscope rotate the focus wheel on the front of the microscope; clockwise to zoom-in or anti-clockwise to zoom out. You will be able to see on the flip up LCD screen as to whether the DX-3 is focused.



To download images and video footage onto your computer from the DX-3 use the supplied USB cable, using the DC/USB port. This will allow you to access your the files on the microSD card.

You can also use a card reader to access the files on the microSD card.



The DX-3 has both HDMI (1) and TV (2) outputs so you can experience a live directly to your TV screen or computer monitor.

Use either of the supplied HDMI or TV cables to connect the microscope to your TV or monitor. When viewing via a TV, the live view should appear once the Source settings have been adjusted. If viewing via a computer monitor, the monitor should default to the scope, or you may need to adjust the source settings on the monitor.

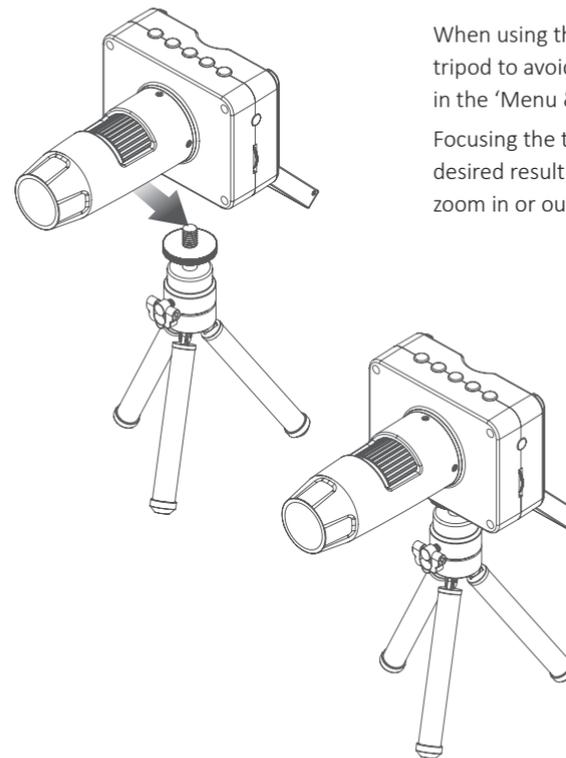


To view the settings press the  (settings) button. Use the  (up) and  (down) arrows to navigate through the options, when you find the setting you wish to view press OK.

To edit a setting, use the  (up) and  (down) arrows to select your choice and confirm by pressing OK. Exit the setting by pressing the  (settings) button once more.

Below is a list of menu options:

- |                           |                     |
|---------------------------|---------------------|
| Languages                 | Date Stamp          |
| Microscope/Telescope Mode | TV Output           |
| Photo Resolution          | Loop Recording      |
| Time-lapse Capture        | Automatic Power off |
| Video Resolution          | Format microSD card |
| Exposure                  | Default Settings    |
| Date/Time                 | Version             |



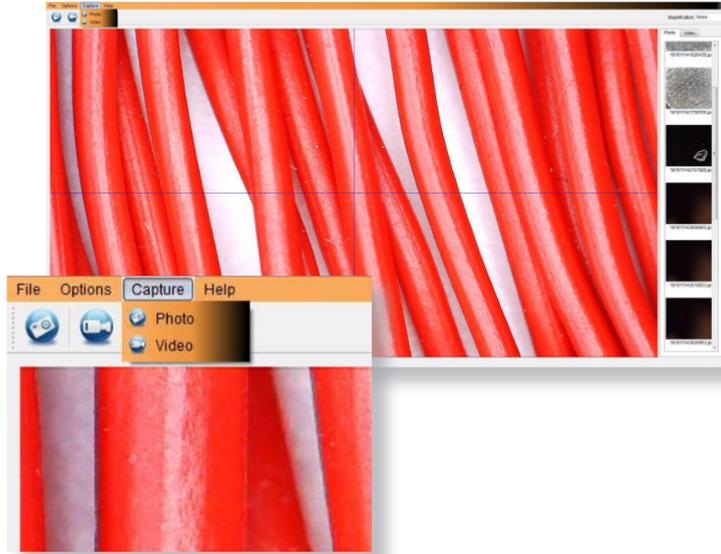
When using the DX-3 in Telescope Mode, we recommend using a camera tripod to avoid shake. Select Telescope Mode in the settings menu, as outlined in the 'Menu & Settings guide' section.

