

# **Carton**

## *Stereo Microscopes*

**MACRO ZOOM LENSES**

**SHOP MICROSCOPES**

**LOUPES**



Carton optical (siam) Co., Ltd.  
is certified to be in accordance  
with requirements of ISO 9001 and ISO 14001

# ZOOM STEREO MICROSCOPES MODEL SPZ-50 SERIES BINOCULAR TYPE

Model **SPZ-50** series offers an outstandingly large zoom ratio 7.50:1 and the total zoom magnification from 6.7x to 50x with standard eyepiece DHW10x. A wide range of the magnification extending from 3.35x to 200x is available with its optional lenses to meet various demands for application. The SPZ-50's newly developed DHW10x eyepiece having the high eye point of 17mm creates comfortable use even for operators with eye-glasses. Pole type stands and universal type boom stand are prepared as standard configurations.

**STAND TYPE : PFM**  
Incident Light :  
Fluorescent



## SPZ-50PFM-IFM

Large stage is equipped for convenience of work.  
A long life and low temperature 9W fluorescent lamp is used for the built-in incident light.

**STAND TYPE : PIHF-M**  
Incident Light :  
Fluorescent



## SPZ-50PIHF-M

Large stage with brightness Adjustable (dimmer).

**STAND TYPE : PITF-M**  
Incident Light :  
Fluorescent  
Transmitted Light :  
Fluorescent



## SPZ-50PITF-M

Transmitted & incident lights are built in the stand.

**STAND TYPE : P**



## SPZ-50PFM-X

Large stage is equipped for convenience of work.  
The stand is suitable for use of existing or optional illuminator.

Models	SPZ-50PFM-IFM	SPZ-50PIHF-M	SPZ-50PFM-X	SPZ-50PITF-M
Magnification	6.7x to 50x (field of view : 34.3mm to 3.6mm)			
Objective Lenses	0.67x to 5.0x (zoom ratio : 7.50:1)			
Eyepieces	Wide Field 10x (DHW10x) (field number : 23)			
Optical Body	360° rotatable binocular type, 45° inclined eyepiece tube			
Working Distance	108mm			
Diopter Adjustment	± 7.2D on both eyepiece tubes			
Stand Type	Pole type (250mm)			Pole type (303mm)
Incident Light	Fluorescent Lamp 9W (FCL9EX-N)	Fluorescent Lamp 9W (FCL9EX-N) w/dimmer	Nil	Fluorescent Lamp 9W (FCL9EX-N)
Transmitted Light	Nil			Fluorescent Lamp 5W
Base	220mm x 284mm			180mm x 265mm
Height	327mm			328mm
Net Weight	5.6kg		4.9kg	5.6kg
Accessories	Rubber eyeguards, Tension control pin, Dust cover			

# ZOOM STEREO MICROSCOPES MODEL SPZT-50 SERIES TRINOCULAR TYPE

Model **SPZT-50** series is same as the SPZ-50 except for trinocular type. It has a vertical tube for the purpose of TV monitoring and photomicrography. The image on the monitor or camera is focusable with the diopter adjustment ring provided on the vertical tube as well as the focusing knobs provided on the holder.

**STAND TYPE : PF-M**  
Incident Light :  
Fluorescent



## SPZT-50PFM-IFM

Large stage is equipped for convenience of work. A long life and low temperature 9W fluorescent lamp is used for the built-in incident light.

**STAND TYPE : PIHF-M**  
Incident Light :  
Fluorescent



## SPZT-50PIHF-M

Large stage with brightness Adjustable (dimmer).

**STAND TYPE : PITF-M**  
Incident Light :  
Fluorescent  
Transmitted Light :  
Fluorescent



## SPZT-50PITF-M

Transmitted & incident lights are built in the stand.

**STAND TYPE : UN**  
Incident Light :  
Fluorescent



## SPZT-50UNF-SM

Universal boom stand is equipped for large specimen. A long life and low temperature 9W fluorescent lamp is used for the built-in incident light.

Models	SPZT-50PFM-IFM	SPZT-50PIHF-M	SPZT-50PFM-X	SPZT-50PITF-M	SPZT-50UNF-SM
Magnification	6.7x to 50x (field of view : 34.3mm to 3.6mm)				
Objective Lenses	0.67x to 5.0x (zoom ratio : 7.50:1)				
Eyepieces	Wide Field 10x (DHW10x) (field number : 23)				
Optical Body	360° rotatable trinocular type, 45° inclined eyepiece tube & vertible tube				
Working Distance	108mm				
Interpupillary Distance	52mm to 75mm				
Diopter Adjustment	± 7.2D on both eyepiece tubes & ± 8D on verticle tube				
Stand Type	Pole type (250mm)			Pole type (303mm)	Universal type (488mm)
Incident Light	Fluorescent Lamp 9W (FCL9EX-N)	Fluorescent Lamp 9W (FCL9EX-N) w/dimmer	Nil	Fluorescent Lamp 9W (FCL9EX-N)	Fluorescent Lamp 9W (FCL9EX-N)
Transmitted Light	Nil			Fluorescent Lamp 5W	Nil
Base	220mm x 284mm			180mm x 265mm	230mm x 230mm
Height	405mm				488mm
Net Weight	5.8kg		5.3kg	5.8kg	24.4kg
Accessories	Rubber eyeguards, Tension control pin, Dust cover				

# ZOOM STEREO MICROSCOPES MODEL DSZ-44 SERIES BINOCULAR TYPE

Model **DSZ-44** series offers superior quality optics and reliable mechanical components. This exceptional quality allows users to efficiently perform tasks and maintain high productivity. A wide variety of stands and illuminators are available to suite many different applications. The DSZ-44 series features a zoom magnification of 10x to 44x (zoom ratio 4.4:1) with standard eye-pieces 10x. A wide range of magnification from 2.5x to 140.8x is available with optional lenses.

