



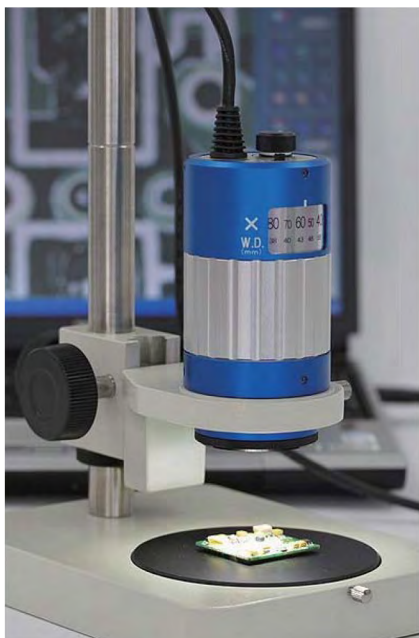
Saitoh Kougaku Microscope

High Quality Microscope SKM

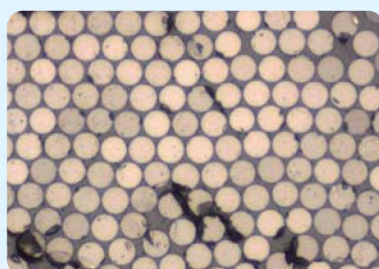
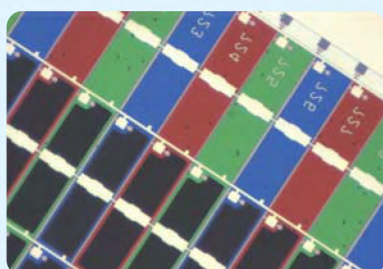
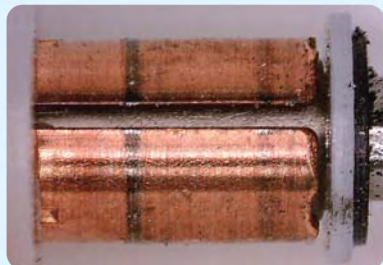
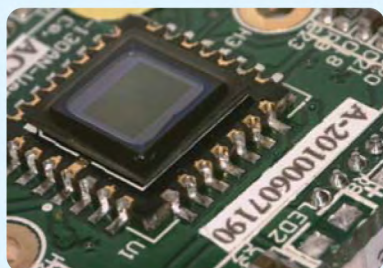


Most products are made by our company in Japan

*A few of products are from overseas.



Images captured by our microscopes



Microscope Guide

Differences by Optical System

2 kinds of magnification in our microscopes.

Variable Magnification Type

Method of lowering the lens to raise magnification.

Inexpensive, but takes high image quality, because the optical system is simple.

Focus after the magnification is changed.

SKM-V200

SKM-V300

SKM-S30

SKM-S20

SKM-S10

Zoom Lens Type

Working distance is the same when changing the magnification

Changing magnification is easier, because it is not necessary to focus again.

Differences by image output

USB Type

Connect to a computer using a USB and observe samples on the computer screen.

Can take photographs and measure samples.

This is slightly slower than observing via a TV or HDMI.

Rolling shutter CMOS sensor

SKM-S20B-PC, SKM-S30B-PC, SKM-S31B-PC

Global shutter CCD sensor (Smoother video than rolling shutter)

SKM-Z200C-PC, SKM-Z300C-PC

HDMI Monitor Type

High quality image and fast (720P high definition, 1080P full high definition)

HDMI peripheral equipment has increased

Monitors are inexpensive and can be purchased easily.

High Definition type

SKM-V200B-HD2, SKM-Z200C-HD, SKM-Z300C-HD

Full High Definition type

SKM-V300A-FHD

TV Type

Fast.

Best suited for lines in factories.

SKM-S10A-TV, SKM-S20A-TV

Microscope for Computer USB2.0

Variable Magnification Type

SKM-S20B-PC

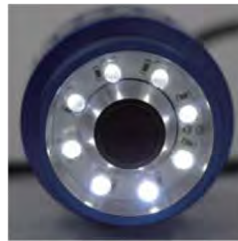
Magnification is from x10 to x50 --very useful on industry.



*

1	2	3
X50	6.5 X 5.2	52
X40	8.1 X 6.5	60
X30	10.8 X 8.6	73
X20	16.2 X 13	99
X10	32.5 X 26	178

- 1.Magnification
- 2.Range of Observation(mm)
- 3.Working Distance(mm)



Built-in lighting (White LED)



Brightness Adjustment Light Switch



Magnification and operation range viewing window

SKM-S20B-PC of Standard contents

- SKM-S20B-PC Body
- Simple stand with focus adjustment
- Viewer saving software (SK-Viewer)

SKM-S30B-PC

A wide range of magnification from x15 to x180
Very popular type -- is used in many kind of fields.



*

1	2	3
X180	1.8 X 1.4	30
X150	2.1 X 1.7	32
X100	3.2 X 2.6	37
X50	6.5 X 5.2	52
X30	10.8 X 8.6	73
X15	21.6 X 17.3	126

- 1.Magnification
- 2.Range of Observation(mm)
- 3.Working Distance(mm)



Built-in lighting (White LED)
A diffusion filter is attached



Brightness Adjustment Light Switch



Magnification and operation range viewing window
Clickable on every magnification

SKM-S30B-PC of Standard contents

- SKM-S30B-PC Body
- Stand(SKS-STND)
- Coarse holder(SKS-HOLD-A)
- Viewer saving software(SK-Viewer)

* <Explanation of magnification table>

It is common on all of microscopes for computer
Range of observation; The maximum range that can be observed.
Working distance; The distance of scope and the subject to be observed
Magnification; Magnification in 20-inch monitor (UXGA)

