RUO model

High speed, high-resolution whole slide image scanners

NanoZoomer® series

Line-up brochure

HAMAMATSU

PHOTON IS OUR BUSINESS

What is NanoZoomer®?

NanoZoomer® is the whole slide scanner that scans glass slides at high speed and converts them to high quality digital images.

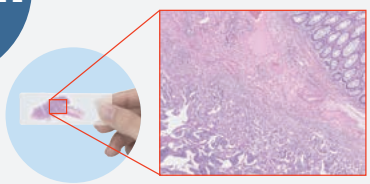
Converting to digital images

1. Scan

What a whole slide scanner can do

Captures high definition images

Glass slides are scanned and captured as billions of pixels of high-definition image data.

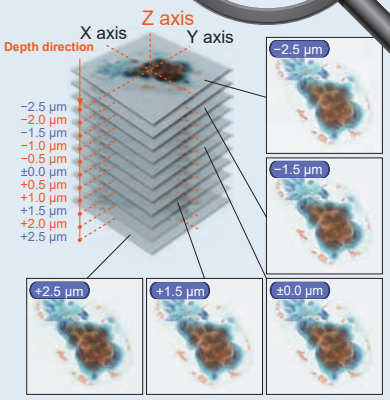


Unique scanning capabilities

Look here!

Multilayer images of thick specimens can be obtained

The depth direction imaging function allows users to capture multi-layered images even in thick specimens with ease.



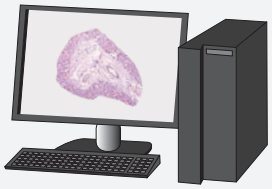
Scan FL (Fluorescent) stained specimens (S60)

Fluorescence imaging module enables scanning of FL stained specimens and allows overlaying of bright-field and FL images.

2. View

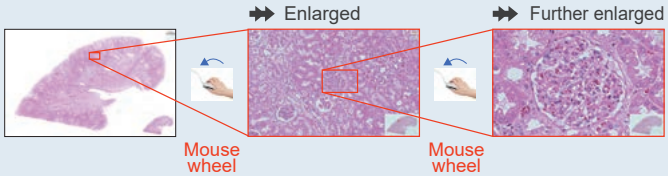
Tissue observation on a PC monitor

Scanned images can be easily checked from the whole to the detail image.



Intuitive image viewing software

NDP®.view2 image viewing software provides excellent followability and intuitive operability. (Download for free)



NDP®.view2 is Windows®/mac OS compatible and can be implemented on both local and web environments.

*Please see P8 for details.

3. Serve

Remote data sharing

Stored data can be accessed remotely via network.
In addition, you can easily share data and build slide libraries.

Dedicated software for image storage and sharing with a variety of functions

NZConnect provides access to an image database, allowing multiple users to access the database with ease.

*Please see P10 for details.

Product line up

NanoZoomer® S360

C13220

High throughput model with exceptional scanning speed
Up to 360 1" × 3" (26 mm × 76 mm) slides automatically in one batch

NanoZoomer® S20

C16300-01

Benchtop model with exceptional performance
Up to 20 1" × 3" (26 mm × 76 mm) slide automatically in one batch

NanoZoomer® S210

C13239

Standard model with a low cost of ownership
Up to 210 1" × 3" (26 mm × 76 mm) slides automatically in one batch

*NanoZoomer® S210 C13239 is NOT available in EU and UK.

NanoZoomer®-SQ

C13140

Compact, affordable, and easy to operate model
Up to a 1" × 3" (26 mm × 76 mm) slide

For both brightfield and fluorescent scanning

NanoZoomer® S60

C13210

Versatile model for both BF and FL capability
Up to 30 2" × 3" (52 mm × 76 mm) slides or
up to 60 1" × 3" (26 mm × 76 mm) slides