## STAND TYPE : PF

Incident Light :  
Fluorescent



## DSZ-44PFM-IFH

Large stage is equipped for convenience of work. A long life and low temperature 9W fluorescent lamp is used for the built-in incident light.

## STAND TYPE : T

Incident Light :  
Fluorescent  
Transmitted Light :  
Tungsten



## DSZ-44BRT-IFH

Transmitted & incident lights are built in the stand. The incident light is composed of 9W fluorescent lamp having a long life and a low temperature.

## STAND TYPE : PITF

Incident Light :  
Fluorescent  
Transmitted Light :  
Fluorescent



## DSZ-44PITF

Transmitted & incident lights are built in the stand. The incident light is composed of 9W fluorescent lamp having a long life and a low temperature.

## STAND TYPE : P



## DSZ-44PFM-X

Large stage is equipped for convenience of work. The stand is suitable for use of the existing or optional illuminator.

Models	DSZ-44PFM-IFH	DSZ-44PIHF	DSZ-44PFM-X	DSZ-44PITF	DSZ-44BRT-IFH
Magnification	10x to 44x (field of view : 23mm to 5.2mm)				
Objective Lenses	1.0x to 4.4x (zoom ratio : 4.4:1)				
Eyepieces	Wide Field 10x (DSW10x) (field number : 23)				
Optical Body	360° rotatable binocular type, 45° inclined eyepiece tube				
Working Distance	90mm				
Interpupillary Distance	52mm to 75mm				
Diopter Adjustment	+ 5.6D -7.2D on both eyepiece tubes				
Stand Type	Pole type (250mm)			Pole type (303mm)	Regular type
Incident Light	Fluorescent Lamp 9W (FCL9EX-N)	Fluorescent Lamp 9W (FCL9EX-N) w/dimmer	Nil	Fluorescent Lamp 9W (FCL9EX-N)	Fluorescent Lamp 9W (FCL9EX-N)
Transmitted Light	Nil			Fluorescent Lamp 5W	Tungsten Lamp 230V 20W
Stage plate	Nil			Round plastic stage (Ø = 80mm)	Frosted glass plate (Ø = 80mm) Frosted blue filer (Ø = 37mm)
Base	220mm x 284mm			180mm x 265mm	160mm x 219mm
Height	327mm			328mm	352mm
Net Weight	5.4kg		4.7kg	5.4kg	4.4kg
Accessories	Rubber eyeguards, Tension control pin, Dust cover. Spare bulb (Tungsten Lamp for stand type T only)				

# ZOOM STEREO MICROSCOPES MODEL DSZT-44 SERIES TRINOCULAR TYPE

Model **DSZT-44** series is provided with trinocular body for TV microscopy and photomicrography. It features the same zoom magnification of 10x to 44x as the DSZ-44 series.

## DSZT-44PFM-IFH

Large stage is equipped for convenience of work. A long life and low temperature 9W fluorescent lamp is used for the built-in incident light.



## DSZT-44PFM-IFL

Large stage is equipped for convenience of work. A low positioned 9W fluorescent lamp is used for the built-in incident light.



## DSZT-44PITF

Transmitted & incident lights are built in the stand. The incident light is composed of 9W fluorescent lamp having a long life and a low temperature.



Models	DSZT-44PFM-IFH	DSZT-44PFM-IFL	DSZT-44PIHF	DSZT-44PITF	DSZT-44BRT-IFH
Magnification	10x to 44x (field of view : 23mm to 5.2mm)				
Objective Lenses	1.0x to 4.4x (zoom ratio : 4.4:1)				
Eyepieces	Wide Field 10x (DSW10x) (field number : 23)				
Optical Body	360° rotatable trinocular type, 45° inclined eyepiece tube				
Working Distance	90mm				
Interpupillary Distance	52mm to 75mm				
Diopter Adjustment	± 5.6D -7.2D on both eyepiece tubes & ± 8D on verticle tube				
Stand Type	Pole type (250mm)			Pole type (303mm)	Regular type
Incident Light	Fluorescent Lamp 9W (FCL9EX-N)	Fluorescent Lamp 9W (FCL9EX-N) w/Low position	Fluorescent Lamp 9W (FCL9EX-N) w/dimmer	Fluorescent Lamp 9W	
Transmitted Light	Nil			Fluorescent Lamp 5W	Tungsten Lamp 120V or 230V 20W
Stage plate	Nil			Round plastic stage (Ø = 80mm)	Frosted glass plate (Ø = 80mm) Frosted blue filter (Ø = 37mm)
Base	220mm x 284mm			180mm x 265mm	160mm x 219mm
Height	353mm			354mm	379mm
Net Weight	5.6kg				4.6kg
Accessories	Rubber eyeguards, Tension control pin, Dust cover. Spare bulb (Tungsten Lamp for stand type T only)				

# ZOOM STEREO MICROSCOPES MODEL DSZ-70 & DSZT-70 SERIES BINOCULAR & TRINOCULAR TYPE

Model **DSZ-70** and **DSZT-70** series offer a high power range and they feature a zoom magnification of 20x to 70x (zoom ratio 3.5:1) with standard eyepieces 10x. A wide range of magnification from 5x to 224x are also available with optional lenses. In addition to a pole type stand without light, there are three kinds of stand with built-in fluorescent light specially designed for the high power model. Trinocular type model DSZT-70 series is also available for TV microscopy and photomicrography.

