Wide range of dedicated accessories for SMZ25/SMZ18 for all types of observation

Base Unit, Focus Unit, Stand/Focus Mount

Base Unit

Nikon has improved ease of use by moving the controls to the front of the base, including the brightness adjustment dial and the on/off switch.

Fiber DIA base
The Fiber DIA base features condenser lenses that can be switched between low and high magnifications. Furthermore, the OCC illumination system allows high-contrast illumination.
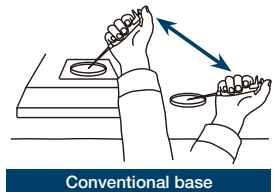
Slim Bases
The slimmer LED DIA Base and Plain Base help increase efficiency of sample manipulation by bringing the level of the sample closer to the table.

❶ P2-DBF Fiber Diascopic Illumination Base

❷ P2-DBL LED Diascopic Illumination Base

Conventional base

Slim base

❸ P2-PB Plain Base

Focus Unit

The focus unit is combined with the base unit. Choose from either a manual or motorized focus unit.

❶ P2-MFU Motorized Focus Unit

❷ P2-FU Focus Unit

Stand/Focus Mount SMZ18

SMZ18 can be mounted on various compact stands using a focus mount.

❶ P2-FMDN Focus Mount
❷ P-PS32 Plain Stand

❹ P-DSF32 Fiber Diascopic Illumination Stand

❸ P-DSL32 LED Diascopic Illumination Stand

SHR Plan Apo Objective Series

The SHR Plan Apo series features higher NA, wider field of view and superior flatness and color aberration correction.
These objective lenses can be seamlessly switched because all magnifications have the same parfocal distance. The bayonet mount design allows lenses to be safely and easily removed.

❶ P2-SHR Plan Apo 0.5x
❸ P2-SHR Plan Apo 1.6x
❷ P2-SHR Plan Apo 1x
❹ P2-SHR Plan Apo 2x

		SHR Plan Apo 0.5×	SHR Plan Apo 1×	SHR Plan Apo 1.6×	SHR Plan Apo 2×
Maximum NA	SMZ25	0.078	0.156	0.25	0.321
	SMZ18	0.075	0.15	0.24	0.3
Working distance		71 mm	60 mm	30 mm	20 mm
Correction ring		–	–	–	3 mm water depth
Wavelength		380-700 nm			

Tubes

Choose from two types of tilting trinocular tube and one type of low eyelevel trinocular tube. All tubes have a camera port for seamless integration with the Digital Sight series.

❶ P2-TERG100 Trinocular Tilting Tube (eyepiece: port 100:0 / 0:100)

❷ P2-TERG50 Trinocular Tilting Tube (eyepiece: port 100:0/50:50)

❸ P2-TL100 Trinocular Tube L (eyepiece: port 100:0 / 0:100)

Nosepiece/Focus Mount Adapter

Both single and double nosepieces are available.

❶ P2-RNI2 Intelligent Nosepiece

❷ P2-FM Focus Mount Adapter

Stage

The stage features an XY stroke of 6x4* inches (150 mm x 100 mm) and can be attached to any of the bases, making it effective for capturing large images when used in combination with imaging software NIS-Elements. A sliding stage and tilting stage are also available. *Limited Y travel with 32 mm column bases

P-SXY XY Stage

Accessories
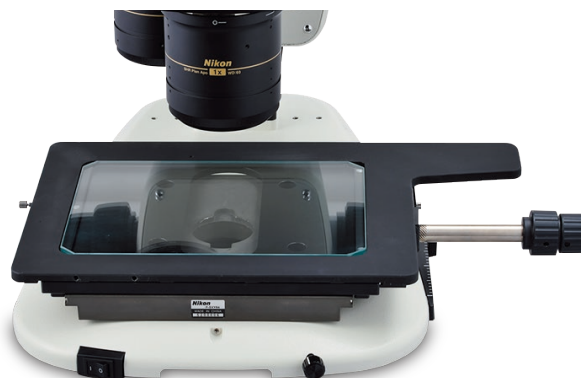
Remote Control

Nikon offers a remote control unit that can be used to operate the microscope and capture images by hand. A footswitch is also available, allowing the user to operate the microscope and capture images by foot, freeing the hands for sample manipulation.

