

**Motic®**

# SMZ-140 Series

1:4 Zoom Ratio Stereomicroscope



# SMZ-140 STANDARD FEATURES

## OPTICAL SYSTEM

- High Resolution Stereo Image
- Zoom Magnification Click Stops
- Standard Observation angle of 45°  
**SMZ-140 (60) Observation angle of 60°**
- Diopter Adjustment on both eye tubes: ±5°
- Adjustable interpupillary distance: 54mm - 76mm
- Zoom Magnification Range: 1X - 4X
- Zoom Ratio: 1 : 4
- Working Distance: 80mm
- Anti-Fungus Properties

## EYEPIECES

- Widefield 10X / 20

## FOCUSING BLOCK

- Rack and pinion focusing mechanisms
- 48mm focusing range
- 74mm inner head mount
- 12V/15W Halogen incident light

## BASE STAND

- Compact foot print stand
- 12V/10W Halogen transmitted light [intensity control]
- Universal power input 110V - 220V



**SMZ-140-N2GG**  
Binocular Stereomicroscope



**SMZ-143-N2GG**  
Trinocular Stereomicroscope



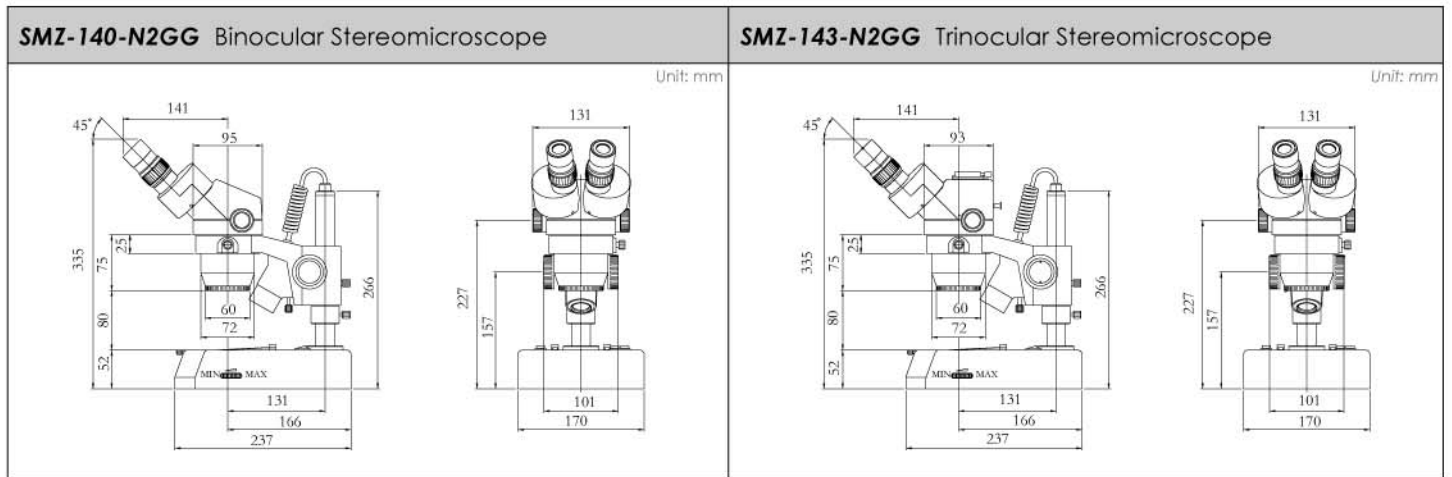
**SMZ-140 (60)-N2GG**  
Binocular 60° Observation  
Stereomicroscope