## DSZ-70BRT-IFL

Transmitted & incident lights are built in the stand. The incident light is composed of 9W fluorescent lamp at low position.



**STAND TYPE : TL**  
Incident Light :  
Fluorescent  
Transmitted Light :  
Tungsten



**DSZT-70BRT-IFL**  
Trinocular type

**STAND TYPE : P**



## DSZ-70PFM-X

Large stage is equipped for convenience of work. The stand is suitable for use of the existing or optional illuminator.

## DSZ-70PFM-IFL

Large stage is equipped for convenience of work. A low position 9W fluorescent lamp is used for the built-in incident light.



**STAND TYPE : PFL**  
Incident Light :  
Fluorescent



**DSZT-70PFM-IFL**  
Trinocular type

Models	DSZ-70PFM-IFL	DSZT-70PFM-IFL	DSZ-70PFM-X	DSZ-70BRT-IFL	DSZT-70BRT-IFL
Magnification	20x to 70x (field of view : 10mm to 2.8mm)				
Objective Lenses	2.0x to 7.0x (zoom ratio : 3.5:1)				
Eyepieces	Wide Field 10x (DSW10xZ) (field number : 20)				
Optical Body	360° rotatable binocular type, (DSZ series), Trinocular type (DSZT series) 45° inclined eyepiece tube				
	Nil	& Verticle tube	Nil	& Verticle tube	
Working Distance	80mm				
Interpupillary Distance	52mm to 75mm				
Diopter Adjustment	+ 5.6D -7.2D on both eyepiece tubes				
	Nil	± 8D on verticle tube	Nil	± 8D on verticle tube	
Stand Type	Pole type (250mm)			Regular type	
Incident Light	Fluorescent Lamp 9W (FCL9EX-N) w/Low position	Fluorescent Lamp 9W (FCL9EX-N) w/Low position	Nil	Fluorescent Lamp 9W (FCL9EX-N) w/Low position	Fluorescent Lamp 9W (FCL9EX-N) w/Low position
Transmitted Light	Nil			Tungsten Lamp 120V or 230V 20W	
Stage plate	Nil			Frosted glass plate (Ø = 80mm), Frosted blue filter (Ø = 37mm)	Frosted glass plate (Ø = 80mm), Frosted blue filter (Ø = 37mm)
Base	220mm x 284mm			160mm x 219mm	160mm x 219mm
Height	372mm			352mm	379mm
Net Weight	5.5kg	5.7kg	4.8kg	4.5kg	4.7kg
Accessories	Rubber eyeguards, Tension control pin, Dust cover. Spare bulb (Tungsten Lamp for stand type T only)				

# STEREO MICROSCOPES MODEL NSW (T) SERIES BINOCULAR & TRINOCULAR TYPE



## TRINOCULAR TYPE

Model NSWT series is also available for TV microscopy and photomicrography.

### STAND TYPE : PF

Incident Light :  
Fluorescent



**NSW- (0.6/2), (12), (13), (24)**

#### -PFM-IFH

Large stage is equipped for convenience of work.  
A long life and low temperature 9W fluorescent lamp is used for the built-in incident light.

### STAND TYPE : T

Incident Light :  
Fluorescent  
Transmitted Light :  
Tungsten



**NSW- (0.6/2), (12), (13), (24)**

#### -BRT-IFM

Transmitted & incident lights are built in the stand.  
The incident light is composed of 9W fluorescent lamp having a long life and a low temperature.

### STAND TYPE : P



**NSW- (0.6/2), (12), (13), (24)**

#### -PFM-X

Large stage is equipped for convenience of work.  
The stand is suitable for use of the existing or optional illuminator.

### STAND TYPE : L

Incident Light :  
Tungsten  
Transmitted Light :  
Tungsten



### STAND TYPE : E

Incident Light :  
Tungsten (Low Voltage)  
Transmitted Light :  
Tungsten

**NSW- (0.6/2), (12), (13), (24)**

#### -BRT-IHV OR ILV

Transmitted & incident lights composed of Tungsten lamps are built in the stand. A low voltage lamp 6V 12W is used for the incident light of the stand type E to make whitish light..