P2-RC Remote Controller

❶ AZ-PCR Photo Release
❷ AZ-FSW Foot Switch

Darkfield Observation Accessory

Darkfield viewing is possible simply by attaching the darkfield unit to the base.
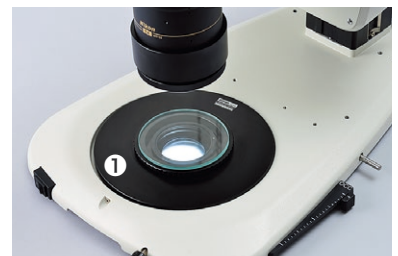❶ P-DF LED Dark Field Unit
❷ Shading cover

Polarizing Observation Accessory

The analyzer is attached to the objective and the polarizer to the base or stand to enable polarized viewing.
❶ P2-POL Simple Polarizing Attachment

Epi-fluorescence Set

Motorized Epi-fluorescence Set
The fluorescent turret can be operated using the remote control or imaging software NIS-Elements.

❶ P2-EFLM Motorized Epi Fluorescence Attachment
❷ Light shading Plate (comes with Fluorescence Attachment)
❸ P2-EFL Filter Cube (GFP-B/GFP-L/RFP)
❹ P2-EFLBF Filter Cube (Bright Field)
❺ P2-CTLA Control Box
❻ P2-RC Remote Controller
❼ P2-CIA QL1x/0.5x 1/4λ Plate

Combinations with SMZ25

- -

Manual Epi-fluorescence Set
An easy-to-use manual model for Nikon's high-performance epi-fluorescence attachment.

❶ P2-EFLI Epi Fluorescence Attachment
❷ Light shading Plate (comes with Fluorescence Attachment)
❸ P2-EFL Filter Cube (GFP-B/GFP-L/RFP)
❹ P2-EFLBF Filter Cube (Bright Field)
❺ P2-CTLB Control Box
❻ P2-CIA QL1x/0.5x 1/4λ Plate

Combinations with SMZ18

Fiber Illuminator Set

Flexible Double Arm Fiber Illumination Set

The direction and angle of illumination can be changed to suit the sample by making adjustments with these double arms. The fiber holder position can also be changed to obtain the optimal position for illuminating samples.

❶ C-FDF Flexible Double Arm Fiber Illumination Unit
❷ C-FIDH Fiber Holder
❸ C-FLED2 LED Light Source for Fiber Illuminator

Combination with SMZ18

Ring Fiber Illumination Set

This ring fiber illumination set features an episcopic illumination unit that effectively captures images (can be used with 1x and 0.5x objective lenses).

❶ P2-FIR Ring Fiber Illumination Unit
❷ C-FLED2 LED Light Source for Fiber Illuminator

Combination with SMZ18

Coaxial Illuminator

The coaxial light illuminator makes it possible to view light reflected from the surface of a sample. It is ideal for shooting shadow-less images of thick samples.

❶ P2-CI Coaxial Epi Illuminator
❷ C-FLED2 LED Light Source for Fiber Illuminator
❸ P2-CIA QL1x/0.5x 1/4 λ Plate

Combination with SMZ18

Ring LED Illuminator

Ring LED illuminator is equipped with high-intensity, long-life (20,000 hours) LEDs. The illuminator's dial adjusts the intensity of the white LED.

❶ P2-FIRL LED Ring Illumination Unit

Combination with SMZ25

Accessories

A variety of accessories are available for stereoscopic observations

Plan Apo WF series

Objectives

A wide selection with various magnifications and working distances is available, including high-NA, high-resolution and wide-viewfield Plan Apo WF series objectives with superior image flatness and chromatic aberration correction.

SMZ1270/1270i   SMZ800N

❶ Plan Apo 0.5x/WF
❷ Plan Apo 0.75x/WF
❸ Plan Apo 1x/WF
❹ ED Plan 1.5x/WF
❺ ED Plan 2x/WF

Objectives		Working distance (mm)	Zoom magnification	NA	Actual FOV*1
Plan Apo	0.5x/WF	82	0.63x	0.0095	69.8
			8x	0.0525	5.5
	0.75x/WF	107	0.63x	0.0143	46.6
			8x	0.0788	3.7
	1x/WF	70	0.63x	0.0190	34.9
			8x	0.1050	2.8
ED Plan	1.5x/WF	44	0.63x	0.0285	23.3
			8x	0.1575	1.8
	2x/WF	35	0.63x	0.0380	17.5
			8x	0.2100	1.4

