

RUO model

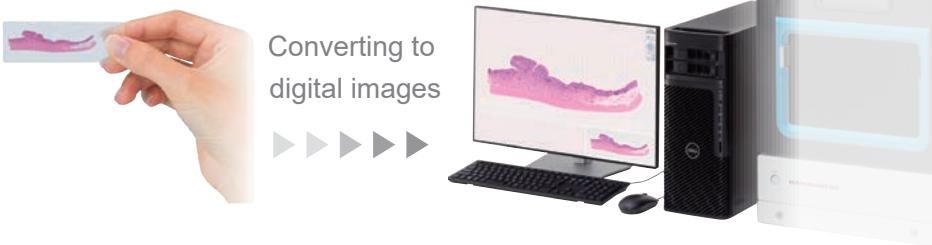


High-speed, high-resolution whole slide image scanners  
**NanoZoomer® series**

Product lineup brochure

# What is NanoZoomer?

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

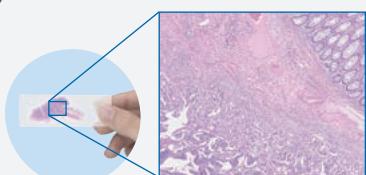


## What a whole slide scanner can do

Captures high definition images

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

**Scan**

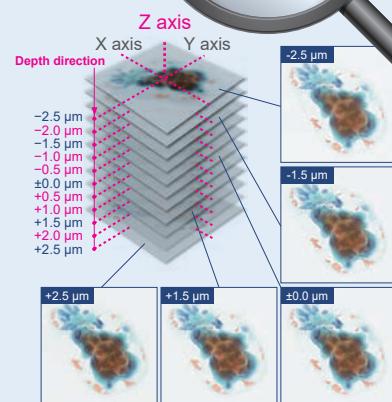


## Unique scanning capabilities

**Look here!**

### Multilayer images of thick specimens can be obtained

The depth direction imaging function (Z-stacking) allows users to capture multilayered images even in thick specimens with ease.

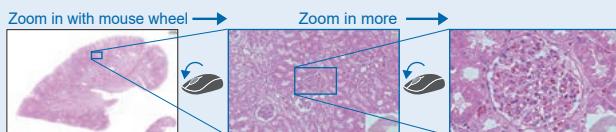


### Scan FL (fluorescent) stained specimens (S60v2)

The fluorescence imaging module enables scanning of FL stained specimens and allows overlaying of brightfield and FL images.

## Intuitive image viewing software

NDP.view2 image viewing software provides quick response 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 page 8 for details.

**View**



Tissue observation on a PC monitor

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

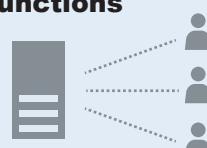
**Serve**

Remote data sharing

Stored data can be accessed remotely via a 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.



# Product lineup

NEW

High volume model

## NanoZoomer S540

C17400-01

High throughput scanner with rack compatibility and continuous loading. Up to 540 1" × 3" (26 mm × 76 mm) slides automatically in one batch.



Benchtop model

## NanoZoomer S20

C16300-01

Compact scanner with high speed. Up to 20 1" × 3" (26 mm × 76 mm) slides automatically in one batch.



NEW

Brightfield and fluorescence scanning model

## NanoZoomer S60v2

C16600-01

Versatile scanner 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.



		NEW NanoZoomer S540	NanoZoomer S20	NEW NanoZoomer S60v2
Product number		C17400-01	C16300-01	C16600-01
Features		High volume, High speed	Benchtop size, High speed	2" × 3" (52 mm × 76 mm) slides Fluorescence available
Compatible glass slide	1" × 3" (26 mm × 76 mm)	○	○	○
	2" × 3" (52 mm × 76 mm)	—	—	Option
Scanning speed (20× mode) (15 mm × 15 mm)		Approx. 30 seconds	Approx. 30 seconds	Approx. 60 seconds
Scanning speed (40× mode) (15 mm × 15 mm)		Approx. 30 seconds	Approx. 30 seconds	Approx. 75 seconds
Automatic scanning		540 slides	20 slides	60 slides (1" × 3" [26 mm × 76 mm] slide) 30 slides (2" × 3" [52 mm × 76 mm] slide)
Fluorescence imaging		—	—	Option
Z-stack feature		○	○	○

# Product lineup

NEW

High volume model

High throughput scanner with rack compatibility and continuous loading.