SKM-S31B-PC

Can take high resolution image x400 to x1000 easily



*

1	2	3
X1000	0.32 X 0.26	5.1
X500	0.64 X 0.52	5.4
X400	0.88 X 0.65	5.5

1. Magnification
2. Range of Observation(mm)
3. Working Distance(mm)



Built-in lighting
(White LED)



Brightness Adjustment
Light Switch



Magnification and
operation range
viewing window
Clickable on every
magnification

SKM-S31B-PC of Standard contents

- SKM-S31B-PC Body
- Stand(SKS-STND)
- Coarse holder(SKS-HOLD-A)
- Viewer saving software(SK-Viewer)

<Operating Environment> SKM-S20B-PC, SKM-S30B-PC, SKM-S31B-PC

	Necessary condition
OS	Windows XP, Vista , 7,8.1(32, 64bit)
USB Port	USB 2.0 Port (Intell host controller)
CPU	Intell 1.7GHz or better , recommend Core2
Memory	512MB or more
Graphic	More than 24bit colour
Temperature, humidity	Temperature:10-35°C, Humidity:10-80%(No condensation)

<Specification>

	SKM-S20B-PC	SKM-S30B-PC	SKM-S31B-PC
Magnification	x 10~ x 50	x 15~ x 180	x 400~ x 1000
Shooting device	1/3 inch CMOS image sensor primary colour RGB filter		
Pixels	1.3 million		
Resolution	1280 X 1024, 640 X 480		
Frame rate **	9fps (1280 X 1024) 、33fps (640X480)		
Image format	Windows DirectShow		
Power supply	Supplied via USB		
Light source	Super high brightness white LED with light intensity adjustment		
Optics part	Continuous variable magnification system		
Stand	Stand with focus adjustment Simple stand	Stand with focus adjustment Standard stand	
Accessory	Viewer software Soft cover	Viewer software Light source diffusion filter Soft cover	Viewer software Soft cover

**The actual display speed varies according to the composition and the computer settings

Microscope for Computer USB2.0

Zoom Type

SKM-Z200C-PC

Working distance is 60mm at high magnification from x55 to x330



1	1.0	2.0	3.0	4.0	5.0	6.0
2	55	110	165	220	275	330
3	6.3 X 4.7	3.1 X 2.3	2 X 1.5	1.5 X 1.1	1.2 X 0.9	1 X 0.8

When conversion lens x0.5 SKL-D is attached, a range of observation is double.
When conversion lens x2.0 SKL-E is attached, a range of observation is half.

1.Optical magnification
2.magnification on monitor 20 inch(UXGA)
3.Range of Observation(mm)

Working distance : 60mm

When conversion lens x0.5 SKL-D is attached
(x27.5 to x165 magnification on monitor)

working distance 110mm

JPY18,000 (FOB Japan)

When conversion lens x2.0 SKL-E is attached
(x110 to x660 magnification on monitor)

working distance 26mm

JPY25,000(FOB Japan) *conversion lenses are not included in the price.

SKM-Z300C-PC

Working distance is 88mm magnification from x27.5 to x110

Can buy 2 types of conversion lenses.



1	0.5	0.75	1.0	1.5	2.0
2	27.5	41.25	55	82.5	110
3	12.6 X 9.6	8.4 X 6.2	6.3 X 4.7	4.1 X 3.0	3.1 X 2.3

When conversion lens x0.5 SKL-B is attached, a range of observation is double.
When conversion lens x2.0 SKL-A is attached, a range of observation is half.

1.Optical magnification
2.magnification on monitor 20 inch(UXGA)
3.Range of Observation(mm)

Working Distance 88mm

When Conversion lens x0.5 SKL-B is attached JPY12,000(FOB Japan)
(x14-x55 magnification on monitor) working distance 150mm

When Conversion lens x2.0 SKL-A is attached JPY12,000(FOB Japan)
(x55-x22 magnification on monitor) working distance 32mm

*Conversion lenses are not included in the price.

Zoom Type microscope of Standard contents

- Zoom lens (SKL-Z200C or SKL-Z300C)
- USB Camera(STC-MC152USB)
- LEDring light(SKLS-A)
- Long stand(SKS-ST100A with coarse and micromotion holder)
- Viewer saving software(SK-Viewer)



Mechanical stop
Zoom ring with clicking



Focus adjustment
(coarse and micromotion)



LED Ring Light
Diffusion filter

STC-MC152 USB Camera specification

<Operating Environment>

	Necessary condition
OS	Windows XP ,Vista, 7, 8.1 (32bit,64bit)
USB Port	USB 2.0 Port (Intell host controller)
CPU	Intell 1.7GHz or better , recommend Core2
Memory	More than 1.0GB
Graphic	More than 24bit colour
Temperature, humidity	Temperature:0-40°C, Humidity:10-80%(No condensation)

<Specification>

	Specification
Shooting Device	1/2" Inter Line CCD
Pixels	1.45 million
Resolution	1280(H) × 1024(V)
Framerate*	19.3FPS(Maximum)
Image format	Windows DirectShow
power supply	Supplied via USB

*The actual display speed differs according to the composition and the computer settings



Simple to use!

Can view, save images, show thumbnail, and measure length between 2 points. And, can show cross line which is very useful to use X-Y stages with micrometer. Can change the magnification of monitor by using a mouse centre wheel.

This is a limited-function version of measurement software "SK-Measure". After buying "SK-Measure", you can use all of functions.

Microscope for High Definition Monitor

• Variable Magnification Type SKM-V200B-HD2

*HDMI connection
*1280x720P High resolution

Magnification is from x10 to x60 -- very useful on industry
Simpler than using a stereoscopic microscope



Stop



LED Ringlight with stay
(A diffusion filter is attached)

720P High Definition Television(DVI1.0)
Smooth dynamic image by Progressive scanning(60fps)
simple connection using on HDMI cable.