		NanoZoomer® S360	NanoZoomer® S20	NanoZoomer® S210	NanoZoomer® -SQ	NanoZoomer® S60
Product number		C13220	C16300-01	C13239	C13140	C13210
Features		High speed, mass processing	Benchtop size, High speed	Well-balanced	Compact, affordable	2" × 3" (52 mm × 76 mm) slides Fluorescence available
Compatible glass slide	1" × 3" (26 mm × 76 mm) slide	√	√	√	√	√
	2" × 3" (52 mm × 76 mm) slide	–	–	–	–	Option
Z-stack feature		Included	Included	Included	Included	Included
Scanning speed (20× mode) (15 mm × 15 mm)		Approx. 30 seconds	Approx. 30 seconds	Approx. 60 seconds	Approx. 150 seconds	Approx. 60 seconds
Scanning speed (40× mode) (15 mm × 15 mm)		Approx. 30 seconds	Approx. 30 seconds	Approx. 150 seconds	Approx. 275 seconds	Approx. 150 seconds
Automatic scanning		360 slides	20 slides	210 slides	1 slide	60 slides (1" × 3" [26 mm × 76 mm] slide) 30 slides (2" × 3" [52 mm × 76 mm] slide)
Fluorescence imaging		–	–	–	–	Option
Maximum daily capacity		Up to 1000 slides	Up to 700 slides	Up 50 to 300 slides	Up to 30 slides	Up to 200 slides

Product line up

High throughput model with exceptional scanning speed
Up to 360 1" × 3" (26 mm × 76 mm) slides automatically in one batch

NanoZoomer® S360

C13220

- **Scanning speed (15 mm × 15 mm)**
  - 20× mode: approx. 30 seconds
  - 40× mode: approx. 30 seconds
- **Automatic scanning**
  - Max. 360 slides

High throughput

Improved slide handing, data transfer speeds, and scanning speed to achieve high throughput.

High throughput of 82 slides/h

Scanning time of approximately 30 seconds per glass slide, resulting in 82 slides/h (15 mm × 15 mm) in both the 20× and 40× modes including the slide handling time.

A batch of 360 glass slides can be scanned automatically

Scans up to 360 slides (30 slides × 12 cassettes). Simply place glass slides in cassettes, load them in S360 and start the process. Each slide will be automatically moved and scanned.

Up to 1080 slides/day

Takes about 4.5 hours to process 360 glass slides (one batch) automatically.
After completion, by loading the next batch and repeating the process, 1080 glass slides can be scanned per day.

Ease of use

Control each cassette unit independently

Scanning conditions can be controlled independently for each slide cassette making operations more efficient. In addition, barcodes attached to each slide cassette make it easy to extract and sort slides after scanning.

Each cassette can be allocated with a unique barcode.

Scanning status can be easily checked for each cassette unit

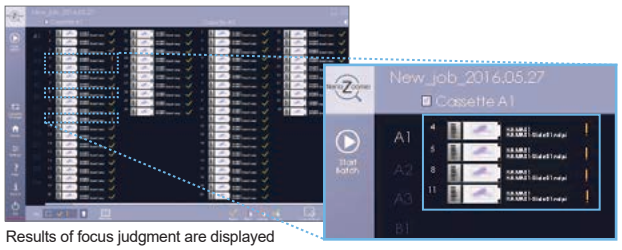
Scanning status of each cassette unit can be easily checked. On the display panel at the top of the device, you can check the progress of each slide cassette unit throughout scanning.

Signaled by white light for correctly loaded cassettes, blinked white light for incorrectly loaded cassettes, green light for the completion of scanning.

Automatic image confirmation

Easily extract glass slides that require visual confirmation

Evaluates the quality of the scanned image using focus score function. This allows you to determine the overall scanning quality and identify images that need to be visually checked or rescanned. This feature greatly reduces the workload and improves efficiency.

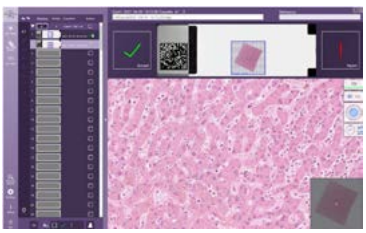


Results of focus judgment are displayed

Easy detection of only glass slides with low focus score

Visual confirmation of image quality

QC (Quality Check) mode allows you to check for image quality before finalizing Whole Slide Imaging.