## NanoZoomer S540

C17400-01

Scanning speed

Approx.

**30** seconds

(20×/40× mode)

\* When it scans an area of 15 mm × 15 mm square with 5 focus points.

Automatic scanning

**540** slides

30 slides × 18 racks

\* 360 slides with a rack for 20 slides



### High throughput

In addition to its outstanding scanning speed, improvements in slide handling have enabled high throughput.

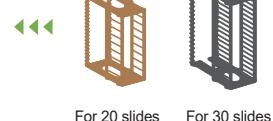
### Processing more than

**82** slides in **60** minutes

\* When it scans an area of 15 mm × 15 mm square with 5 focus points.

### Rack compatibility

The NanoZoomer S540 can handle both racks for 30 slides and 20 slides simultaneously. Before installation, users can select a rack configuration with either a 30-slide or 20-slide capacity, designed to fit into 18 slots.



For 20 slides      For 30 slides

### Continuous loading

Insert and exchange racks without interrupting scanning. Rack priority can be set either directly in the touchscreen interface or using the operation software.



### Touchscreen interface

The touchscreen allows users to operate and monitor key scanning functions without accessing the operation software, including:

- Start / Stop scanning and remove racks
- Set scan priority for racks
- Display scan status



Benchtop model

Compact scanner with high speed.

## NanoZoomer S20

C16300-01

Scanning speed

Automatic scanning

Approx.

**30** seconds

**20** slides

(20×/40× mode)

\* When it scans an area of  
15 mm × 15 mm square with  
5 focus points.



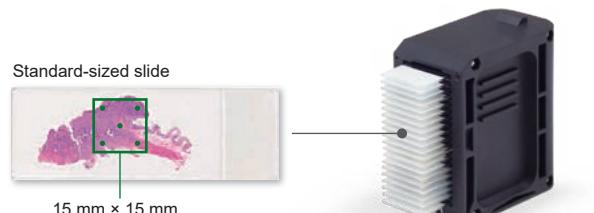
### High throughput

In addition to its outstanding scanning speed, improvements in slide handling have enabled high throughput.

### Processing more than

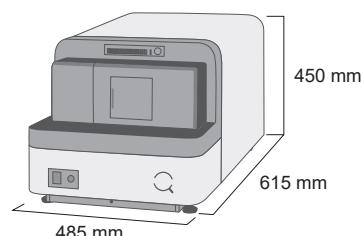
**20** slides in **15** minutes

\* When it scans an area of 15 mm × 15 mm square with 5 focus points.



### Scalable benchtop compact scanner

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



### Flexible slide rack

Loads directly from Sakura 4768 20-slide basket.\*

\*Sakura 4768 20-slide basket is an option.



# Product lineup

NEW

Brightfield and fluorescence scanning model

Versatile scanner for both BF and FL capability.

## NanoZoomer S60v2

C16600-01



Scanning speed

Approx.

**60** seconds

(20× mode)

Approx.

**75** seconds

(40× mode)

Automatic scanning

**60** slides

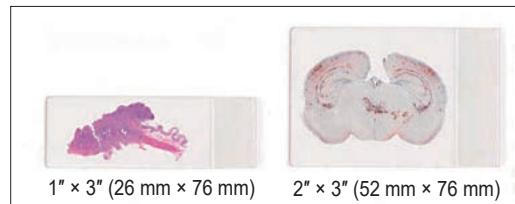
20 slides × 3 cassettes

\* When it scans an area of 15 mm × 15 mm square with 5 focus points.

\* 30 of 2" × 3" (52 mm × 76 mm) slides.  
(10 slides × 3 cassettes)