## SMZ-140 Series Zoom Stereomicroscope Standard Configuration

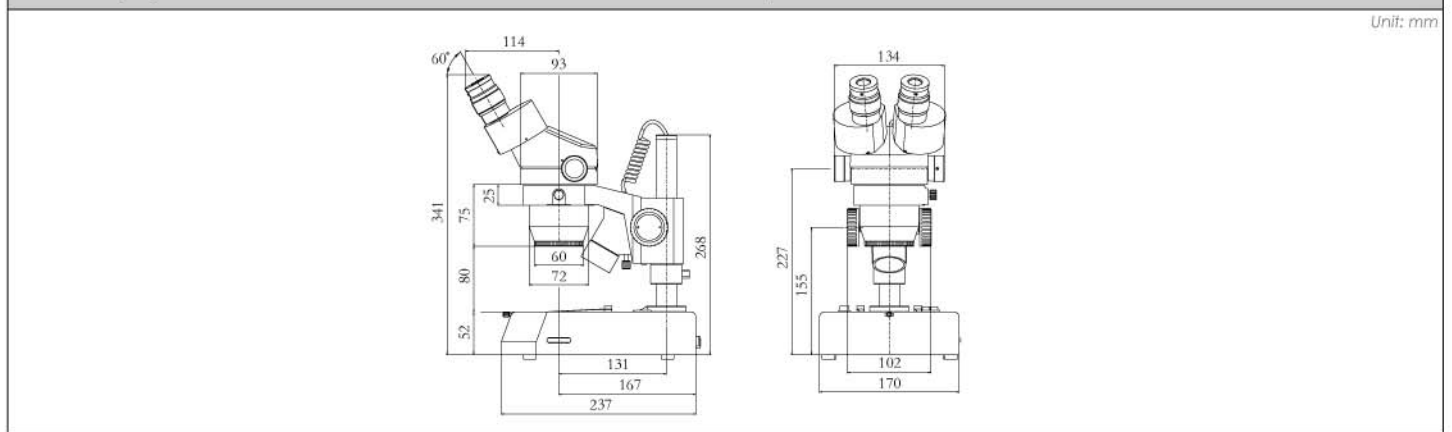
	Order Number	SMZ-140-N2GG	SMZ-140-1104	SMZ-143-N2GG	SMZ-143-1104
Binocular Zoom Body	PX40.000.001	●	●		
Trinocular Zoom Body	PX43.000.001			●	●
Head Holder with incident light halogen 12V/15W [**works only with **]	SP12.0006	●		●	
Head holder without incident light	SP12.0003		●		●
Compact incident light stand	SW01.0909		●		●
Compact stand with transmitted light halogen 12V/10W	AT02.1902	●		●	

# SMZ-140 SCHEMATIC DIAGRAMS/SPECIFICATIONS

## SMZ-140/143 SCHEMATIC DIAGRAMS



### SMZ-140(60)-N2GG Binocular 60° Observation Stereomicroscope



## SMZ-140/143 SPECIFICATIONS

	SMZ-140-N2GG	SMZ-143-N2GG	SMZ-140 (60)-N2GG
<b>Optical System</b>		GREENOUGH	
<b>Magnification Range</b>		1.75X - 180X	
<b>Zoom body magnification</b>		1X - 4X	
<b>Zoom ratio</b>		1: 4	
<b>Eyepieces</b>		WF 10X / 20mm	
<b>Interpupillary distance</b>		54mm - 76mm	
<b>Diopter Adjustment</b>		± 5°	
<b>Observation angle</b>	45°		60°
<b>Working Distance</b>		80mm	
<b>Choice of eyepieces</b>		5X/22, 10X/20, 15X/13, 20X/10, 30X/8	
<b>Additional objective available</b>		0.35X WD = 200mm 0.5X WD = 133mm 0.63X WD = 110mm 0.75X WD = 89mm 1.5X WD = 33mm	
<b>Max. Magnification</b>		180X	
<b>Max. field of view</b>		62.9mm	
<b>Max. working distance</b>		200mm	
<b>Top light</b>		12V / 15W Halogen [Reflected]	
<b>Bottom light</b>		12V / 10W Halogen	
<b>Photo and video adapters</b>		2X Photo Adapter 0.4X CCD Adapter [for 1/3" CCD] 0.5X CCD Adapter [for 1/2" CCD]	