Focusing the telescope using the 'Focus Wheel', adjust until you achieve the desired result. You may use the 'Zoom Function' on the remote control to zoom in or out, use the 'Capture' button on the remote to record an image.

Capture a still photo or video footage at any point when using the microscope, use the icons or dropdown menu within the PortableCapture HD software.

Setting and preferences can also be adjusted within the software, these include:

- Resolution
- Date and time
- Interface language
- Full screen mode
- Timer for photo/video capture



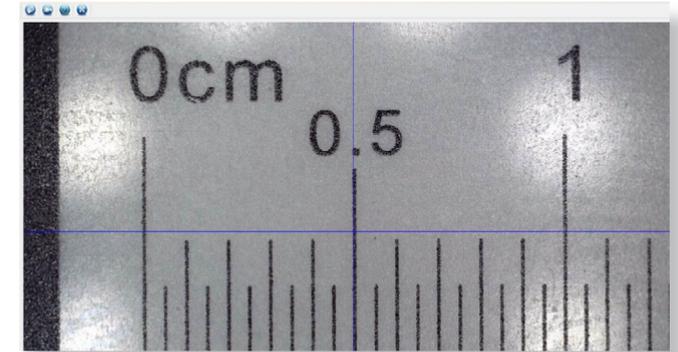
## Calibration

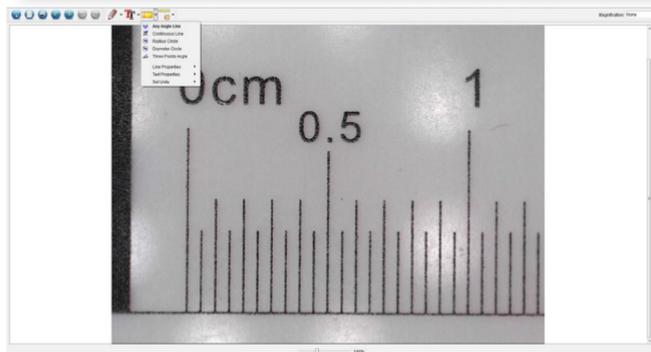
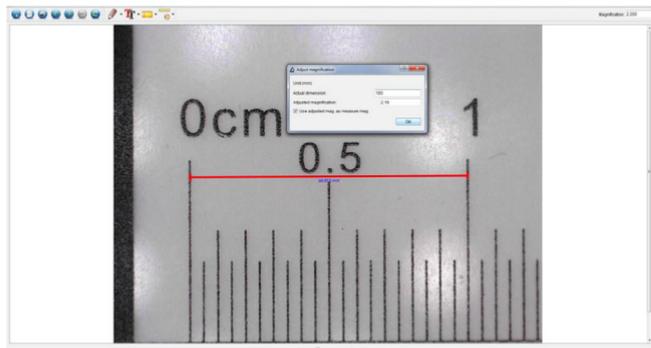
Ensure 'Display Crossing' is turn on, go to 'Options > XY Guide > On/Off'.

The microscope will default to crossing 'On', we recommend that this is left on.

**Step 1** Focus the microscope on the supplied calibration ruler, adjust the magnification wheel until the picture is clear. Take a picture of the selected area when the ruler lines are parallel to the blue XY guides, as shown in the image.