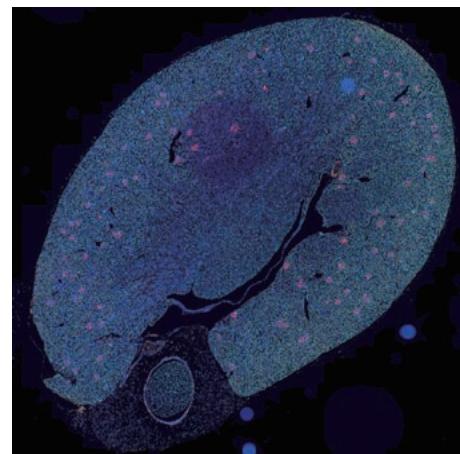
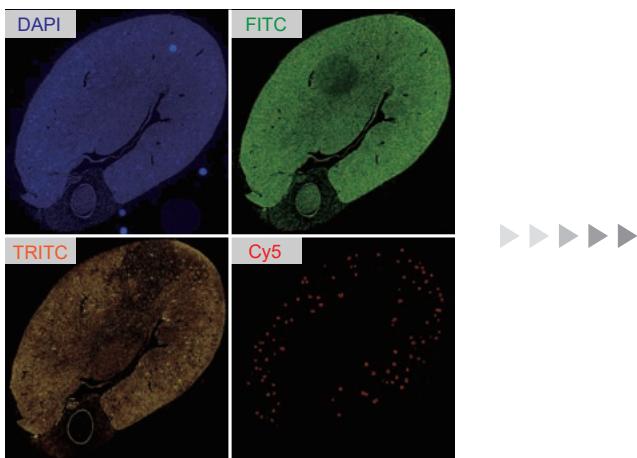
### Compatible with 2" × 3" (52 mm × 76 mm) slides

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 automatically scanned slides is  
60 for 1" × 3" (26 mm × 76 mm) slides only and  
30 for 2" × 3" (52 mm × 76 mm) slides only.



### Compatible with fluorescent stained specimens

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



Possible to superimpose

### Option for fluorescence scanning

Fluorescence imaging module for S60 L13820-041	Type of sensor	CMOS sensor for scientific research use
	Number of filter cube positions	3
	Number of excitation filters	6 (Φ25 mm)
	Number of emission filters	6 (Φ32 mm)
	NDP.view2 Plus Image viewing software U12388-02	5 licenses
Solid state illumination unit L13820-07	Light source	Solid state illumination unit

# Software

## NZAcquire Image acquisition software

U14297-01

NZAcquire is image acquisition software for capturing glass slides as digital images (virtual slides) with easy operation. The language display supports both Japanese and English.

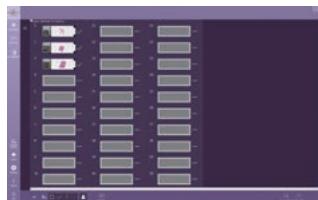


### Scan setting functions

#### Batch mode settings

##### Fully-Automatic Mode

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



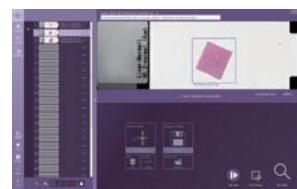
Example of NZAcquire UI display



Simply load the slide cassette and give the start command

##### Semi-Automatic Mode

It allows setting up the scanning conditions such as the scan area or resolution and to assign profiles for each slide. Once set, scanning is performed automatically according to the conditions.

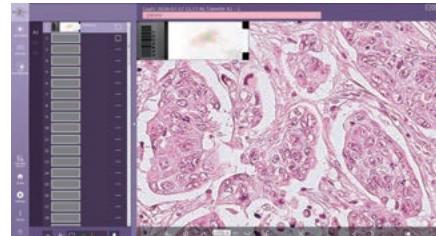


##### Configurable scanning conditions

- Scan area
- Scan resolution (20x or 40x mode)
- Number of layers (Z-stacking)
- Focus point locations

#### Single mode

It allows setting the scanning conditions for each slide. The configurable functions are the same as those available for semiautomatic. Additionally, in single slide mode, you can verify focal points and make precise adjustments manually to each focus point.



### 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.

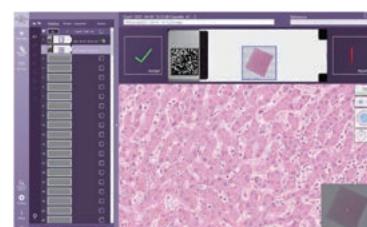


Results of focus judgment are displayed

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 the whole slide imaging.



Checking

# Software

## NDP.view2 Image viewing software

U12388-01

NDP.view2 image viewing software provides quick response and intuitive operability.

You can observe images in detail 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.

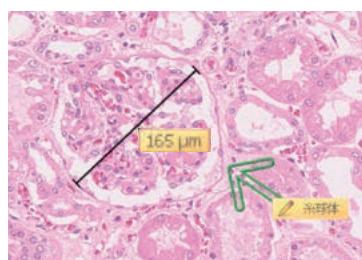


Click on the part you wish to view.