*1 With C-W10xB eyepiece

SMZ800N

❶ Achro 0.5x
❷ ED Plan 0.75x
❸ Plan 1x

| Objectives		Working distance (mm)	Zoom magnification	NA	Actual FOV*1
Achro	0.5x	189	1x	0.0145	44
			8x	0.0525	5.5
ED Plan	0.75x	117	1x	0.0218	29.3
			8x	0.0788	3.7
Plan	1x	78	1x	0.0290	22
			8x	0.1050	2.75

*1 With C-W10xB eyepiece

Auxiliary Objectives

Microscopes	Auxiliary objectives	Working distance (mm)
SMZ745/745T	G-AL ERG 0.77–1.06x	102–48
	G-AL 0.5x	211
	G-AL 0.7x	150
	G-AL 1.5x	61
	G-AL 2x	43.5

Microscopes	Auxiliary objectives	Working distance (mm)
SMZ445/460	AL5 (0.5x)	181
	AL7 (0.7x)	127.5
SMZ-2	AL5 (0.5x)	103
	AL7 (0.7x)	95

Nosepieces

Double nosepiece with two-objective switchover. Easy changeover from stereo position (stereoscopic view) to mono position (on-axis view) is possible by simply moving the objective lens to the right.

Stereoscopic view

On-axis view
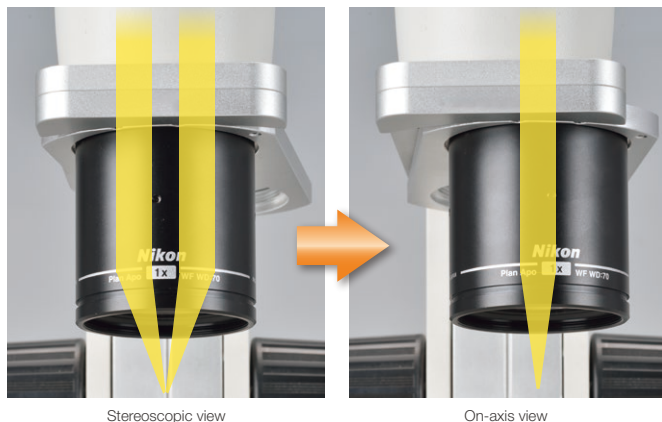
P-RN2 Nosepiece `SMZ1270/1270i` `SMZ800N`

Observations with wider zoom ranges are possible by simply switching between two objectives.

P-RNI2 Intelligent Nosepiece `SMZ1270i`

Enables easy switchover between two objectives. In combination with the Digital Sight series digital camera, it automatically detects the data of objective in use.

Tubes/Eye-level Riser `SMZ1270/1270i` `SMZ800N`

Various ergonomic tubes with different inclination angles enable suitable eye levels to be selected for observation, even when an intermediate tube or illuminator is attached. Trinocular tubes are also equipped with camera ports.

P-B Binocular Tube

20° inclination angle allows observation without having to lean forward and reduces fatigue during long-time operations.

P-TERG100/P-TERG50 Trinocular Tilting Tube

Allows continuous adjustment of the eyepiece inclination from 0° to 30°. Optical path switching ratio of eyepiece:camera port is 100:0/0:100 with P-TERG100 and 100:0/50:50 with P-TERG50.

P-TERG100 Trinocular Tilting Tube

P-T100 Trinocular Tube

The eyepoint height can be raised 106 mm by tilting the eyepieces 180° up. Optical path switching ratio of eyepiece:camera port is 100:0/0:100.

P-IER Eye-level Riser

Increases the eyepoint height 25 mm per riser for a total of 50 mm.

Intermediate Tubes `SMZ1270/1270i` `SMZ800N`

Various intermediate accessories are available that can be inserted between the microscope zooming body and tube.

P-IBSS2 Beam Splitter S2

Using a beam splitter and camera adapter, a digital camera can be attached to the binocular eyepiece tube for imaging. Optical path switching ratio of left eyepiece:right eyepiece:camera port is 100:100:0/100:50:50.

P-THSS Teaching Head

Simultaneous observation of the same viewfield is possible between the eyepiece lenses of both teaching head and microscope, making it ideal for educational purposes. The pointer can indicate target points in the viewfield during observation.