Checking

Benchtop model with exceptional performance
Up to 20 1" × 3" (26 mm × 76 mm) slide automatically in one batch

NanoZoomer® S20

C16300-01

- **Scanning speed (15 mm × 15 mm)**
  - 20× mode: approx. 30 seconds
  - 40× mode: approx. 30 seconds
- **Automatic scanning**
  - Max. 20 slides

High-speed scanning

Scanning speed is as fast as our flagship S360. Scanning time per glass slide is 30 seconds in both 20× and 40× modes.

Rapid throughput

New slide handling mechanics allows scanning of 20 slides in 15 minutes. (15 mm × 15 mm)

Flexible slide rack

Loads directly from Sakura 4768 20-slide basket* and covers slipper for efficient scanner workflow.

*Sakura 4768 20-slide basket is an option.

High quality images

Produces high quality images using 40× and 20× modes, ensuring consistent image quality across platforms.

Scalable benchtop compact scanner

Fits on a lab bench and is a scalable solution, as you can add more scanners as digitization needs increase.

Selectable scanning modes

Fully Automatic scanning

All scanning processes work automatically. As soon as you load, the scanning begins.

Semi Automatic scanning

Option to set-up scanning conditions such as the scan area or resolution and to assign profiles for each slide.

Product line up

Standard model with a low cost of ownership
Up to 210 1" × 3" (26 mm × 76 mm) slides
automatically in one batch

NanoZoomer® S210

C13239

- **Scanning speed (15 mm × 15 mm)**
  - 20× mode: approx. 60 seconds
  - 40× mode: approx. 150 seconds
- **Automatic scanning**
  - Max. 210 slides

*This model is NOT available in EU and UK.

Well-balanced

Re-engineered based on Hamamatsu's proven workhorse in digital pathology workflow solutions.
This model provides a low cost of ownership. It is efficient, robust, and dependable designed to minimize risk when implementing digital workflow solutions.

Compact, affordable, and easy to operate model
Up to a 1" × 3" (26 mm × 76 mm) slide

NanoZoomer®-SQ

C13140

- **Scanning speed (15 mm × 15 mm)**
  - 20× mode: approx. 150 seconds
  - 40× mode: approx. 275 seconds
- **Automatic scanning**
  - Max. 1 slide

Compact and lightweight

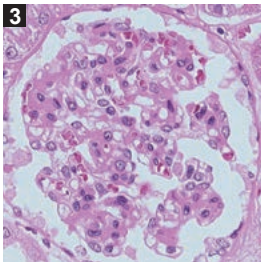
A compact model developed for customers who have limited installation space.
Compact and lightweight: 360 mm wide, 380 mm high, 450 mm deep, and about 20 kg of weight.

Easy operation in 3 steps

Easy scanning by setting magnification and pressing start button. You can also customize scan settings.

Load a glass slide

Just press the start button



You can get the whole image of a slide in high resolution

For both brightfield and fluorescent scanning

Versatile model for both BF and FL capability
Up to 30 2" × 3" (52 mm × 76 mm) slides or
up to 60 1" × 3" (26 mm × 76 mm) slides

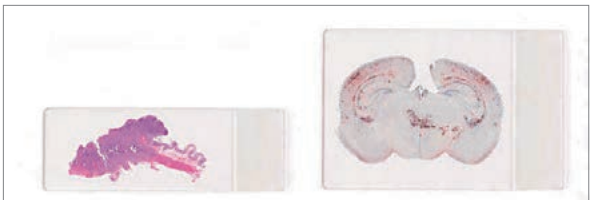
NanoZoomer® S60

C13210

- **Scanning speed (15 mm × 15 mm)**
  - 20× mode: approx. 60 seconds
  - 40× mode: approx. 150 seconds
- **Automatic scanning**
  - Max. 60 slides