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 a 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 time

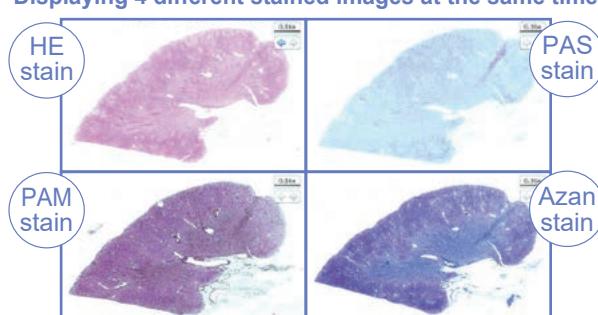


Image display position can be synchronized for zooming in and out

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

# Options

## 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.



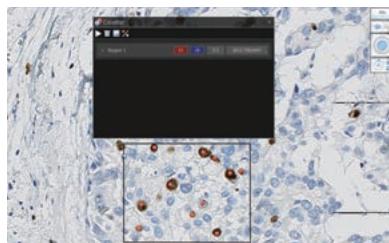
### Supporting non-Hamamatsu WSI format images

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.

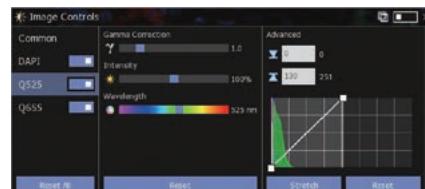
### Counting by mouse clicking

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	○	○
	Multiview	○	○
	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	—	○
	Color selection for fluo	○	○
Effective functions for fluorescent image observation (for NanoZoomer S60v2)	Line profile, histogram	—	○
	LUT control	—	○

# Options

## 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.

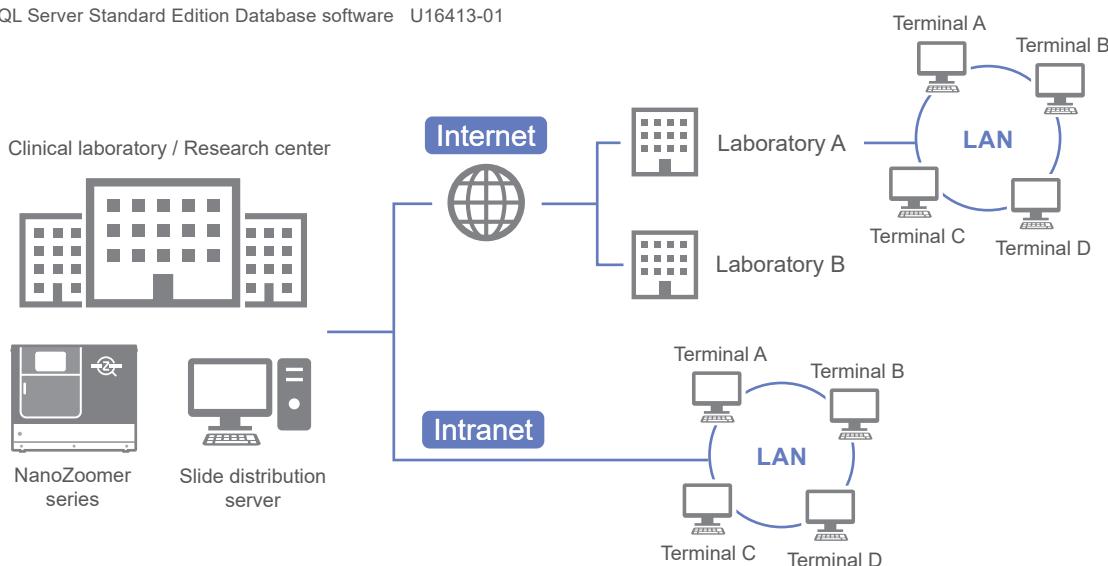
It enables many people to access the database at the same time and supports a wide range of applications, such as remote viewing for educational and research purposes.

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.



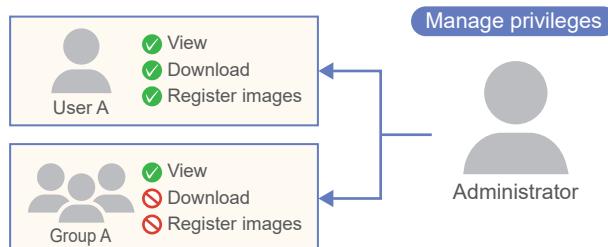
\* To make the number of published images unlimited, the following two items are required.