*Cable for image output is not attached.

Working efficiency improves because the image is more legible and beautiful than the conventional Video inspection!

1	2	3
X60	7.4×4.1	58
X50	8.8×4.9	68
X40	11×6.2	84
X30	14.7×8.2	111
X20	22.1×12.5	165
X10	44.3×24.9	327

1.Optical magnification
2.Range of observation
3.Working distance(mm)

- Magnifications are on a 20-inch liquid crystal display monitor
- Range of observation ; The maximum range that can be observed.
- Working distance ; The distance of scope and the subject to be observed.

	Specification
Shooting device	1/3 inch square SXGA Colour CCD
Image output pixels	1280(H)x720(V)
Scan mode	Progressive
Video output	Based on DVI 1.0(Connected by HDMI connector)
Power supply	+9 to +15Vdc(Typical:+12Vdc)
Temperature, humidity	Temperature:0-40°C, Humidity:10-80%(No condensation)

SKM-V200B-HD2 of standard contents

- SKM-V200B-HD body
- AC/DC adapter for HD Camera
- LED Ring light
- Stay for lighting
- Long stand(SKS-ST100A)
- Coarse holder(SKS-HOLD-A)

*HDMI connection
 *1920x1080P High resolution

SKM-V300A-FHD

Can see even details clearly because it is Full High Definition!
 Simpler than using a stereoscopic microscope



Stop



LED Ringlight with stay
 (A diffusion filter is attached)

1080P Full High Definition Television(DVI1.0)
 Smooth dynamic image by Progressive scanning(60fps)
 simple connection using on HDMI cable.

*Cable for image output is not attached.

Working efficiency improves because the image is more legible and beautiful than the conventional Video inspection!

1	2	3
X60	7.9×4.4	57
X50	9.5×5.3	67
X40	11.9×6.72	83
X30	15.8×8.9	109
X20	23.7×13.3	161
X10	47.4×26.7	316

1.Optical magnification
 2.Range of observation
 3.Working distance(mm)

- Magnifications are on a 21.5-inch liquid crystal display monitor
- Range of observation ; The maximum range that can be observed.
- Working distance ; The distance of scope and the subject to be observed.

Specification	
Shooting device	1/2.8 inch Mega pixel Colour CCD
Image output pixels	1920(H)x1080(V)
Scan mode	Progressive
Video output	Based on DVI 1.0(Connected by HDMI connector)
Power supply	+9 to +15Vdc(Typical:+12Vdc)
Temperature, humidity	Temperature:0-40°C, Humidity:10-80%(No condensation)

SKM-V300A-FHD of standard contents

- SKM-V300A-FHD body
- AC/DC adapter for HD Camera
- LED Ring light
- Stay for lighting
- Long stand(SKS-ST100A)
- Coarse holder(SKS-HOLD-A)

Microscope for High definition monitor

Zoom type

*HDMI Connection

*1280×720 P High resolution

SKM-Z200C-HD

Working distance is 60mm although magnification is x92 to x552.



*Cable for image output is not attached.

1	1.0	2.0	3.0	4.0	5.0	6.0
2	92	184	276	368	460	552
3	4.8X2.7	2.4X1.35	1.6X0.9	1.2X0.675	0.96X0.54	0.8X0.45

When conversion lens x0.5 SKL-D is attached, a range of observation is double.
When conversion lens x2.0 SKL-E is attached, a range of observation is half.

1.Optical magnification
2.magnification on monitor 20 inch(WXGA++)
3.Range of Observation(mm)

Working distance : 60mm

When SKL-D conversion lens x0.5 is attached

JPY18,000 (FOB Japan)

(x46-x276 magnification on monitor) working distance 110mm

When SKL-E conversion lens x2.0 is attached JPY25,000 (FOB Japan)

(x184-x1104 magnification on monitor) working distance 26mm

*Conversion lens is not included in the price.

SKM-Z300C-HD

Using is easier because working distance is 88mm.



*Cable for image output is not attached.

1	0.5	0.75	1.0	1.5	2.0
2	46	69	92	138	184
3	9.6X5.4	6.4X3.6	4.8X2.7	3.2X1.8	2.4X1.35

When conversion lens x0.5 SKL-B is attached, a range of observation is double.
When conversion lens x2.0 SKL-A is attached, a range of observation is half.

Working distance : 88mm

When conversion lens x0.5 SKL-B is attached JPY12,000 (FOB Japan)

(x23-x92 magnification on monitor) working distance 150mm

When conversion lens x2.0 SKL-A is attached JPY12,000 (FOB Japan)

(x92-x368 magnification on monitor) working distance 32mm

*Conversion lens is not included in the price.

1.Optical magnification
2.magnification on monitor 20 inch(WXGA++)
3.Range of Observation(mm)

Zoom type microscope of standard contents

Zoom lens(SKL-Z200C or SKL-Z300C)

High definition camera

AC/DC adapter for HD Camera

LED Ringlight SKLS-A

Long stand(SKS-ST100A)

Coarse and micromotion holder(SKS-HOLD-B)



Mechanical stop, zoom ring
zoom ring is clickable.



Focus adjustment
(coarse and micromotion)



LED Ringlight
Diffusion filter

High definition camera specification

	Specification
Shooting device	1/3 inch square SXGA colour CCD
Pixels	1280(H)X720(V)
Scan mode	Progressive
Video output	Based on DVI 1.0(Connected by HDMI connector)
Voltage	+9~+15Vdc(Typical:+12Vdc)

We have High-Definition Multimedia Interface monitor (not included in the price)

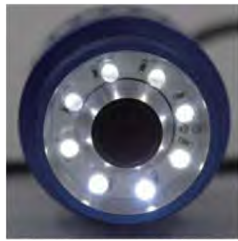
Microscope for TV

Variable Magnification Type

SKM-S20A-TV

Video Microscope

Magnification x10 to x50 --very useful in industry.
Simpler than using a stereoscopic microscope.