Models	NSW-1	NSW-2	NSW-0.6/2	NSW-12	NSW-13	NSW-24
Magnification	10X	20X	6X (38.3mm)	10X (23.0mm)	10X (23.0mm)	20X (11.5mm)
(Field of View)	(23.0mm)	(11.5mm)	20X (11.5mm)	20X (11.5mm)	30X (7.6mm)	40X (5.7mm)
Objective Lenses	1x	2x	0.6x & 2x	1x & 2x	1X & 3x	2x & 4x
Eyepieces	Wide Field 10x (DSW 10x) (field number : 23)					
Optical Body	360° rotatable binocular type, 45° inclined eyepiece tube					
Working Distance	113.0mm	113.0mm	82.5mm	82.5mm	82.5mm	64.3mm
Interpupillary Distance	52mm to 75mm					
Diopter Adjustment	+5.6D – 7.2D on left eyepiece tube					
Stand Type	PFM-IFM	PFM-X	BRT-IFH	BRT-IHV OR ILV		
Incident Light	Fluorescent Lamp 9W (FCL9EX-N)	Nil	Fluorescent Lamp 9W (FCL9EX-N)	Tungsten Lamp 6V 12W or Tungsten Lamp 120V or 230V 20W		
Transmitted Light	Nil		Tungsten Lamp 120V or 230V 20W			
Stage plate	Nil		Frosted glass plate (Ø = 80mm) Frosted blue filter (Ø = 37mm)			
Base	220mm x 284 mm			160 mm x 219 mm		
Height	327 mm			352 mm		
Net Weight	5.1 kg	4.3 kg	3.8 kg	4.1 kg		
Accessories	Rubber eyeguard, Tension control pin, Dust cover			Rubber eyeguard, Tension control pin, Dust cover, Spare blub ( Tungsten Lamp )		

# MICROSCOPE DIGITAL CAMERA EYEPIECE

## Model Z1014E

CMOS CAMERA WITH USB INTERFACE for Microscope

The Z1014E is a CMOS camera to convert a normal microscope into "Digital Microscope". The CMOS camera features USB interface to connect with a PC so that the image enlarged by microscope can be seen, measured and saved in the PC easily. A measuring software "C-IMAGE" is provided as a standard accessory.

### Specifications

CMOS size : 1/4"  
Valid pixel : 640x480 (310K pixels)  
Digital output : 10-bit digital image signal data bus  
Frame rate : 30f/s (VGA)  
Lowest Lux : 1.2Lux  
Exposure : Manual/Auto exposure  
SNR : >44dB  
Dyngmic range : >60dB  
Interface : USB1.1(compatible with USB2.0)  
Image format : 320x240, 640x480  
Scanning : Progressive  
Working current : 100mA  
Consumable power : 0.75W  
Working temperature : +/-20°C  
Replay lens : 0.45x



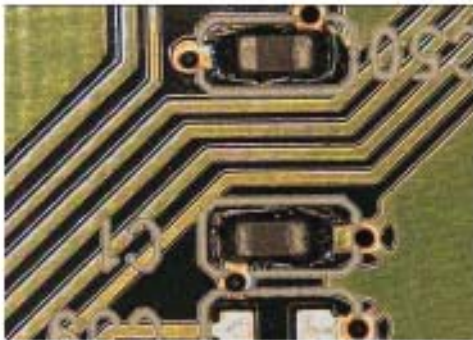
### Standard Accessories

- \*) "C-IMAGE" Measuring Software
- \*) Adapter for eyepiece tube

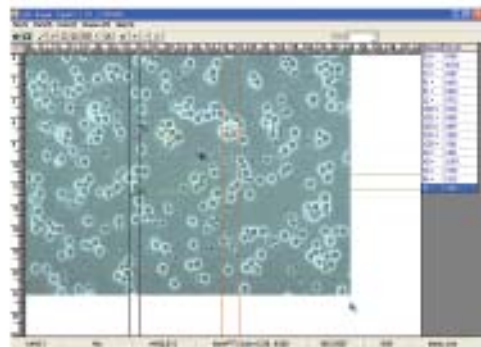
### Operation System

Windows 2000 / Windows XP

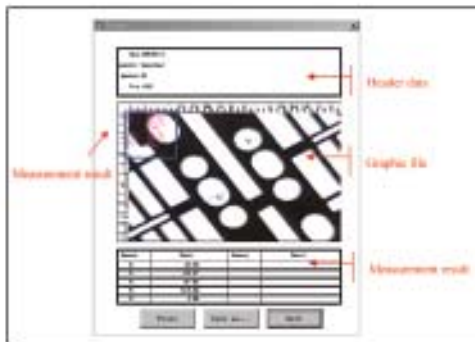
### C - IMAGE



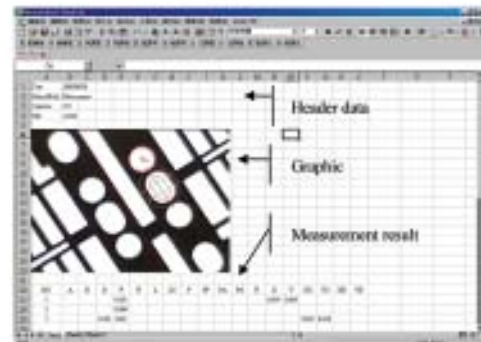
STILL CAPTURE IMAGE



C - IMAGE SCREEN



STANDARD REPORT



REPORT TO EXCEL



### Option for Z1014E Model EP25-C10/100

Calibration Scale 25mm dia., cross 10/100mm  
for use with stereo microscopes



# OPTIONAL ACCESSORIES

## UNIVERSAL BOOM STANDS

### Model DSZ-44P-S

DSZ MICROSCOPE 10x-44x  
with holder (without stand)



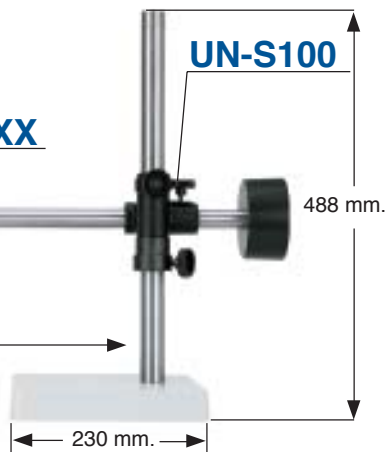
DSZ-44

SCW-PXX

MAX.564 mm.