## FS01 - Pole Mount Arm



- Rack and pinion focusing mechanism
- Focus adjustment: 45mm
- Pole mount diameter: Ø 25mm
- Head mount diameter: Ø 74mm

## FS02 - Pole Mount Arm with Illumination



- Rack and pinion focusing mechanism
- Reflected halogen 12V / 15W illumination
- Focus adjustment: 45mm
- Pole mount diameter: Ø 25mm
- Head mount diameter: Ø 74mm

## FS03 - Ball Bearing Pole Mount Arm



- V-frame, ball bearing focusing mechanism
- Focus adjustment: 50mm
- Pole mount diameter: Ø 32mm
- Head mount diameter: Ø 74mm

## FS04 - Ball Bearing Pole Mount Arm with Illumination



- V-frame, ball bearing focusing mechanism
- Reflected halogen 12V / 10W illumination
- Focus adjustment: 50mm
- Pole mount diameter: Ø 32mm
- Head mount diameter: Ø 74mm

## FI01 - Industrial Arm



- V-frame, ball bearing focusing mechanism
- Illuminator port
- Focus Adjustment: 50mm
- Head mount diameter: Ø 74mm
- Nipple diameter: Ø 15.8mm
- Adjustment range: ± 90°

## FI02 - Fast Release Industrial Arm



- Fast release and locking mechanism
- Rack and pinion focus mechanism
- Focus adjustment: 50mm
- Head mount diameter: Ø 74mm
- Nipple diameter: Ø 15.8mm
- Adjustment range: ± 120°

2112 Large Working Area Incident Illumination Stand



- Width of surface: 330mm
- Length of surface: 280mm
- Height of pole: 291mm
- Mounting Diameter: Ø32mm

Manual Movement Stand



- Width of surface: 450mm
- Length of surface: 350mm
- X movement: 400mm
- Y movement: 210mm
- Lockable Movements

1105 Universal Stand



- Diameter of base: 200mm
- Height of pole: 350mm
- Horizontal movement: 260mm
- Mounting Diameter: Ø25mm

1105S Special Universal Stand



- Width of base: 250mm
- Length of base: 250mm
- Height of pole: 350mm
- Horizontal movement: 410mm
- Mounting Diameter: Ø25mm

1107 Articulating Arm Boom Stand



- Width of base: 300mm
- Length of base: 300mm
- Height of pole: 600mm
- Optical Centre Max: 780mm
- Mounting Diameter: Ø25mm

1108 Ball Bearing Boom Stand



- Width of base: 300mm
- Length of base: 300mm
- Height of pole: 600mm
- Optical Centre Max: 638mm
- Mounting Diameter: Ø25mm

1109 Articulating Arm Boom Stand



- Table Clamp Type
- Height of pole: 600mm
- Optical Centre Max: 780mm
- Mounting Diameter: Ø25mm

1110 Ball Bearing Boom Stand



- Table Clamp Type
- Height of pole: 600mm
- Optical Centre Max: 638mm
- Mounting Diameter: Ø25mm

2105I Industrial Arm Boom Stand



- Width of base: 250mm
- Length of base: 250mm
- Height of pole: 330mm
- Horizontal movement: 400mm
- Nipple Mount Diameter: Ø15.8mm

□ Some stands may not be available in your area. Please check with your local sales office.

# SMZ-140/143 STANDS / ILLUMINATIONS

## 1104S Incident Illumination



- Length of base: 280mm
- Width of base: 220mm
- Height of pole: 245mm
- Mounting Diameter: Ø 25mm

## FBGG Stand



- Large working area
- Mounting Diameter: Ø32mm
- 12V / 10W halogen transmitted light [intensity control]
- Universal power input 110V - 220V

## Fixed Mount Stand



- V-frame, ball bearing focusing mechanism
- Precentred optical center
- Length of base: 280mm
- Width of base: 330mm
- Head mount diameter: Ø 74mm
- Focus adjustment: 137mm

# SMZ-140/143 AUXILIARY ILLUMINATION

## K2401 FLUORESCENT RING ILLUMINATOR

- Colour Temperature: 6400K
- Even white light
- 12W power consumption
- 3 screw ring mount