Built-in lighting
(White LED)



Brightness Adjustment
Light Switch



Magnification and
operation range
viewing window

* 1	2	3
X50	6.0X4.5	60
X40	7.5X5.6	71
X30	10X7.5	88
X20	15X11.2	121
X10	30X22.5	224

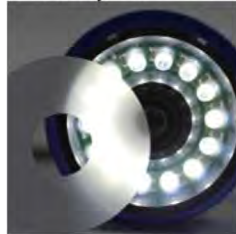
- 1.Magnification
- 2.Range of Observation(mm)
- 3.Working Distance(mm)

SKM-S20A-TV of Standard contents

SKM-S20A-TV Body with AC/DC adapter
Simple stand with coarse holder
Cable for image output

SKM-S10A-TV

A wide range of magnification x10 to x200.
Very popular type-- is used in many kind of fields.



Built-in lighting
(White LED)
A diffusion filter
is attached



Brightness Adjustment
Light Switch



Magnification and
operation range
viewing window
Clickable on every
magnification

* 1	2	3
X200	1.5 X 1.1	30
X140	2.1 X 1.6	34
X100	3.0 X 2.2	40
X50	6 X 4.5	60
X20	15 X 11.2	121
X10	30 X 22.5	224

SKM-S10A-TV of standard contents

SKM-S10A-TV body with AC/DC adapter
Stand with coarse holder
Cable for image output
Diffusion filter

* <Explanation of magnification table>

It is common on all of microscopes for TV
Magnifications are on a 15-inch liquid crystal display monitor.

Range of observation; The maximum range that can be observed.
Working distance; The distance of scope and the subject to be observed

	SKM-S20A-TV	SKM-S10A-TV
Magnification	x 10~ x 50	x 10~ x 200
Shooting device	1/4 inch CCD Image sensor(interline)	
Pixels	Effective pixels 768(H)x494(V) Total pixels 410,000	
Signaling System	NTCS method and RCA video output	
Power supply input	DC 5V±0.2V, 0.4A Using accessory of AC adapter.	
Light source	super high brightness white LED with light intensity adjustment	
Optic part	Continuous variable magnification system	
Stand	Stand with focus adjustment Simple stand	Stand with focus adjustment Standard stand
Accessory	Soft cover Video cable	Diffusion filter Soft cover Video cable

Microscope for holes

Microscope for investigation to holes

SKM-HL1A-PC

For computer Magnification is x27.5 to x110, working distance is 88mm



A picture is saved by USB

CCD Camera of resolution is 1.45 million that

1	0.5	0.75	1.0	1.5	2.0
2	27.5	41.25	55	82.5	110
3	12.6×9.6	8.4×6.2	6.3×4.7	4.1×3.0	3.1×2.3

1. Optical magnification
2. Magnification on monitor 20 inch (UXGA)
3. Range of Observation (mm)

*Can't use conversion lens SKL-A x2.0 or SKL-B x0.5 when "small diameter ring light guide" SKLG-R-A is attached.

*See SKM-Z300C-PC(P6) about specification of the camera.

Things of the zoom type microscope

Zoom lens (SKL-Z300C)

USB camera (STC-MC152USB)

Small diameter ring light guide (SKLG-R-A) & LED lighting with AC cable

Long stand (SKS-ST100A)

Coarse and micromotion holder (SKS-HOLD-B)

Viewer saving software (SK-Viewer)

SKM-HL1A-HD

For high definition monitor, using is easier because working distance is 88mm



HDMI connection

1280x720P high resolution

1	0.5	0.75	1.0	1.5	2.0
2	46	69	92	138	184
3	9.6X5.4	6.4X3.6	4.8X2.7	3.2X1.8	2.4X1.35

1. Optical magnification
2. Magnification on monitor 20 inch (UXGA++)
3. Range of Observation (mm)

*Can't use conversion lens SKL-A x2.0 or SKL-B x0.5 when "small diameter ring light guide" SKLG-R-A is attached.

*See SKM-Z300C-HD(P10) about specification of the camera.

Things of the zoom type microscope

Zoom lens (SKL-Z300C)

HD camera

AC/DC adapter for HD camera

Small diameter ring light guide (SKLG-R-A) & LED lighting with AC cable

Long stand (SKS-ST100A)

Coarse and micromotion holder (SKS-HOLD-B)

*Cable for image output is not attached

Sample image



Tips for observation

You can observe a bottom of hole easily when you use a small diameter ring light guide.

About the sample image

model

SKM-HL1A-PC

SKLG-R-A small diameter ring light guide

Magnification

Magnification on monitor x110

Magnification of lens x2.0

The hole of dia. : 2mm, depth : 11mm

Microscope Accessories

Stand

Stand and Holder

SKS-STND
Standard stand



Strut length: 265mm

SKS-ST100A
Long stand



Strut length: 400mm

SKS-HOLD-A Coarse holder



Two handles
Stroke 35mm
Coarse

SKS-HOLD-B
Coarse and micromotion



Two handles
stroke 35mm
Coarse and
micromotion

SKS-HOLD-C Long holder



Two handles
Stroke 80mm
Coarse and
micromotion

example



Left SKS-STND Standard stand + SKS-HOLD-A Coarse holder

Right SKS-ST100A Long stand + SKS-HOLD-B Coarse and micromotion holder

Angle Stand

SKS-AS200C



Microscope can be inclined.
Inclines at 15 degree intervals.
Can be inclined horizontally.
X-Y stage can be attached.
Holder is not included in the price.