P-IDT Drawing Tube

Drawing sample images is possible by simply tracing observed images that are overlaid on top of drawings within the viewfield. The drawings can be removed from view by using the knob to block the light path.

Accessories

Stages

Stages allow smooth sample movement in order to change viewfield during observation.

C-SSL Dia-sliding Stage

Used for diascopic observation, this sliding stage can be easily moved in the desired direction simply with a light push. Travel range is within ø38mm.

`SMZ1270/1270i` `SMZ800N`
`SMZ745/745T` `SMZ445/460`

Can be used with the SMZ25 and SMZ18

Circular Floating Stage 2

Used for episcopic observation. Loaded with a sample, the stage can be easily moved in the desired direction simply with a light push to its edges. Travel range is within ø40mm.

`SMZ1270/1270i` `SMZ800N`
`SMZ745/745T` `SMZ-2`
`SMZ445/460`

Can be used with the SMZ25 and SMZ18

C-TRS Tilting Stage

This stage has a nonslip sheet and can be tilted 30° from its horizontal position.

`SMZ1270/1270i` `SMZ800N`
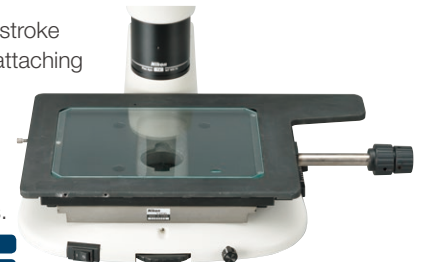`SMZ745/745T` `SMZ445/460`
`SMZ-2`

Can be used with the SMZ25 and SMZ18

P-SXY XY Stage

The stage features an XY stroke of 150 mm x 65 mm. By attaching AZ100 stage adapters, it can be used for various applications. It can be used with both diascopic and episcopic illuminators.

`SMZ1270/1270i` `SMZ800N`
`SMZ745/745T` `SMZ445/460`

Observation Attachments

Various observation accessories are available that utilize diascopic and episcopic illuminations. They can be used for samples that are difficult to observe using standard illumination.

P-EFL Epi-fluorescence Attachment

Up to four epi-fluorescence filter cubes can be mounted. The fly-eye lens provides bright illumination up to the viewfield periphery.

`SMZ1270/1270i`
`SMZ800N`

P-DF LED Darkfield Unit

Equipped with the while light LED as the light source. Simply placing the unit on the stage enables darkfield observation.
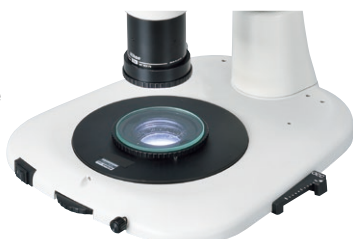
`SMZ1270/1270i`
`SMZ800N`
`SMZ745/745T`

C-POL Polarizing Attachment

Simple polarizing observation is possible by placing the polarizer on the stage while the analyzer is attached to the tip of the objective lens.

`SMZ1270/1270i` `SMZ800N`
`SMZ745/745T`

Illumination Systems

Ring Illuminator

Provides a cone of light from above the sample to the center, minimizing unwanted shadow.
Suitable for observation of electronic substrates.

C-FIR Plastic Fiber-optics Ring Illuminator

Illuminator is located away from microscope. It enables bright observation with high-intensity light without damaging sample with its heat.

`SMZ1270/1270i` `SMZ800N` `SMZ745/745T`
`SMZ445/460` ※ `SMZ-2` ※

LMS100 x 60-15W LED Ring Light

Color temperature is adjusted to 6500K ± 500K to provide stable illumination. Two types of covers are available. Anti-electrostatic type

`SMZ1270/1270i` `SMZ800N` `SMZ745/745T`
`SMZ445/460` ※ `SMZ-2` ※

SM-LW61Ji3 LED Ring Illuminator

Three types of covers are available (clear, diffuser and opaque white). Anti-electrostatic type

`SMZ1270/1270i` `SMZ800N` `SMZ745/745T`
`SMZ445/460` ※ `SMZ-2` ※

※ G-OBA60 Adapter is required.

Arm Illuminator/Episcopic Illuminator

The direction and angle of the illumination can be changed with simple adjustments of the flexible arm.