## MLC-150 COLD LIGHT SOURCE

- Colour Temperature Indication
- Colour Temperature Range: 2500K - 3200K
  - Above 5600K with blue filter
- Remote or local intensity control
- 21V / 150W switching power
- Filter holder
- 220(H) x 193(W) x 112(D) mm

## LIGHT GUIDE OPTIONS

### FLEXIBLE RING LIGHT GUIDE

- SP990074
- Length: 1,000mm
- Distal End Diameter: Ø 61mm



### 1-ARM GOOSENECK LIGHT GUIDE

- SP990075
- Length: 500mm
- Distal End Diameter: Ø 13mm



### BIFURCATED GOOSENECK LIGHT GUIDE

- SP990076
- Length: 500mm [each arm]
- Distal End Diameter: Ø 9mm



□ Some illuminators and stands may not be available in your area. Please check with your local sale

# SMZ-140/143 ACCESSORIES

## AUXILIARY EYEPIECES



WF5X / 22mm  
SG02T0605

WF15X / 13mm  
SG02T0313

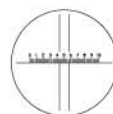
WF20X / 10mm  
SG02T0409

WF30X / 8mm  
SG02T0702

## MICROMETER EYEPIECES



WF10X  
360° : 10  
SG060334



WF10X  
14mm : 0.2mm  
SG060302



WF10X  
14mm : 0.1mm  
SG060303



WF20X  
10mm : 0.1mm  
SG060312

## AUXILIARY OBJECTIVES



- 0.35X Objective WD 200mm SG01T014203
- 0.5X Objective WD 133mm SG01T01201A
- 0.63X Objective WD 110mm AX4007023
- 0.75X Objective WD 89mm SG01T02201A
- 1.5X Objective WD 33mm SG01T1201A

## CAMERA ADAPTERS



2X Photo Adapter  
35mm SLR Camera  
SP100002



0.4X CCD Adapter  
1/3" CCD Camera  
SP100008



0.5X CCD Adapter  
1/2" CCD Adapter  
SW0113N6

## POLARISING EQUIPMENT

- Base stand mountable 1-piece set
- 360° independently rotary polariser [top]
- 360° independently rotary analyser [bottom]

SP080013K



## POLARISING SET

- Zoom body screw mount polariser
- Base stand mountable 360° rotary analyser

AX6602633



## DARKFIELD ATTACHMENT

- Conical glossy central stop for diffracted light observation
- Iris diaphragm for controlling the shape of light
- Base stand mountable

SP090001



## GLIDING STAGE

- Base stand mountable
- Manual manipulation
- 360° rotary for various observations

SW010308 - FBGG Stand  
SW010324S - N2GG Stand

SW010308



## MECHANICAL STAGE

- Base stand mountable
- Max. X distance: 75mm
- Max. Y distance: 50mm
- Dimension in mm:  
222.8(W) x 170(L) x 29.5(H)

SW010338K



## JEWELLERY CLIP

- Easily attachable for jewellery or mineral observation
- Movable upon attachment