Clicking part

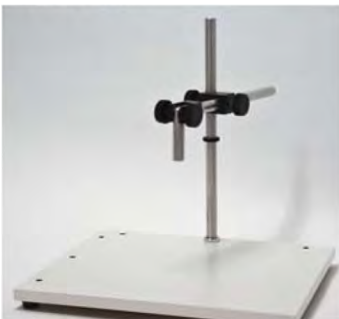
example



SKS-AS200C+SKS-HOLD-A Coarse holder+SKS-LXY-B

Large Stand

SKS-LS110



Material of stage : Chipboard
Holder : none(use a holder with a microscope)
Points of attach to branches : On three short branches and three long branches(total 6)
Weight : 4.6Kg
stage size: 360mm × 450mm

SKS-LS300



example



Three axes can be moved.
Attach to a table by a screw clamp.
*Screw clamp and table are not inclined.
Holder part of microscope can be inclined.

Our stands can be customized to suit your needs.

X-Y Stage

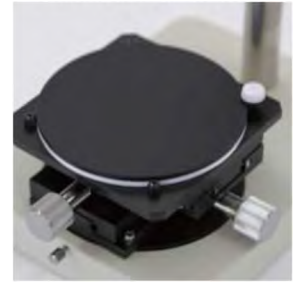
Rack-pinion X-Y stage SKS-LXY-C



Black and white stage(made by Saitoh Kougaku) is attached and rotates manually using dial. The object to be looked at can be observed statically or in motion.
(*It is not attached to the black and white stage)

Diameter : Φ 100mm
Total stroke : 70mm

Attached to a stand



X-Y stage with Micrometer SKS-DMXY-B 2



digital type Micrometer
Good for measurement

SKS-AMXY-B



Analog type Micrometer

Diameter : Φ 100mm
Total stroke : 25mm
made by Mitsyotoyo

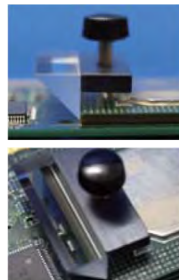
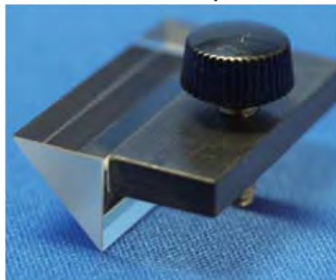
Attached to a stand



The above stages are attached to the stands of our microscopes. The stand isn't inclined with the stages.
Supported stands : SKS-STND, SKS-ST100A, SKS-AS200C(It is not attached to simple stand)

Additional Tools for observation

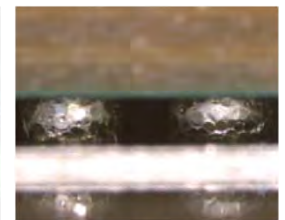
Lateral vision prism SKL-P01



example



lead frame



BGA

Size of prism : height 10 depth 10 width 32mm

Can observe from the side through the prism. It is best way for observation of BGA.

We can customize the size.

V-Shaped stage SKS-V01



This is best way to observe columnar objects.
The object is illuminated uniformly.

example

Without using the V-shaped stage



Using the V-shaped stage



Lighting

LED Ringlight (Outside diameter 83mm) (Standard accessories on SKM-Z200,300 Series)
SKLS-A-



4 switches operate the device turned.
The size is 50mm in bore diameter and is unique to our microscopes.
Power supply; 100-240V AC adapter(5V, 2A)
Light source: white LED(made by Nichia Kagaku)
About 10,000 durable hours of lighting.
With diffusion filter and AC/DC adapter.

example



Work distance is 20mm shorter when attaching SKM-S10, S20 and S30 series.
It is not attached to SKM-S31B-PC

L E D Diffusion light(with free holder)
SKLS-A-1



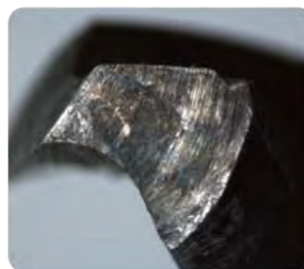
Good for sharp object which is point of drill or ballpoint.

4 switches operate the device turned .
The size is 50mm in bore diameter and is unique to our microscopes.
Power supply; 100-240V AC adapter(5V, 2A)
Light source: white LED(made by Nichia Kagaku)
About 10,000 durable hours of lighting.
With AC/DC adapter.

example



It is not attached to SKM-S20B-PC or SKM-S31B-PC
But it is attached to SKM-S20B-PC, if the stand changes to SKS-STND or SKS-ST100A.
This product is attached a diffusion filter and a free holder to "SKLS-A".



LED Ringlight (Outside diameter 50mm)
SKLS-C



Good for holes and parts that light doesn't reach easily

Power supply: DC5V2.0A AC adapter(AC100-240V)
Light source: white LED(made by Nichia Kagaku)
About 10,000 durable hours of lighting.
With AC/DC adapter.
Mounting: 20mm diameter stay

Sample



It is not attached to SKM-S20B-PC or SKM-S31B-PC
But it is attached to SKM-S20B-PC, if the stand changes to SKS-STND or SKS-ST100A.

Small diameter ring light guide for observation holes
SKLG-R-A

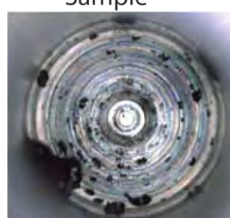


multicomponent glass
Fibre : multicomponent glass
Tube of outside : PVC coated SUS
Lighting cap size : dia.15mm
length 20mm
Lens size : dia. 32mm
Length : 900mm
Sample

example



*Can't use conversion lens SKL-A x2.0 or SKL-B x0.5 when "small diameter ring light guide" SKLG-R-A is attached.
Can be attached to the SKM-Z series.