### Model UN-S100

UNIVERSAL BOOM STAND  
Single Arm Type, without holder

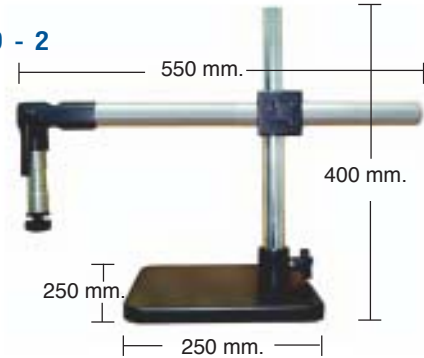


UN-S100

488 mm.

230 mm.

### Model TD - 2



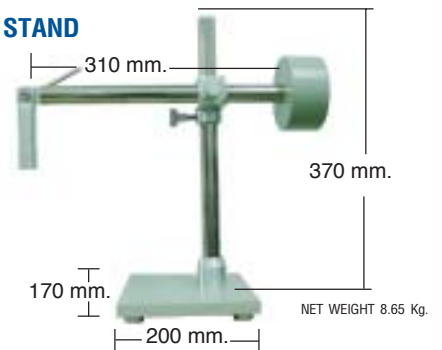
550 mm.

400 mm.

250 mm.

250 mm.

### Model MINI-U STAND



310 mm.

370 mm.

170 mm.

200 mm.

NET WEIGHT 8.65 Kg.

## GLIDING STAGES



### Model M300-C

GLIDING STAGE with attachments  
for micrometers MITUTOYO  
No. 150-192 (MHN1-25)  
Size : 114mm x 114mm  
Range of movement : 25mm x 25mm  
\* Remarks: Micrometer is not included.



### Model M300-E

GLIDING STAGE  
Size : 140mm x 114mm  
Range of movement : 94mm x 66mm



### Model M300-R

ROTATABLE GLIDING STAGE  
Size : 135mm  
Range of movement : 25mm x 25mm

## SHOP MICROSCOPE



For printing,  
machining,  
inspection,  
measurements, etc



### M1752

40x, with scale  
3.0mm/0.1"



### M1754

100x, with scale  
1.0mm/0.05"

Models	M1752	M1754
Magnification (Field of View)	40x (4.5mm)	100x (1.8mm)
Objective Lenses	4x	10x
Focusable Eyepiece	10x with scale	10x with scale
Measuring Range	3.0mm/0.1"	1.0mm/0.5"
Minimum Graduation	0.02mm/0.001"	0.01mm/0.001"
Working Distance	15mm	5.5mm
Height	200mm	
Width	65mm	
Net Weight	570g	580g
Accessory	Penlight	
Packing	Carton box	

# MICROSCOPE SYSTEM

Model SPZ, DSZ and NSW series offers variable combinations composed of microscope body, stand, lens, illuminator and camera, which you can select flexibly to fulfill different applications such as soldering, assembling and inspecting processes.

**System Code: DSZ-44PXX + M U-STAND + FLU. LAMP 9W.**

**Composed of :**

**DSZ-44PXX**

Stereo microscope 10x-44x, Binocular body with holder

**M U-STAND**

Medium arm boom stand

**FLU. LAMP 9 W.**

Fluorescent illuminator with power supply block 220 v.



**System Code: NSW-1XPXX + S U-STAND + FLU. LAMP 75W.**

**Composed of :**

**NSW-1XFIXED**

Stereo microscope 10x, Binocular body with holder

**S U-STAND**

Small arm boom stand

**FLU. LAMP 75 W.**

Fluorescent illuminator



**System Code: DSZT-44PIHF-MD130**

**Composed of:**

**DSZT-44PIHF**

Stereo microscope 10x-44x, trinocular body &  
Large stage with brightness adjustment (dimmer)

**MD-130**

High solution CMOS Camera with USB interface



**System Code: SPZT-50PXX + U-STAND TD-2 + .....**

**Composed of:**

**SPZT-50**

Stereo microscope 6.7x-50x, trinocular body with holder

**U-STAND TD-2**

Single arm boom stand

**TVA-45**

TV camera adapter

**CCD SSC-DC198P**

1/3"CCD color video camera. Pal system, 540 TV Lines

**MONITOR HOLDER**

Adapter for mini TV/Monitor

**TV/MONITOR 7"**

Mini TV/Monitor 7" high solution

**MIC-56**

White LED ring illuminator with brightness adjustment



## QUADRUPLE MONOCULAR LENS

Model **MZL-745** macro zoom lens offers cost-effective PC/TV microscopy system.

The **MZL-745** is available as a monocular with eyepiece.

An eyepiece 10x and a C-mount adapter are provided as standard accessories.

### Model MM-1234PFM

Monocular lens with switchable 0.8x, 1.6x, 2.4x and 3.2x magnifications. C-mount is provided to accept various kinds of camera connecting to TV monitor or PC. An eyepiece 10x is included to enable users to see through the eyepiece like normal monocular microscope as well.