Arms for LED Episcopic Illuminator

SMZ-U Episcopic Arm   G-EIA Flexible Arm

C-FID2 Double Arm Fiber Illuminator

It enables bright observation with high-intensity light without damaging sample with its heat. The direction and angle of illumination can be changed using the flexible arms.

`SMZ1270/1270i` `SMZ800N`
`SMZ745/745T` `SMZ445/460`
`SMZ-2`

C-FDF Flexible Double Arm Fiber Illumination Unit

It enables bright observation with high-intensity light without damaging sample with its heat. The direction and angle of illumination can be changed using the fiber holder.

`SMZ1270/1270i` `SMZ800N`
`SMZ745/745T` `SMZ445/460`

C-LSL LED Episcopic Illuminator

In combination with C-PSN Plain Stand/CN and C-PSCN Compact Stand/CN, illumination angle flexibility is possible from the back of the microscope.
By attaching arms, flexible change of direction and angle of illumination is possible.

`SMZ1270/1270i` `SMZ800N` `SMZ745/745T` `SMZ445/460`

Coaxial Illuminator

Suitable for brightfield observation for high-reflectance flat surface samples such as polished metals and wafers.

P-CI Coaxial Episcopic Illuminator

Coaxial illuminator for parallel optics-type stereo microscopes. Provides high-intensity illumination for the entire view field.

*1/4 λ plate is required

`SMZ1270/1270i` `SMZ800N`

G-ICIL LED Coaxial Episcopic Illuminator

Coaxial illuminator for Greenough-type stereo microscopes. Equipped with both coaxial episcopic and oblique illumination, which illuminates from behind the microscope.

`SMZ745/745T`

Accessories

Stands

C-PSN   C-PSCN

C-PSN Plain Stand/CN, C-PSCN Compact Stand/CN

Offers a comfortable work area and allows easy handling of samples. C-PSCN has a small base that saves desk space.

P-PS32 Plain Stand

Features a slim design with a ø180 mm stage plate and 160 mm width between the pillar and optical axis to boost working efficiency.

C-LEDS Hybrid LED Stand

Both episcopic and diascopic observations are possible and can be conducted simultaneously. The space-saving built-in illuminator can be switched and adjusted with ease.

Type	Episcopic	Episcopic	Episcopic/Diascopic
Illumination method	—	—	Epi-oblique*, brightfield
Built-in filter	—	—	—
Fine focus knob	—	—	—
Observation magnification	With all objectives, at all zoom ranges	With all objectives, at all zoom ranges	With all objectives, at all zoom ranges
Microscopes	SMZ1270/1270i SMZ800N SMZ745/745T SMZ445/460 P-PS32 can be used with the SMZ18.		

* The illumination area is limited by conditions of use.

C-DS Diascopic Stand S

Features a hand rest for comfortable operation. Used in conjunction with C-DSLU LED Unit for Dia Illumination Stand.

P-DSL32 LED Diascopic Illumination Stand

The OCC illumination system allows colorless and transparent samples to be observed in high relief. Compact slim-type base enhances operation efficiency.

P-DSF32 Fiber Diascopic Illumination Stand

Light source is located away from microscope, enabling bright observation with high-intensity light without damaging sample with its heat.

Type	Diascopic	Diascopic	Diascopic
Illumination method	Brightfield	Brightfield, OCC**	Brightfield, OCC**
Built-in filter	—	Not required (ø45 mm filter slot provided)	NCB11, ND4/16
Fine focus knob	—	Included	Included
Observation magnification	With all objectives, at all zoom ranges	0.5x objective is compatible with zoom magnifications higher than 1.5x.	0.5x objective is compatible with zoom magnifications higher than 1.5x.
Microscopes	SMZ1270/1270i SMZ800N SMZ745/745T SMZ445/460 P-DSL32 and P-DSF32 can be used with the SMZ18.		

** Conditions of use vary depending on objective in use.

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Universal Table Stands/Focusing Mounts

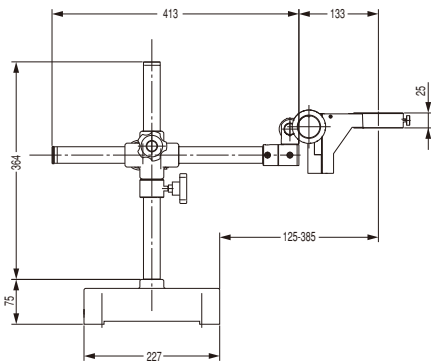## Universal Table Stands G-US1A/G-US2

These stands are handy in microscopy with large samples not loaded onto the standard stand. The microscope zooming body is mounted to the stand arm via a focusing mount. The G-US1A is a table clamp type (table top thickness: 10 to 60 mm).

