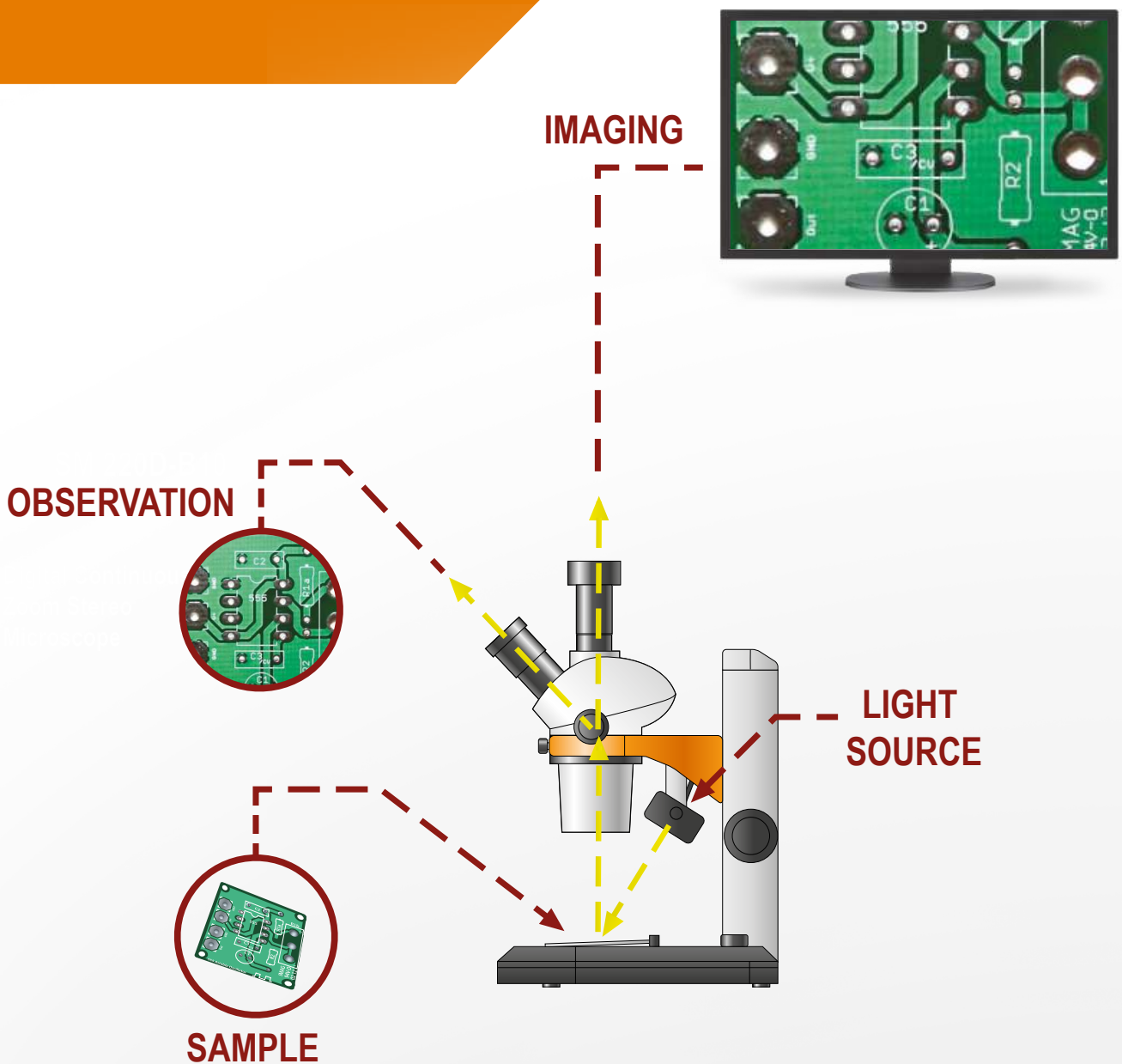


### Stereo microscopes

- > Stereo Microscopes are designed for low power magnification, typically used to view whole samples or when any sample manipulation is required.
- > This type of optical microscope uses separated optical paths that focus on the same point but from slightly different left and right eyes angles. This creates a stereo three-dimensional image of the sample.



- > A stereo image, with its depth perception, is ideal for applications where hand-eye coordination is required. Stereo Microscopes also have a considerably larger working distance than compound microscopes, allowing easier manipulation tasks.
- > Magnifications used may vary from 2x up to 300x, but typically might be between 20x and 80x, depending on which kind of sample is going to be observed.
- > Stereo microscope can have a fixed magnification, or several selectable fixed magnifications, which is achieved by a paired set of objective lenses, or a zoom magnification system capable of continuously variable degree of magnification across a set range.