Compatible with 2" × 3" (52 mm × 76 mm) slides

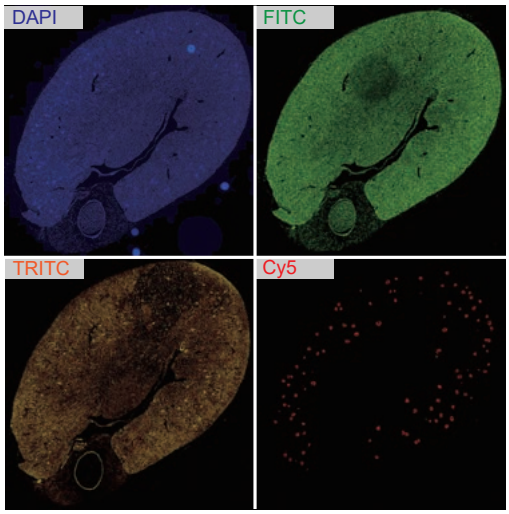
By loading the dedicated cassette (option),
2" × 3" (52 mm × 76 mm) slides can be scanned.
Up to 3 cassettes can be loaded with combination of
1" × 3" (26 mm × 76 mm) and 2" × 3" (52 mm × 76 mm).
The maximum number of automatic scanned slides is
60 for 1" × 3" (26 mm × 76 mm) slides only and
30 for 2" × 3" (52 mm × 76 mm) slides only.

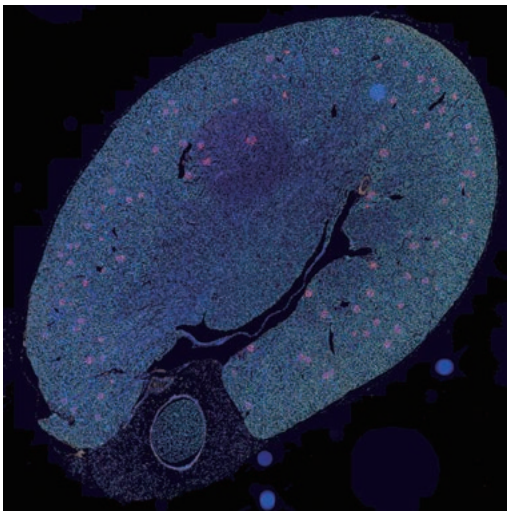


1" × 3" (26 mm × 76 mm)　2" × 3" (52 mm × 76 mm)

Compatible with fluorescent stained specimens

Enhances imaging capabilities with the addition of fluorescence module. Obtains superimposed bright-field, and fluorescent images using a camera dedicated to fluorescence.





Possible to superimpose

Option for fluorescence scanning

Fluorescence imaging module for S60 L13820-011, -041	Type of sensor	CMOS sensor for scientific research use
	Number of filter cube positions	3
Filter wheel for S60 L13820-02, -05	Number of excitation filters	6 (Φ25 mm)
	Number of emission filters	6 (Φ32 mm)
Solid state illumination unit L13820-07 SOLA III V-nIR (Lumencor)	Light source	Solid-state illumination with long lifetime
5 mm LLG with PVC outer sleeve	Liquid light guide	Φ5, L=2.0 m

NDP®.view2 Image viewing software

U12388-01

NDP®.view2 provides excellent followability and intuitive operability. You can observe images to the details like a microscope. Additionally, it supports more than 10 languages, including Japanese, English, Chinese, and more.

Free download

NDP®.view2 can be downloaded free of charge from our website.

*Compatible with Windows® OS/mac OS: Please contact Hamamatsu's distributor or sales representative for information on compatible OS.

Download page URL

https://www.hamamatsu.com/jp/en/product/life-science-and-medical-systems/digital-slide-scanner/U12388-01.html

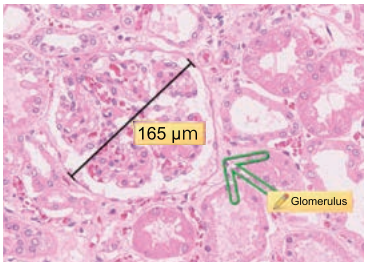
Intuitive operation

Comparable to a map application, allowing you to zoom in and out, and rotate the image.