**Step 2** Double-click on the image captured to enter the measurement interface.





**Step 3** Once the image is open, click on the calibration icon. Using the mouse, click on the beginning and ending points; you must know the distance between the points (using the ruler). A dialogue box will pop up, enter the exact value of the measurement into 'Actual dimension'. The software will automatically calibrate the magnification rate. Click 'OK' and the adjusted magnification rate will show in the upper right corner.

**Step 4** Now using 'Any Angle Line', under the measurement icon, measure the same distance again. If the value measured is approximately the same as the actual value, then calibration has been successful.

## Measurements

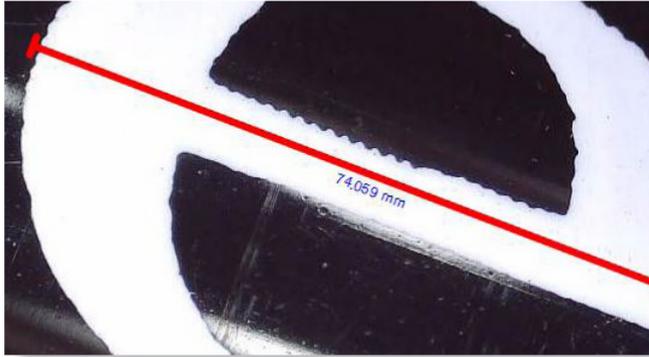
Double-click on the image to enter the measurement interface. Under the 'Measurement' icon, choose any of the following options to measure.

**Any Angle Line Measurement** Click and hold from one point and drag to the next point, then release.

**Continuous Line Measurement** Allows you to measure any continuous length. Click, hold and drag from one point to other points, then release.

**Radius Circle Measurement** Click, hold and extend out to the chosen radius. The radius, circumference and area of the circle will be calculated.





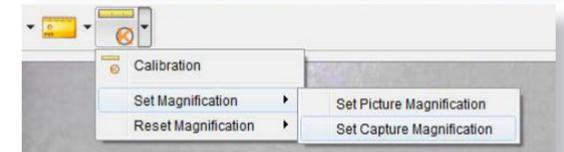
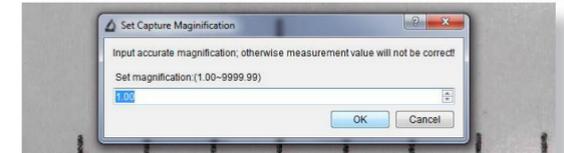
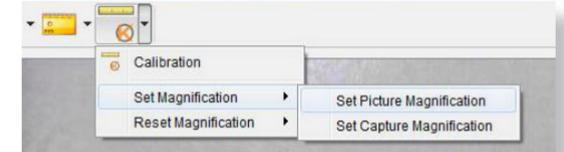
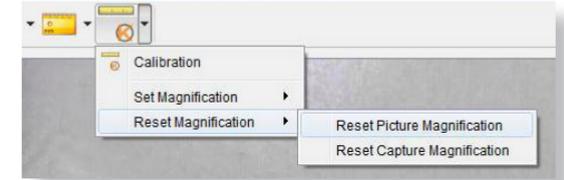
**Diameter Circle Measurement** Click, hold and extend out to the chosen diameter. The diameter, circumference and area of the circle will be calculated.

**Three Points Angle Measurement** Select any three points, the angle values will be calculated and displayed.

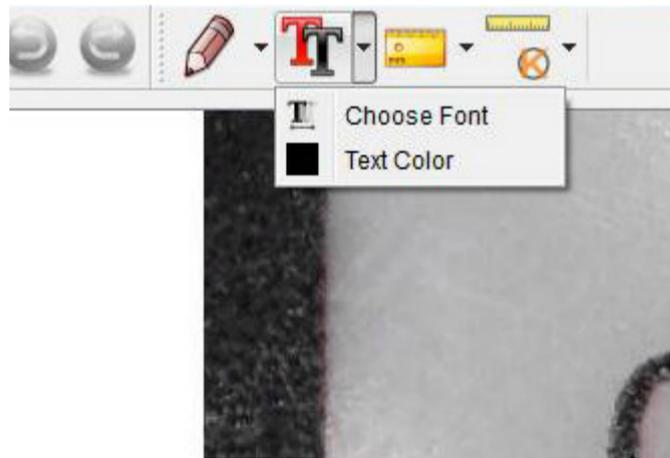
## Changing Calibration

Use the following steps to change calibration settings.