SW0199B3



# SMZ-140/143 OPTICAL DATA

Eyepiece	Mag. (X)	Standard Objectives		Auxiliary Objectives									
				0.35X		0.5X		0.63X		0.75X		1.5X	
		WD 80mm		WD 200mm		WD 133mm		WD 110mm		WD 89mm		WD 33mm	
		Mag.	FD (mm)	Mag.	FD (mm)	Mag.	FD (mm)	Mag.	FD (mm)	Mag.	FD (mm)	Mag.	FD (mm)
<b>5X/22</b>	1	5.0	22.0	1.8	62.9	2.5	44.0	3.2	34.9	3.8	29.3	7.5	14.7
	2	10.0	11.0	3.5	31.4	5.0	22.0	6.3	17.5	7.5	14.7	15.0	7.3
	3	15.0	7.3	5.3	21.0	7.5	14.7	9.5	11.6	11.3	9.8	22.5	4.9
	4	20.0	5.5	7.0	15.7	10.0	11.0	12.6	8.7	15.0	7.3	30.0	3.7
<b>10X/20</b>	1	10.0	20.0	3.5	57.1	5.0	40.0	6.3	31.7	7.5	26.7	15.0	13.3
	2	20.0	12.0	7.0	28.6	10.0	20.0	12.6	15.9	15.0	13.3	30.0	6.7
	3	30.0	6.7	10.5	19.0	15.0	13.3	18.9	10.6	22.5	8.9	45.0	4.4
	4	40.0	5.0	14.0	14.3	20.0	10.0	25.2	7.9	30.0	6.7	60.0	3.3
<b>15X/13</b>	1	15.0	13.0	5.3	37.1	7.5	26.0	9.5	20.6	11.3	17.3	22.5	8.7
	2	30.0	6.5	10.5	18.6	15.0	13.0	18.9	10.3	22.5	8.7	45.0	4.3
	3	45.0	4.3	15.8	12.4	22.5	8.7	28.4	6.9	33.8	5.8	67.5	2.9
	4	60.0	3.3	21.0	9.3	30.0	6.5	37.8	5.2	45.0	4.3	90.0	2.2
<b>20X/10</b>	1	20.0	10.0	7.0	28.6	10.0	20.0	12.6	15.9	15.0	13.3	30.0	6.7
	2	40.0	5.0	14.0	14.3	20.0	10.0	25.2	7.9	30.0	6.7	60.0	3.3
	3	60.0	3.3	21.0	9.5	30.0	6.7	37.8	5.3	45.0	4.4	90.0	2.2
	4	80.0	2.5	28.0	7.1	40.0	5.0	50.4	4.0	60.0	3.3	120.0	1.7
<b>30X/8</b>	1	30.0	8.0	10.5	22.9	15.0	16.0	18.9	12.7	22.5	10.7	45.0	5.3
	2	60.0	4.0	21.0	11.4	30.0	8.0	37.8	6.3	45.0	5.3	90.0	2.7
	3	90.0	2.7	31.5	7.6	45.0	5.3	56.7	4.2	67.5	3.6	135.0	1.8
	4	120.0	2.0	42.0	5.7	60.0	4.0	75.6	3.2	90.0	2.7	180.0	1.3

Note: "WD" represents Working Distance, "Mag." represents Magnification, "FD" represents Field Diameter.