Click on the part you wish to view.
Simply use the mouse wheel to adjust the magnification.
It can also be set for each magnification of the microscope's objective lens.

Annotation function

Inserts arrows, drawings, and comments. Also measures the length and surface area of specified point.



Multiview function

Ability to display multiple images simultaneously opens new possibilities that were previously unavailable with microscopes. This feature allows you to examine the details while maintaining a broader perspective, making it easier to compare different stains in the same viewer. Additionally, the digital slides can be synchronized, to enhance user experience.

Displaying 4 different stained images at the same

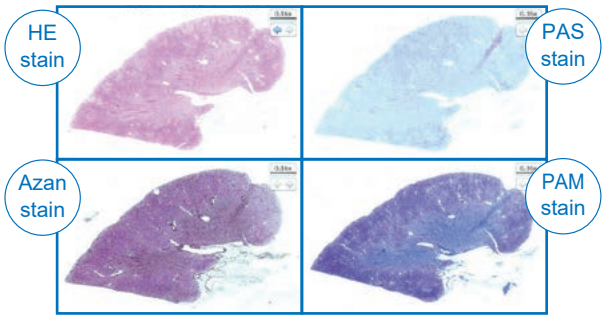


Image display position can be synchronized for zooming in and out

▲ Human kidney tissue slice
Courtesy of Koichi Kawamura Ph.D.,
Associate Professor Department of Cellular and Organ Pathology,
Akita University Graduate School of Medicine.

NDP®.view2 Plus Image viewing software

U12388-02

NDP®.view2 Plus is designed to maximize the benefits of whole slide viewing with advanced tools for intuitive user experience.
This software was developed based on customer demands for highly convenient functions that match their observation goals.

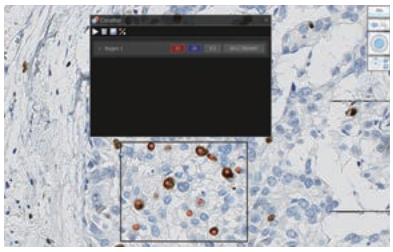
Supporting Non-Hamamatsu WSI format images

Supports file formats beyond the native Hamamatsu images (ndpi extension). It enables viewing of images from other scanner manufacturers, including svs, scn, mrxs, czi, and vsi image formats.

*The loading of all image data is not guaranteed.

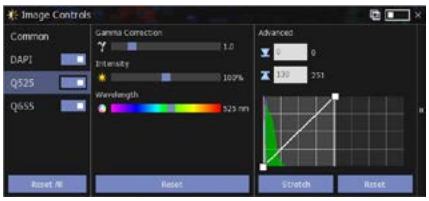
Counting by mouse clicking

Enables users to count objects within a specified annotation.
The results can be saved as CSV files.



LUT control

Allows for the control of the Look Up Tables (LUT) by easy adjustment of the import and export light intensity and control of the histogram and line profile.