Hole ϕ 2mm of bottom in depth 11mm



When LED light is attached (option)

Dark-field illumination LED SKLS-D

Good for checking paper, fabrics and living organisms



Power supply: 100-240V AC adapter(5V,2A)
Light source: White LED(made by Nichia Kagaku)
About 10,000durable hours of lighting
With AC/DC adapter

example

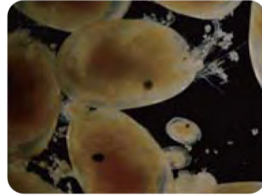


It is attached to stands made by our company

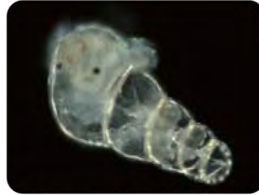
example(Taken by SKM-S30B-PC)



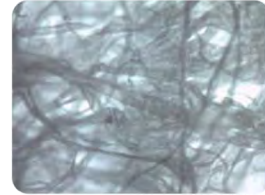
granulated sugar



cypridina



larva of spiral shell



non-woven textile fabrics

Simple Coaxial episcopic illumination SKLS-F

Good for surface of a reflective thing



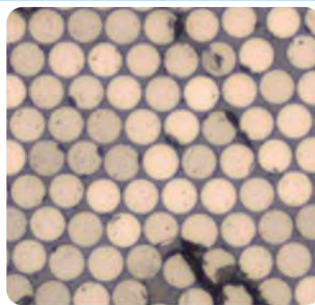
Working distance is more than 20mm

Power supply: AC100V 10W
Light source: White LED
About 10,000durable hours of lighting
With AC/DC adapter
Mounting: 20mm diameter stay

example



watch battery



Section of Fibre lighting



Magic cut

The other various lighting

We propose the most suitable lighting to meet your needs.

Two arm lighting
L-701



HDA-TW3



Dome lighting



Carrying case

SKC-CA03

The size can be customized according to your needs.



392×264×H293



example



Corresponding type
SKM-S10A-TV
SKM-S30B-PC
SKM-S31B-PC

* Can't use it to SKM-S20 with a simple stand, Z series or V series with a long stand.

■ SKC-CA04



400×274×H465



example



Corresponding type
SKM-V200B-HD2
SKM-V300A-FHD
SKM-Z200C-PC/HD
SKM-Z300C-PC/HD

* Can't use it to SKM-S series.

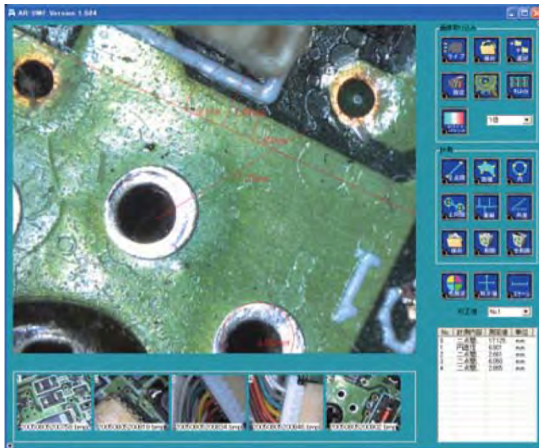
Software

Measurement software(with glass scale) Corresponding OS:WindowsXP, Vista, 7, 8.1(32bit, 64bit)

SK-Measure

Simple measurement software that you can use easily.

We have been uploading our software since 2005 for free.



Between 2 points



Between 2 points



Area



Perpendicular line



Circle



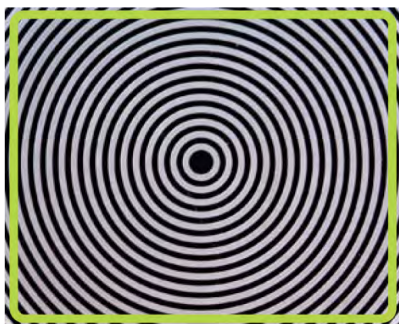
Angle

You can read the result list on spreadsheet software after you save the result list by CSV format. A measurement data can be saved as a template.

A picture and measurement data can be saved independently, then another measurement data can be used as template.(Measurement data is displayed on current calibration value)

Calibration is very simple, just push a button.

Use an Automatic calibration Scale to calibrate, it is easily.



Display a square around the concentric circles, i.e., the numbers to "X" and "Y", and then push "Auto" button.

*Automatic calibration is between x30 to x240.

Need to set the calibration value manually when magnification is more than x240 or less than x30.

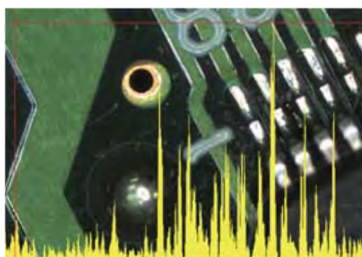
Can save the results

You can read the result list on spreadsheet software after you save the result list by CSV format.

A measurement data can be saved as a template.

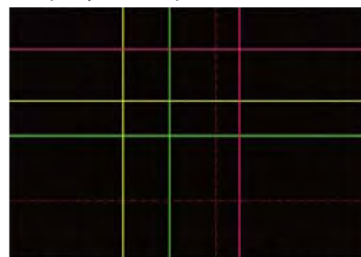
A picture and measurement data can be saved independently, then another measurement data can be used as template.(Measurement data is displayed on current calibration value)

Waveform for focus



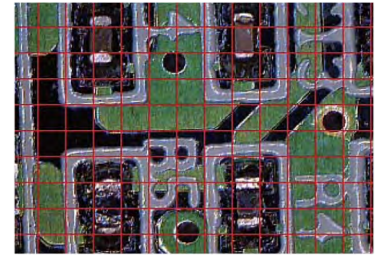
Wave is high when focus is correct

Display multiple cross cursors



The locations are changed.

Grid



The interval is changed



Display magnification(digital) can be altered using a mouse.

You can locate a position precisely.