1. Double-click to open the image, click the 'Calibration' icon, and select 'Reset Magnification' and then 'Reset Picture Magnification'. Then start calibration again.
2. Change the magnification rate and capture several images, click on the image to enter measurement interface. Select 'Set Magnification' then 'Set Picture Magnification', a dialogue box will appear; enter your chosen magnification rate and click 'OK'.
3. If you want to use the same magnification rate to capture pictures, click 'Set Magnification' then 'Set Capture Magnification' to save settings. All pictures will use the same magnification rate.



## Adding drawing and text



You can annotate captured images using the draw or add text features; this is useful when using for later analysis.

1. Click the pencil icon to bring up the drawing dropdown list. Select your preferred tool, and start drawing on the image.
2. Click the text icon to add writing to your captured image. From the dropdown select your preferred font, size and text colour.

## Specifications

<b>Image sensor</b>	3.5 Mega Pixels
<b>Still resolution</b>	3MP, 5MP, 8MP, 12MP
<b>Video resolution</b>	Full HD 1080P
<b>Focus range</b>	10mm to 50mm
<b>Magnification ratio</b>	10x or 220x (2000x digital zoom)
<b>Video format</b>	AVI
<b>Photo format</b>	JPEG
<b>Light source</b>	8 LEDs (brightness adjustable)
<b>LCD Screen</b>	2.4" LCD
<b>Memory</b>	microSD card (up to 128GB)
<b>Video output</b>	HDMI/TV/USB
<b>Power source</b>	Built-in 800mAh battery or 5V DC from USB port
<b>Battery working time</b>	1.5 hrs
<b>Battery charging time</b>	3 hrs
<b>System requirements</b>	Windows 7/8/10, Mac OS 10.5-10.13
<b>Languages</b>	English, German, French, Spanish, Russian, Italian, Portuguese, Dutch, Polish, Japanese, Korean, Chinese
<b>Bundle software</b>	PortableCapture HD (with measurement for Win/Mac)

Problem	Solution
Photo capture or video is blurred or shaky	The image is not in focus, correct this by turning the Focus Wheel Use the microscope stand when capturing images to avoid shake.
Microscope does not turn on	Charge the battery, ensure power adaptor is properly connected.
The telescope captured images are inverted when watching from HDMI or TV mode	Use Microscope Mode to watch HDMI or TV images. The Telescope Mode will reverse images on HDMI or TV.
The microscope has froze or will not turn off	Press the power button for 3 seconds, this will force the microscope to power off. You can now restart the microscope.
How to get the best focus results	Digitally enlarge your preview image with zoom in function, now adjust the focus wheel.
Screen is blank	Ensure the power is on, or the battery is charged. Check the item you want to view is positioned correctly under the lens.

The screen lights up with no image	Check the lens is in focus.
Image looks smudged or blurred	Clean the screen and lens carefully with supplied cloth.
Microscope is connected to a TV but no image appears on screen	Ensure that the television is on. Switch to the appropriate input channel on your TV. Ensure that the video cable is properly connected to the microscope Video Out port and plugged into the correct video input on your television.
Unable to record video via HDMI or TV	The unit does not support video recording with TV.
The LEDs lights blink	The battery power is too low, charge with the power adaptor.

If these do not solve your problem please contact us via our Live Chat on our website at:

[veho-world.com](https://veho-world.com)

# Support

In the event you need to contact Veho for support or troubleshooting for your Veho DX-3 Microscope, please contact us via our Live Chat on our website at:

[veho-world.com](http://veho-world.com)