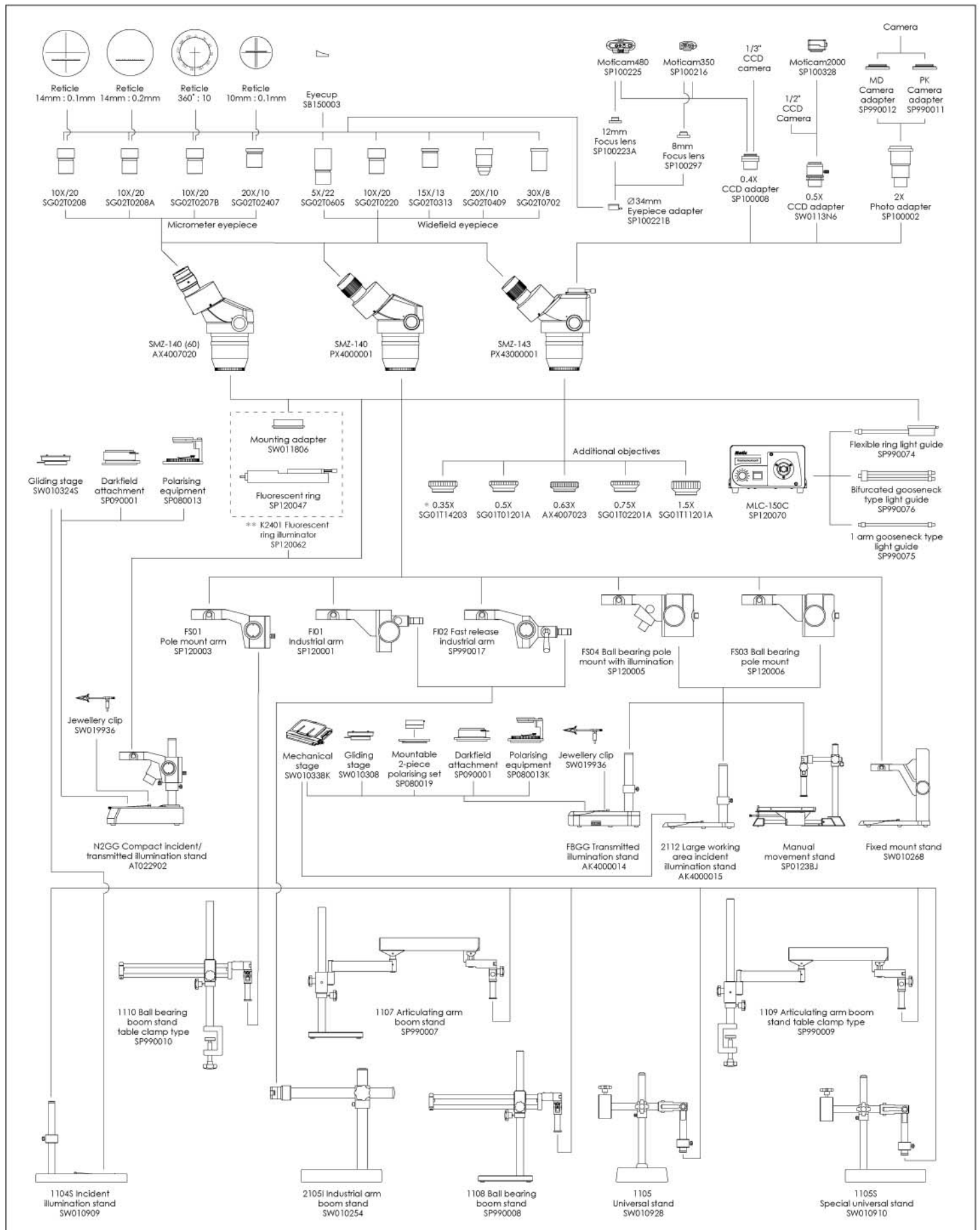


## □ SMZ-140/143 Digital Option

Available in two digital options for either simultaneous three visual outputs [DMW-143] or two megapixel USB 2.0 output [DM-143-B]. Please refer to our DMW-143 and DM-143-B brochures for further information.



# SMZ-140/143 SYSTEM DIAGRAM



\* Usage of 0.35X auxiliary objective requires a pole exceeding 250mm in height.  
 \*\* When selecting the fluorescent ring illuminator, please note the country plug and voltage required.

# **Motic<sup>®</sup>** Microscopes

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[www.motic.com](http://www.motic.com)

**Motic Incorporation Ltd. (HONG KONG)**

Rm 2907-8, Windsor House, 311 Gloucester Road, Causeway Bay, Hong Kong  
Tel: 852-2837 0888 Fax: 852-2882 2792

**Motic Instruments Inc. (CANADA)**

180-4320 Viking Way Richmond, B.C. V6V 2L4 Canada  
Tel: 1-877-977 4717 Fax 1-604-303 9043

**For inquiries in UK (UK)**

Saracens House, 25 St. Margarets Green, Ipswich, IP4 2BN, Suffolk, UK  
Tel: 44-(0)-14732 81909 Fax 44-(0)-14732 11508

**Motic Deutschland GmbH (GERMANY)**

Gewerbepark Spilburg, Spilburgstrasse 1 D-35578 Wetzlar Germany  
Tel: 49-6441-210 010 Fax 49-6441-210 0122

**Motic Spain, S.L. (SPAIN)**

Poligon Industrial Les Corts, Camí del Mig, 112 08349 Cabrera de Mar Barcelona - Spain  
Tel: 34-93-756 6286 Fax: 34-93-756 6287

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**CE**



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