By using the mouse wheel you can adjust the display magnification.



The foot switch is supported.

A picture is saved by a foot switch.

Glass scale

For measurement software



unit (mm)

name	interval	length	central circle	Width of line	Accuracy of circles
R1121-19	$0.5 \times 0.5 (\pm 0.01)$	$10 \times 10 (\pm 0.02)$	/	0.01	/
R1141-19	$0.1 \times 0.1 (\pm 0.005)$				
R1161-19	$0.2 \times 0.2 (\pm 0.01)$				
Automatic calibration A	0.1 ± 0.01	/	$\varnothing 0.2 (\pm 0.005)$	/	± 0.01
Automatic calibration B			$\varnothing 0.4 (\pm 0.005)$		

*Measurement software SK-Measure is with Scale for automatic calibration B.

How to select the microscope witch best suits you

What do you use it for?

Visual investigation in factories, the TV type is recommended , because motion is smooth and fast.
If you need a more beautiful image, a High-definition monitor type is recommended.
If you need to save images or measurements, the Computer type is recommended.

How big is an observation object?

Magnification depends on the size of the observation object.

Size	Magnification	Suitable model	
		Type	Name
30mm to 0.5mm	x10 to x180	Computer	SKM-S20B-PC, SKM-S30B-PC SKM-Z200C-PC, SKM-Z300C-PC
		Monitor	SKM-V200B-HD2, SKM-V300A-FHD, SKM-Z200C-HD, SKM-Z300C-HD
0.5mm to 0.2mm	x100 to x300	Computer	SKM-S30B-PC, SKM-Z200C-PC, SKM-Z300C-PC*
		Monitor	SKM-S10A-TV, SKM-Z200C-HD, KM-Z300C-HD*
0.2mm to 0.02mm	x200 to x370	Computer	SKM-Z200C-PC, SKM-Z300C-PC*
		Monitor	SKM-S10A-TV, SKM-Z200C-HD, SKM-Z300C-HD*
0.02mm to 0.01mm	x400 to x1000	Computer	SKM-S31B-PC
		Monitor	SKM-Z200C-HD

The sizes are standard.

* of magnification is at the time of using a conversion lens x0.5 or x2.0.

The magnification is on a monitor. Magnification varies according to the model. Check our pages to clarify model specifications.

Tips on observation of a microscope

Tips on observation of low magnification.

Find the magnification that you need.

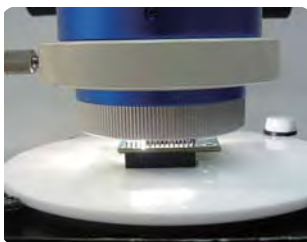
Set a distance from the end of a main part to an observation object into the distance of "Working distance (W. D.)" under the magnification notation.

Tips on observation at high magnification

Method 1

Focus at the minimum magnification first and gradually increase magnification until you reach the target magnification.

Method 2 Lower the main part of the microscope close to the observation object, gradually elevate the main part and focus.



When doing this, be careful not to have the lens come in contact with the object.



Trivia

W.D.=Working Distance is a distance between an object and the end of lens-barrel.

W.D. is short when magnification is high, and W.D. is long when magnification is low.

First, use lower magnification and raise the magnification, it is easier.

When an observation object reflects, if a diffusing filter (SKM-S30B-PC, SKM-10A-TV attachment) is used, the reflection will be better.

1



Loosen the ring which is fixing the protective filter.

2



Remove the protective filter and insert in a diffusing

3

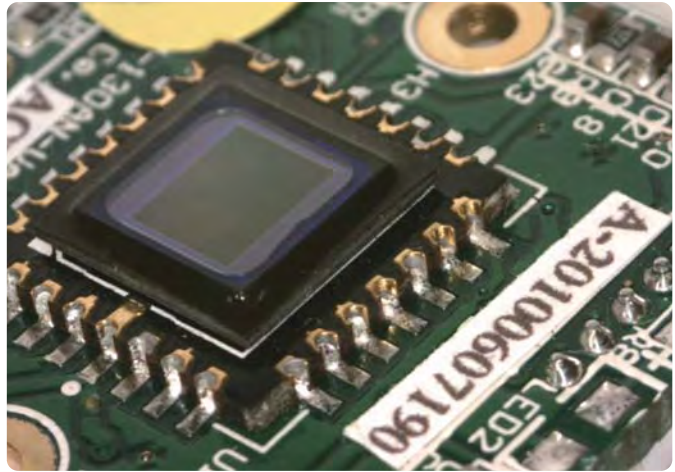


Fix it to a main part using a ring.

Sample pictures by our microscopes

Circuit board

- ◆Tips
 - Reflections of solder are softened by V-shaped stage SKS-V01.
- ◆Models
 - SKM-S20B-PC (P4)
 - SKS-V01 V-shaped stage(P15)
- ◆Magnification
 - Magnification on monitor x15



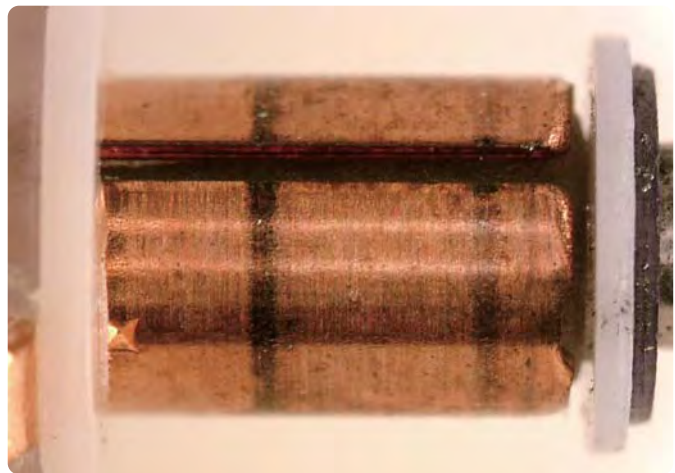
Screw

- ◆Tips
 - Using V-shaped stage SKS-V01 makes easier to observe screws.
 - *Combination software was used to the picture.
- ◆Models
 - SKM-S30B-PC(P4)
 - SKS-V01 V-shaped stage(P15)
 - Combination software
- ◆Magnification
 - Magnification on monitor x30