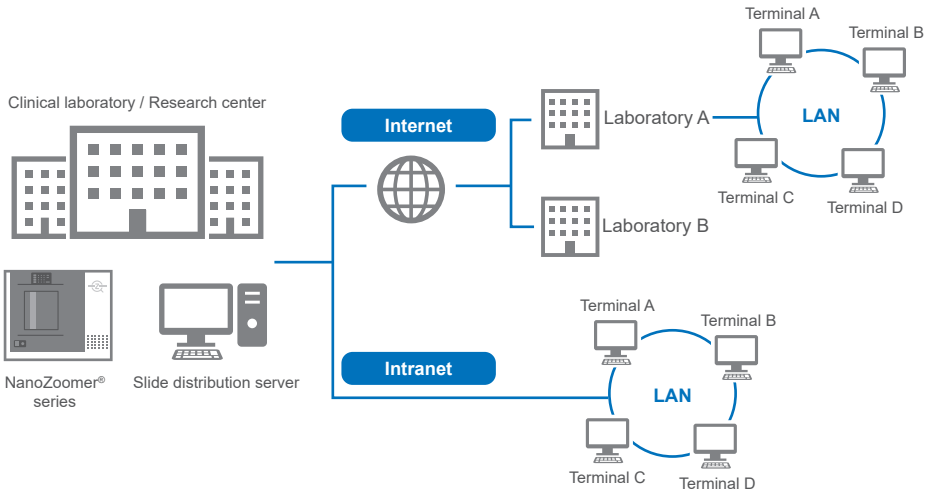
Comparison of functions

		NDP®.view2 U12388-01	NDP®.view2 Plus U12388-02
Basic operations	Zoom in and out	○	○
	Digital zoom (8×)	○	○
	Scrolling	○	○
	Image rotation	○	○
	Image export	○	○
Effective functions for slide observation	Image control	○	○
	Thumbnails	○	○
	Multi View	○	○
	Annotation	○	○
	Stepless zoom	○	○
Functions necessary for specific observation and analysis	Supporting Non-Hamamatsu WSI format images	–	○
	Counting by mouse clicking	–	○
	Track map export	–	○
	Report export	–	○
	Review	–	○
	Case view	–	○
	TMA code record	–	○
	Magnifier	–	○
	Grid overlay	–	○
Effective functions for fluorescent image observation (for NanoZoomer® S60)	Color selection for fluo	○	○
	Line profile, histogram	–	○
	LUT control	–	○

NZConnect Serve Basic Web slide server software

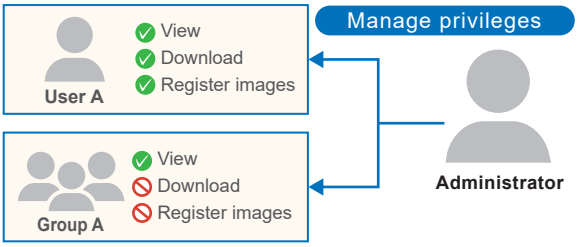
U16179-01

NZConnect Serve Basic is the image distribution software that efficiently distributes large-volume whole slide images scanned by the NanoZoomer® series via the Internet and/or Intranet. Access permission to the image database can be managed.
It enables many people to access the database at the same time and supports a wide range of applications, such as remote viewing for educational and research purpose.
The standard version has a limit on the number of images that can be published (up to 100 images). The paid option allows for an unlimited number of image publications.



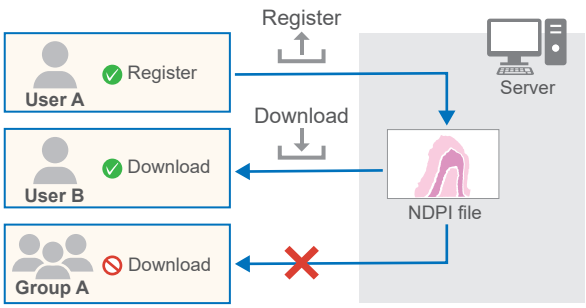
Access permission management for each user

NZConnect uses an ID/password-based login format.
The server administrator can set and manage passwords and access permission for each user/user group.



Register (publish) and download folders

Users can register and download files according to the permission they have been given.
You can register NDPI files (virtual slides), documents and jpeg files.



NDP®.toolkit Slide processing software U10909

Image data saved on a local computer can be edited

X-Y trimming and Z-stack trimming of whole slide imaging, and label editing are supported.

Slide cassette

Additional slide cassettes for NanoZoomer®.

Product number	Used for	Slide capacity	Number of cassettes included	Size of slide
A14353-02	S360	30 slides	12	1" × 3" (26 mm × 76 mm)
A16696-01	S20	20 slides	1	
A10294	S210	30 slides	7	
A13798-01	S60	20 slides	4	
A13798-02	S60	10 slides	Not included	2" × 3" (52 mm × 76 mm)

S360 Dedicated option

Barcode card (blue) for NanoZoomer® cassette A14354-01

Barcode cards used for cassettes of NanoZoomer® S360.
Used to manage slide cassettes in the image acquisition software “NZAcquire.”
They are blue-colored with a printed barcode and contain 120 sheets per case.