- Unlimited slides for NZConnect U16397-01
- Microsoft SQL Server Standard Edition Database software U16413-01



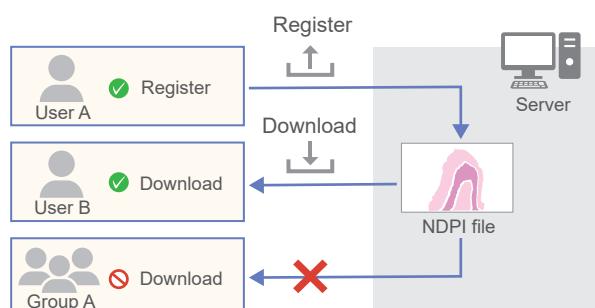
### Access permission management for each user

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 files

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

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### **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.

## Barcode option

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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	Used for	2D barcode
U14593	S540, S60v2	For Data matrix
U14594	S540, S60v2	For QR-Code®

## NZMask WSI anonymization software U17415-01

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Software that enables the automatic or manual erasure of information related to slide labels contained in virtual slide files (NDPI) obtained by the NanoZoomer series. The types of information include barcode images, reference information (information read from the barcode), and images of the entire glass slide.

## Slide cassette

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Additional slide cassettes for NanoZoomer.

Product number	Used for	Slide capacity	Number of cassettes included	Size of slide
A16696-03	S20	20 slides	1	1" × 3" (26 mm × 76 mm)
A13798-01	S60v2	20 slides	3	
A13798-02	S60v2	10 slides	Not included	2" × 3" (52 mm × 76 mm)

### **S20 Dedicated option** Adapter on Sakura basket for S20 A16696-02

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An adapter for Sakura basket.

### **S60v2 Dedicated option** Fluorescence imaging module for S60 L13820-041 Solid state illumination unit L13820-07

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### **Fluorescent stained specimens can be scanned**

By combining the fluorescence imaging module with the NanoZoomer S60v2, 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.

\*The fluorescence imaging module S60, L13820-041, includes a filter wheel.

# Dimensional outlines

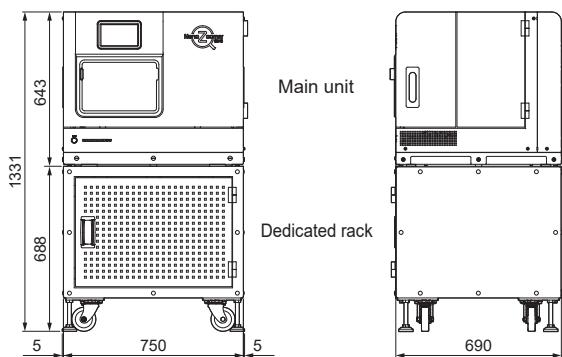
(Unit: mm)

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

## □ NanoZoomer S540

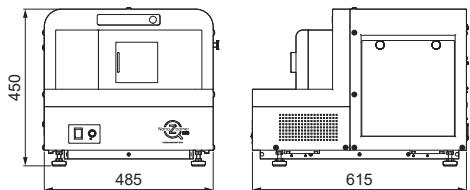
Scanner: Approx. 125 kg

Dedicated cart (included in the system): Approx. 65 kg



## □ NanoZoomer S20

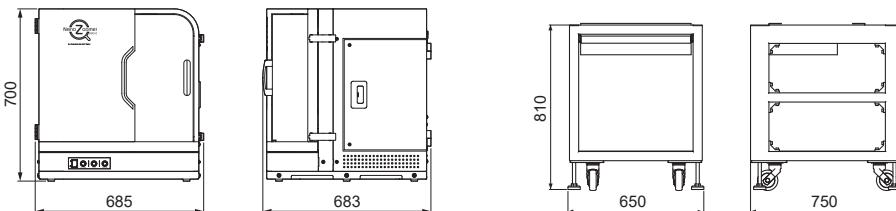
Scanner: Approx. 52 kg



## □ NanoZoomer S60v2

Scanner: Approx. 84 kg (not including the optional fluorescence module)

Dedicated cart (included in the system): Approx. 68 kg



### LASER SAFETY

The NanoZoomer S60v2 is a Class 1 laser product, and the NanoZoomer S540 is a Class 2 laser product. Hamamatsu Photonics classifies laser diodes and provides appropriate safety measures and labels according to the classification required for manufacturers by IEC 60825-1. When using this product, follow all safety measures as specified by the IEC.



Caution Label

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