### System Code : MZL-745PF + Z1014E

**Composed of :**

**MZL-745**

Macro zoom lens 0.7x-4.5x

**SCW-PF**

Pole stand and holder

with built-in 9W ring fluorescent light

**Z1014E**

CMOS camera with USB interface



# OPTIONAL ACCESSORIES

## ILLUMINATORS

### Model HDR61 WHITE LED ILLUMINATOR

The HDR61 has a white LED (light-emitting diode) light source featuring an extra long life-time, low temperature, no change of color temperature and flicker-free.



#### 4 – 1 Power Unit

Type	L P – 210	
Input voltage	100VAC - 240VAC Allowable input voltage range : 90 to 264VAC	
Rated frequency	50/60Hz	
Power consumption	6W	
Output voltage	21VDC (Max)	
Output current	180mA	
Lighting system	DC lighting system	
Light intensity control	Output current variable system Light quantity variable range : 0 to 100%	
Operating temperature / humidity	0° C ~ 40° C / 20° ~ 80° RH	
Outer dimensions	W60.6 x H107 x D32.2 (mm)	[*1]
Weight	150g	[*2]

#### – 2 Lighting

Type	HDR61 Wj
Luminescent color	White
Life Time	Approx. 20,000 hours (Not warranty period)
[*3]	
Operating height range	60 ~ 150 (mm)
Mirror cylinder mounting outer diameter	Max Ø61 (mm)
Outer dimensions [*1]	94(O.D.) x 61(I.D.) x 26(H) (mm)
Weight	120g

\*1 Outer dimensions : Projections are excluded. \*2 Weight : Power supply cord is excluded. \*3 Life Time : The LED life differs depending on the ambient temperature.

### Model MIC-56

WHITE LED RING ILLUMINATOR  
with brightness adjustment

- \* 54 pcs. LED (light-emitting diode)
- \* Long life time
- \* Low temperature
- \* No change of color temperature
- \* Flicker-free



### Model : L-150AR60

“COLD LIGHT” 150W OPTICAL FIBER ILLUMINATOR  
with Ring Light Guide  
– Length 1000mm  
– Approx. 50H life time (no guaranteed)

### Model : L-150AR60/L

Same as L-150AR60  
but with approx. 200H life  
time bulb (no guaranteed)



### Model L-150AB

“COLD LIGHT” 150W OPTICAL FIBER ILLUMINATOR  
with Double Branch Light Guide  
– Length 500mm  
– Approx. 50H life time (no guaranteed)

### Model L-150AB/L

Same as L-150AB  
but with approx. 200H life  
timebulb (no guaranteed)



### Model L-150FL

FOCUSING LENS FOR L-150AB & L-150AB/L

- Illumination distance : 20-200mm
- Illumination area : 10-40mm diameter
- External dimensions : 24mm dia. x 69.61mm (max.)



### Annular Illuminator

**Features:** It is an incident illuminator  
for stereo microscope.

Annular fluorescent lamp supplies high  
brightness and even illumination. It is concise and easily to be used.

**Specifications :** 220V/8W



### Model LED-60T

WHITE LED RING ILLUMINATOR  
with 7-step brightness adjustment & four kinds  
of lighting modes (1/4, 2/4, 3/4 & full lighting)

- \* 60 pcs. LED (light-emitting diode)
- \* Long life time.
- \* Low temperature
- \* No change of color temperature
- \* Flicker-free



# OPTIONAL ACCESSORIES



## DIGITAL CAMERA ADAPTER

### MODEL : XR9501

(available for small-sized camera/  
used with relay lens model : BW10xt  
w/photo ring)

(Digital Camera: SONY CYBERSHOT, OLYMPUS CAMEDIA,  
NIKON COOLPIX - Recommended)



(to be used with relay lens model BW10xt w/photo ring)



## MICROSCOPE CAMERA ADAPTER

### MODEL : T-MICRO for SLR camera

(to be used with T-mount adapter)

## T-MOUNT ADAPTERS

MODEL : T-PENTAX/S

T-CANON/EOS

T-MINOLTA/SR

T-FUJICA

T-CANON/F

T-NIKON/F

T-KONICA

T-CONTAX

T-PENTAX/F

T-OLYMPUS/OM

T-MINOLTA/A



## TV CAMERA ADAPTER

### MODEL : TVA-45

(available for C-mount CCD camera/  
connected to CCTV and monitor)

## EYEPIECES LENSES



### Model DSW5X

5x, F.N. 22.5

(For DSZ-44 / DSZT-44 / NSW)

### Model DSW5XZ

5x, F.N. 20

(For DSZ-70 / DSZT-70)



### Model DHW10X

10x, F.N. 23

(For SPZ-50 / SPZT-50)

### Model DSW10X

10x, F.N. 23

(For DSZ-44 / DSZT-44 / NSW  
/ DSZ-70 / DSZT-70)

### Model DSW10XZ

10x, F.N.20

(For DSZ-70 / DSZT-70)



### Model DHW15X

15x, F.N. 15

(For SPZ-50 / SPZT-50)

### Model DSW15X

15x, F.N.15

(For DSZ-44 / DSZT-44 / NSW  
/ DSZ-70 / DSZT-70)

### Model HW-REG

Rubber Eyeguard

For DHW eyepiece



### Model DHW20X

20x, F.N. 11.4

(For SPZ-50 / SPZT-50)

### Model DSW20X

20x, F.N. 11.4

(For DSZ-44 / DSZT-44 / NSW  
/ DSZ-70 / DSZT-70)