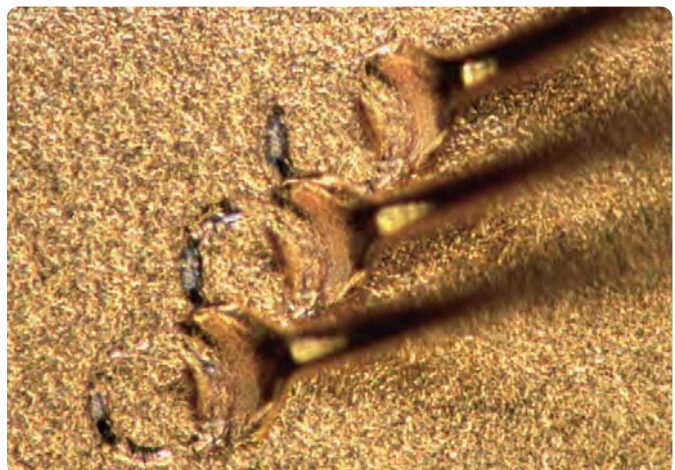
Commutator in motor

- ◆Tips
 - Using V-shaped stage SKS-V01 makes easier to observe commutators.
 - And using diffusion light LED SKLS-A-1 makes easier to observe scratches
- ◆Models
 - SKM-S30B-PC(P4)
 - SKS-V01 V-shaped stage(P15)
 - SKLS-A-1 LED Diffusion light(P16)
- ◆Magnification
 - Magnification on monitor x15



Wire bonding

- ◆Tips
 - Adjust exposure in software and adjust light in the body.
- ◆Models
 - SKM-S31B-PC(P5)
 - SKS-LXY-B XY stage(P15)
- ◆Magnification
 - Magnification on monitor x400



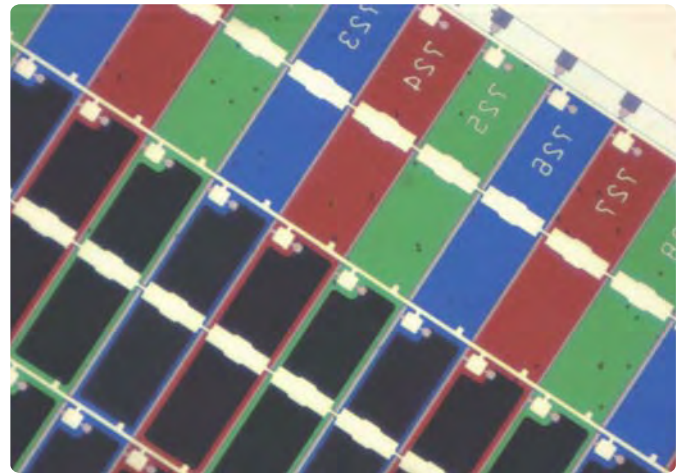
Tipped tools for turning

- ◆Tips
Using fluorescent ringlight SKLS-B makes better to observe tipped tools for turning.
- ◆Models
 - SKM-S20B-PC(P4)
 - SKLS-B Fluorescent ringlight(P16)
- ◆Magnification
 - Magnification on monitor x25



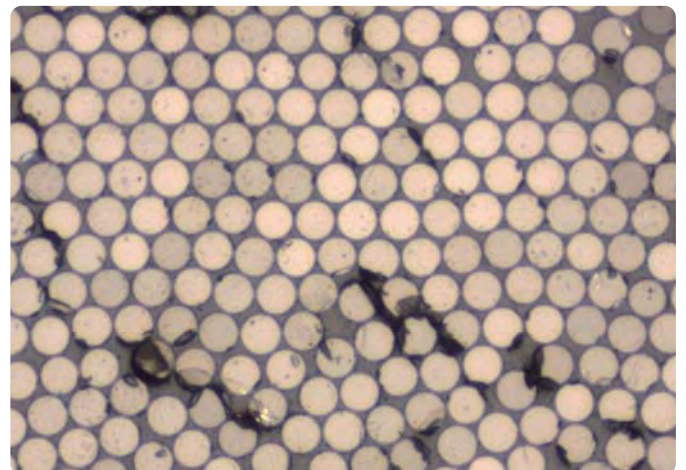
Liquid crystal panel

- ◆Tips
Using SKLS-F Simple Coaxial episcopic illumination.
Light irradiates an object perpendicularly is better.
Can observe transparent electrode.
- ◆Models
 - SKM-Z200C-PC(P6)
 - SKLS-F Simple Coaxial episcopic(P17)
- ◆Magnification
 - Magnification on monitor x275
(Lens magnification x5)



Fiber lighting of section

- ◆Tips
Using SKLS-F Simple Coaxial episcopic illumination.
Light irradiates an object perpendicularly is better.
- ◆Models
 - SKM-Z200C-PC(P6)
 - SKLS-F Simple Coaxial episcopic(P17)
- ◆Magnification
 - Magnification on monitor x385
(Lens magnification x6)



Fabric of wool

- ◆Tips
Diffusion light LED SKLS-A-1 plus Dark-field illumination LED SKLS-D is better than epi-illumination.
- ◆Models
 - SKM-S30B-PC(P4)
 - SKLS-A-1 LED Diffusion light(P16)
 - SKLS-D Dark-field illumination LED(P17)
- ◆Magnification
 - Magnification on monitor x110