* The NanoZoomer® S360 is supplied with one case as a standard accessory.

Barcode option

Software that enables the device to read 2D barcodes.
2D barcode information on glass slides can be read automatically and added to whole slide images.

Product number	Image Acquisition software*	2D barcode
U10386	NDP®.scan	For Data matrix
U10499		For QR-CODE
U14593	NZAcquire	For Data matrix
U14594		For QR-CODE

* NDP®.scan and NZAcquire are image acquisition software required to convert the glass slide images into digital images. The applicable software varies depending on model.

S20 Dedicated option

Slide cassette for S20 A16696-01

One cassette is included as standard. Additional cassettes can be purchased as an option.

Adapter on SAKURA basket for S20 A16696-02

An adapter for SAKURA basket.

S60 Dedicated option

Fluorescence imaging module for S60 L13820-011, -041 / Filter wheel for S60 L13820-02, -05 / Solid state illumination unit L13820-07

Fluorescent stained specimens can be scanned

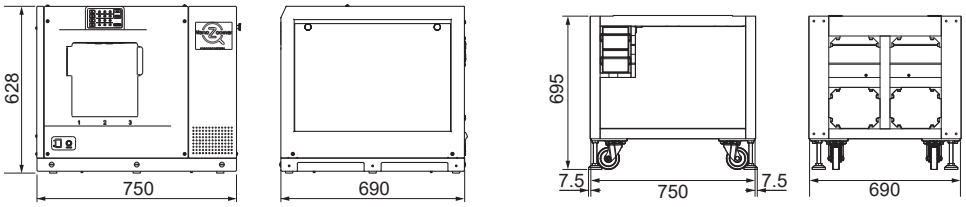
By combining the fluorescence imaging module with the NanoZoomer® S60, the entire image of a fluorescent stained specimen can be scanned at high speed and high resolution.
By converting to digital data, fluorescent stained specimens can be observed without fading.

Dimensional outlines (Unit: mm)

* The following sizes do not include protrusions such as screws.

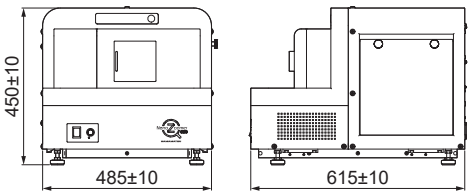
□ NanoZoomer® S360

Weight Main unit: approx. 117 kg, Dedicated rack (included in the system): approx. 78 kg



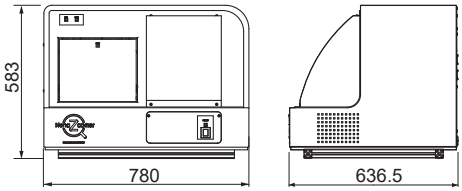
□ NanoZoomer® S20

Weight Main unit: approx. 52 kg



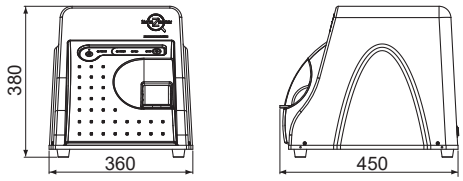
□ NanoZoomer® S210

Weight Main unit: approx. 69 kg



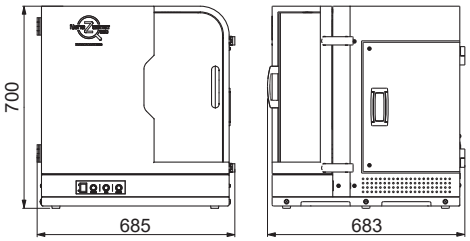
□ NanoZoomer®-SQ

Weight Main unit: approx. 20 kg



□ NanoZoomer® S60

Weight Main unit: approx. 79 kg (not including the optional fluorescence module)



Please contact your local sales representative for information on the status of medical device registration in each country.

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