### Model SW-REG

Rubber Eyeguard

For DSW eyepiece

# OPTIONAL ACCESSORIES

## FOCUSING EYEPIECE 10x WITH RETICLE



**DFHW10X** F.N.23  
(For SPZ)

**DFSW10X** F.N.20  
(For DSZ/NSW)

**Model DFHW10X10/100**    **Model DFSW10X10/100**  
Focusing eyepiece 10x with 10:100mm scale

**Model DFHW10X5/100**    **Model DFSW10X5/100**  
Focusing eyepiece 10x with 5:100mm scale

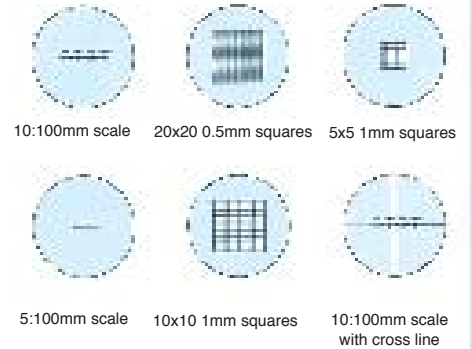
**Model DFHW10XH10/20**    **Model DFSW10XH10/20**  
Focusing eyepiece 10x with 20x20 0.5mm squares

**Model DFHW10XH10/10**    **Model DFSW10XH10/10**  
Focusing eyepiece 10x with 10x10 1mm squares

**Model DFHW10XH5/5**    **Model DFSW10XH5/5**  
Focusing eyepiece 10x with 5x5 1mm squares

**Model DFHW10XCROSS**    **Model DFSW10XCROSS**  
Focusing eyepiece 10x with 10:100mm scale w/cross line

**Model DFHW10XLINE**    **Model DFSW10XLINE**  
Focusing eyepiece 10x with cross line



## AUXILIARY OBJECTIVE LENSES



**Model NSAL 0.5X**  
AUXILIARY OBJECTIVE LENS 0.5x  
(not available for SPZ-50PFM / SPZ-50P  
SPZT-50PFM / SPZT-50P & others on remarks 1)

**Model NSAL 0.75X**  
AUXILIARY OBJECTIVE LENS 0.75x

**Model NSAL 2X**  
AUXILIARY OBJECTIVE LENS 2x  
(not available for DSZ / NSW series & others on remarks 1)

**Model NSAL 1.6X**  
AUXILIARY OBJECTIVE LENS 1.6x

- \*Remarks :
- 1) Auxiliary objective lenses are not available for stand type T, TL, L and E and NSW-1P, NSW-2P and NSW-20P.
  - 2) By using NSAL0.5X and NSAL0.75X, the magnification is decreased while the W.D. is extended.
  - 3) By using NSAL1.6X and NSAL2X, the magnification is increased while the W.D. is shortened.

**Code No. PT-20U008**  
COVER GLASS  
(for protection of objectives)



### OPTICAL DATA FOR SPZ-50 / SPZT-50

Eyepiece	DHW10x (F.N. 23)					DHW15x (F.N. 15)					DHW20x (F.N. 11.4)				
	Nil	W/0.5x	W/0.75x	W/1.6x	W/2x	Nil	W/0.5x	W/0.75x	W/1.6x	W/2x	Nil	W/0.5x	W/0.75x	W/1.6x	W/2x
Magnifications	6.7x-50x	3.35x-25x	5x-37.5x	10.72x-80x	13.4x-100x	10.05x-75x	5.02x-37.5x	7.53x-56.25x	16.08x-120x	20.1x-150x	13.4x-100x	6.7x-50x	10.05x-75x	21.44x-160x	26.8x-200x
Working Distance	108mm	240mm	132mm	50mm	41mm	108mm	240mm	132mm	50mm	41mm	108mm	240mm	132mm	50mm	41mm
Field of View	34.3-4.6mm	68.9-9.2mm	45.7-6.1mm	21.4-2.8mm	17.1-2.3mm	22.3-3mm	44.7-6mm	29.8-4mm	16.1-8mm	11.1-1.5mm	17.2-2mm	34-4.5mm	22.6-3mm	10.6-1.4mm	8.5-1.1mm

### OPTICAL DATA FOR DSZ-44 / DSZT-44

Eyepiece	DSW5x (F.N. 22.5)				DSW10x (F.N. 23)				DSW15x (F.N. 15)				DSW20x (F.N. 11.4)			
	Nil	W/0.5x	W/0.75x	W/1.6x	Nil	W/0.5x	W/0.75x	W/1.6x	Nil	W/0.5x	W/0.75x	W/1.6x	Nil	W/0.5x	W/0.75x	W/1.6x
Magnifications	5x-22x	2.5x-11x	3.75x-16.5x	8x-35.2x	10x-44x	5x-22x	7.5x-33x	16x-70.4x	15x-66x	7.5x-33x	11.25x-49.5x	24x-105.6x	22x-88x	10x-44x	15x-66x	32x-140.8x
Working Distance	90mm	150mm	105mm	45mm	90mm	150mm	105mm	45mm	90mm	150mm	105mm	45mm	90mm	150mm	105mm	45mm
Field of View	22.5-5.1mm	45-10.2mm	30-6.8mm	14-3.1mm	23.5-2mm	46-10.4mm	30.6-6.9mm	14.3-3.2mm	15-3.4mm	30-6.8mm	20-49.5mm	9.3-2.1mm	11.4-2.5mm	22.8-5.1mm	15.2-3.45mm	7.1-1.6mm