- Used in conjunction with the C-FMBN Focusing Mount BN on the SMZ1270/1270i/800N/SMZ745/745T/445/460.
- Used in conjunction with the SM Focusing Mount and the G-USA SM US Adapter on the SMZ-2.
- Cannot be used with the SMZ1270/1270i/800N when intermediate tube is mounted on these models.

G-US1A Universal Table Stand 1
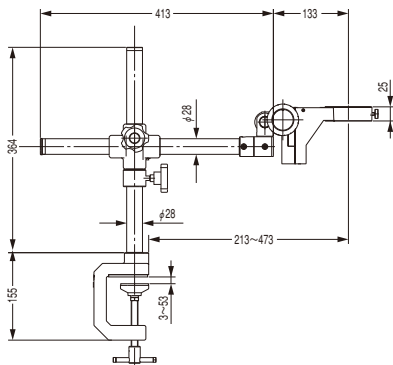
G-US2 Universal Table Stand 2

Unit: mm

Universal Table Stand P (US-3)

Not only can it be used for a large sample, but this extremely stable stand also easily accommodates intermediate tubes.

- Used in conjunction with the C-FMAN Focusing Mount AN on the SMZ1270/1270i/800N/745/745T/445/460.
- Used in conjunction with the SM Focusing Mount on the SMZ-2.

Universal Stand P (US-3)
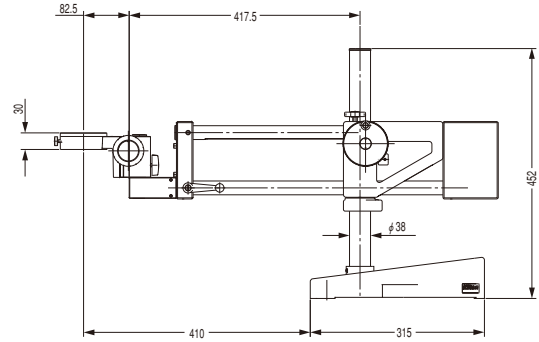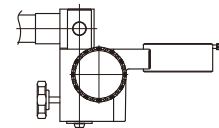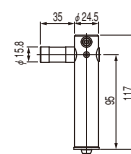

Can be installed on the top or bottom edge.

Unit: mm

Specifications

Model	Universal Table Stand		P (US-3)
	G-US1A	G-US2	
Vertical cross travel	245mm		229mm
Horizontal cross travel	260mm		272mm
Weight (approx.)	4.4kg	23.0kg	30.5kg
C-FMAN Focusing Mount AN	—		○
C-FMBN Focusing Mount BN	○		—
C-FMCN Focusing Mount CN	—		—
SM Focusing Mount	○*		○

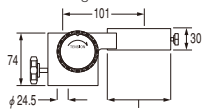○: Possible * G-USA Adapter is required

G-USA Adapter

The image is a configuration sample with the SM Focusing Mount.
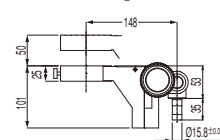
Focusing Mounts

Various types of focusing mounts are available depending on use. They are used to incorporate stereo microscope bodies into IC bonders or other devices (SM Focusing Mount is for SMZ-2). These mounts can also be used when attaching microscopes to Universal Table Stands.
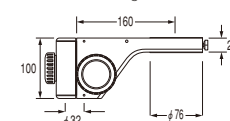

C-FMAN Focusing Mount AN / SM Focusing Mount
ø76mm: C-FMAN Focusing Mount AN
ø62mm: SM Focusing Mount

C-FMBN Focusing Mount BN

C-FMCN Focusing Mount CN

Unit: mm

	C-FMAN Focusing Mount AN	C-FMBN Focusing Mount BN	C-FMCN Focusing Mount CN	SM Focusing Mount
Focusing area	40mm	50mm	50mm	40mm
Weight (approx.)	0.6kg	0.8kg	1.6kg	0.6kg
Antistatic function	○	○	—	—
Compatible microscopes	SMZ1270/1270i/800N/745/745T/445/460			SMZ-2