### OPTICAL DATA FOR DSZ-70 / DSZT-70

Eyepiece	DSW5xZ (F.N. 20)				DSW10xZ (F.N. 20)				DSW15x (F.N. 15)				DSW20x (F.N. 11.4)			
	Nil	W/0.5x	W/0.75x	W/1.6x	Nil	W/0.5x	W/0.75x	W/1.6x	Nil	W/0.5x	W/0.75x	W/1.6x	Nil	W/0.5x	W/0.75x	W/1.6x
Magnifications	10x-35x	5x-17.5x	7.5x-26.25x	16x-56x	20x-70x	10x-35x	15x-52.5x	32x-112x	30x-105x	15x-52.5x	22.5x-78.75x	48x-168x	40x-140x	20x-70x	30x-105x	64x-224x
Working Distance	80mm	120mm	85mm	41mm	80mm	120mm	85mm	41mm	80mm	120mm	85mm	41mm	80mm	120mm	85mm	41mm
Field of View	10-2.9mm	20-5.7mm	13.3-3.8mm	6.2-1.7mm	10-2.8mm	20-5.7mm	13.3-3.8mm	6.2-1.7mm	7.5-2.1mm	15-4.2mm	10-2.8mm	4.6-1.3mm	5.7-1.6mm	11.4-3.2mm	7.6-2.1mm	3.5-1mm

# SCALE LOUPES

For printing, machining, inspection, measurements, etc.



**Model No.M1207**

- Magnification : 7x
- Lens diameter : 25mm
- Lens : 4 elements, 4 lens (fully coated)
- Eye relief : 12mm
- Height : 57mm
- Net weight : 90g
- Accessory : Vinyl case
- Scale size : 33mmø



**Model No.M1210**

- Magnification : 10x
- Lens diameter : 19mm
- Lens : 2 elements, 3 lenses (fully coated)
- Eye relief : 12mm
- Height : 35mm
- Net weight : 40g
- Accessory : Vinyl case
- Scale size : 33mmø

## SCALE PATTERNS



**No. 1**

Lengths in either inches or millimeters can be measured with the appropriate line.  
Maximum : 0.6" or 16mm



**No. 2**

Lengths can be measured in 0.1 millimeters increments.  
Maximum : 16mm



**No. 3**

Angles, radius, diameters, widths, etc. can be measured mainly in inches.



**No. 4**

Angles, radius, diameters, widths, etc. can be measured mainly in millimeters.

# PARTS OF MICROSCOPE



**FLUORESCENT LAMP 9W.**  
MODEL: FCL9EX-N, YH9RZ



**FLUORESCENT LAMP 15W.**  
MODEL: FCL15EX-N



**ANNULAR LAMP 8W.**



**BULB 230V. 20W.**



**ELECTRONIC BALLAST DN-777**  
AC INPUT 80-260V.



**BALLAST 220V. 50 HZ**  
(LN13. 103)

# LOUPES

## POCKET MICROSCOPE WITH LIGHT



**Model M888**  
20x, with case

**Model M887**  
30x, with scale and case

**Model M889**  
50x, with scale and case  
(scale : Measuring range 4mm  
Minimum graduation 0.1mm)

## LED FLASH LOUPE

**Model R7519**  
26mm, 10x



## LOUPE WITH FLUORESCENT RING LAMP



**Model M1240**  
127mm glass lens, 2x,  
With 18w fluorescent  
ring lamp

**Model M1241**  
127mm glass lens, 3.5x,  
With 18W fluorescent  
ring lamp

# MAGNIFYING LAMP

### Model 8064D

- \* Lens material: glass
- \* Lens size: 5"
- \* Diopter: 3 diopter /5 diopter/8 diopter
- \* Voltage: 220V-240V 50Hz 22W
- \* Light source: 22W fluorescent lamp
- \* Standard mount: desktop clamp
- \* Colour: white



### Model 8069BEC

- \* Lens material: glass
- \* Lens size: 7.5" x 6"
- \* Diopter: 3 diopter/5 diopter
- \* Voltage: 220V-240V 50Hz
- \* Light source: 2x9W fluorescent lamp
- \* Standard mount: table base
- \* Colour: white



### Model 8066D

- \* Lens material: glass
- \* Lens size: 5"
- \* Diopter: 3 diopter /5 diopter/8 diopter
- \* Voltage: 220V-240V 50Hz 22W
- \* Light source: 22W fluorescent lamp
- \* Standard mount: desktop clamp
- \* Colour: white



### Model : 8066BEC

- \* Lens Material: glass
- \* Lens size: 5"
- \* Diopter: 3 diopter/5 diopter/8 diopter
- \* Voltage: 220V-240V 50Hz 22W
- \* Light source: 22W fluorescent lamp
- \* Standard mount: table base
- \* Colour: white



# SWING-OUT INSPECTION LOUPE

R7520



**Model R7520**  
18mm, 10x  
Triplet lens

R235



**Model R235**  
16mm, 10x  
Triplet lens

R230



**Model R230**  
15mm, 18x  
Quadruplet lens

R237/R236



**Model R237**  
12mm, 20x  
Triplet lens

**Model R236**  
14mm, 10x  
Doublet lens

R232



**Model R232**  
11mm - 6mm, 10x-15x  
Doublet lens

R231



**Model R231**  
12mm, 10x  
Doublet lens



# **Carton**

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