### Greenough and CMO stereo microscope designs

- > Stereo Microscopes can be divided into two basic families. Greenough and CMO Stereo Microscopes
- > The Greenough type uses two separate optical paths with two objectives and eyepieces inclined to produce stereo effect.
- > CMO Stereo Microscopes uses a single Common Main Objective which is shared between a pair of eyepieces and lens systems.
- > In general CMO Stereo Microscopes have a greater light-gathering power than the Greenough-type design and are more highly corrected for optical aberration, though in most circumstances, the choice between Greenough or CMO Stereo Microscopes is usually based on the application.
- > Greenough Stereo Microscopes are typically preferred for routine applications such as PCB inspection, dissecting biological specimens, etc. These microscopes are relatively small, easy to use and maintain.
- > CMO Stereo Microscopes are generally used for more complex applications requiring high resolution with advanced optical and illumination accessories. The wide range of accessories available for these microscopes lends to their strength in these areas.
- > The illumination system in a stereo microscope is normally based on reflected light
- > The use of reflected light from the object allows the sample examination that would be too thick or opaque for compound microscopy. Some Stereo Microscopes are also equipped with transmitted light illumination included in the stand.



## SM 700

## Square Base Wide-Field Microscope



Model	SM 700
Total magnification	20x-40x-60x
Objectives for long working distance	2x WD=208.00mm
	4x WD=98.00mm
	6x WD=80.00mm
Stage	400x300x20mm
Vertical arm height	500mm
Head travel	200mm
Reflected illumination	W LED lamp, with brightness control
Power supply	230V $\pm$ 10% - 50/60Hz - 1Ph - 30W
Dimensions	280x510x550mm
Weight	13kg

## Optional accessories

Model	Description
SM700obj008x	Objective for long working distance 8x WD=58.00mm
SM700obj010x	Objective for long working distance 10x WD=46.00mm
SM700obj015x	Objective for long working distance 15x WD=50.00mm

## SM 500

## Continuous Zoom Stereo Microscope



Model	SM 503	SM 501
Optical system	Parallel optical zoom system	Parallel optical zoom system
Total magnification	From 8x to 80x	From 8x to 50x
Eyepiece	H WF 10x (ø22mm)	H WF 10x (ø22mm)
Zoom objectives	0.8x-8x	0.8x-5x
Zoom ratio	1:10	1:6
Zoom mode	Continuous zoom by double hand wheel	Continuous zoom by double hand wheel
Plan achromatic objective	1x WD=78.00mm	1x WD=78.00mm
Head	Binocular	Binocular
	Inclination of 20°	Inclination of 20°
	Interpupillary distance 55-75mm	Interpupillary distance 55-75mm
	Diopter adjustable ±5	Diopter adjustable ±5
Focusing range	105mm	105mm
Reflected illumination	3W LED lamp with brightness control	3W LED lamp with brightness control
Transmitted illumination	6W LED lamp with brightness control	6W LED lamp with brightness control
Base size	420x410x650mm	420x410x650mm
Power supply	230V ±10% - 50/60Hz -1Ph - 30W	230V ±10% - 50/60Hz -1Ph - 30W
Dimensions	370x320x670mm	370x320x670mm
Weight	9.5kg	9.5kg

## Optional accessories

Model	Description
SM500eyp015x	Eyepiece WF 15x (ø16mm)
SM500eyp020x	Eyepiece WF 20x (ø12mm)
SM500eyp030x	Eyepiece WF 30x (ø8mm)
SM500lens0.5x	Achromatic objective 0.5x WD=195.00mm
SM500lens2x	Plan achromatic objective 2x WD=32.50mm
SM500head	Binocular tilting head, 0-35° inclined, interpupillary distance 55-75mm

## Optional accessories

Model	Description
SM500DFK	Dark field attachment
SM500PK	Polarizing attachment
SM500adapter01	Photo tube, beamsplitter 1 port
SM500adapter02	Photo tube, beamsplitter 2 port
SM500adapter03	Camera adapter 0.5x
SM500adapter04	Camera adapter 1x

## SM 503 FI

## Fluorescence Continuous Zoom Stereo Microscope



Model	SM 503 FI
Optical system	Parallel optical zoom system
Total magnification	From 8x to 80x
Eyepiece	H WF 10x (ø22mm)
Zoom objectives	0.8x-8x
Zoom ratio	1:10
Zoom mode	Continuous zoom by double hand wheel
Plan achromatic objective	1x WD=78.00mm
Head	Binocular
	Inclination of 20°
	Interpupillary distance 55-75mm
	Diopter adjustable ±5
Focusing range	105mm
Reflected illumination	100W ultra hi-voltage spherical mercury lamp
	3W LED lamp with brightness control
Transmitted illumination	6W LED lamp with brightness control
Base size	420x410x650mm
Power supply	230V ±10% - 50/60Hz -1Ph - 30W
Dimensions	370x320x670mm
Weight	9.5kg

## Optional accessories

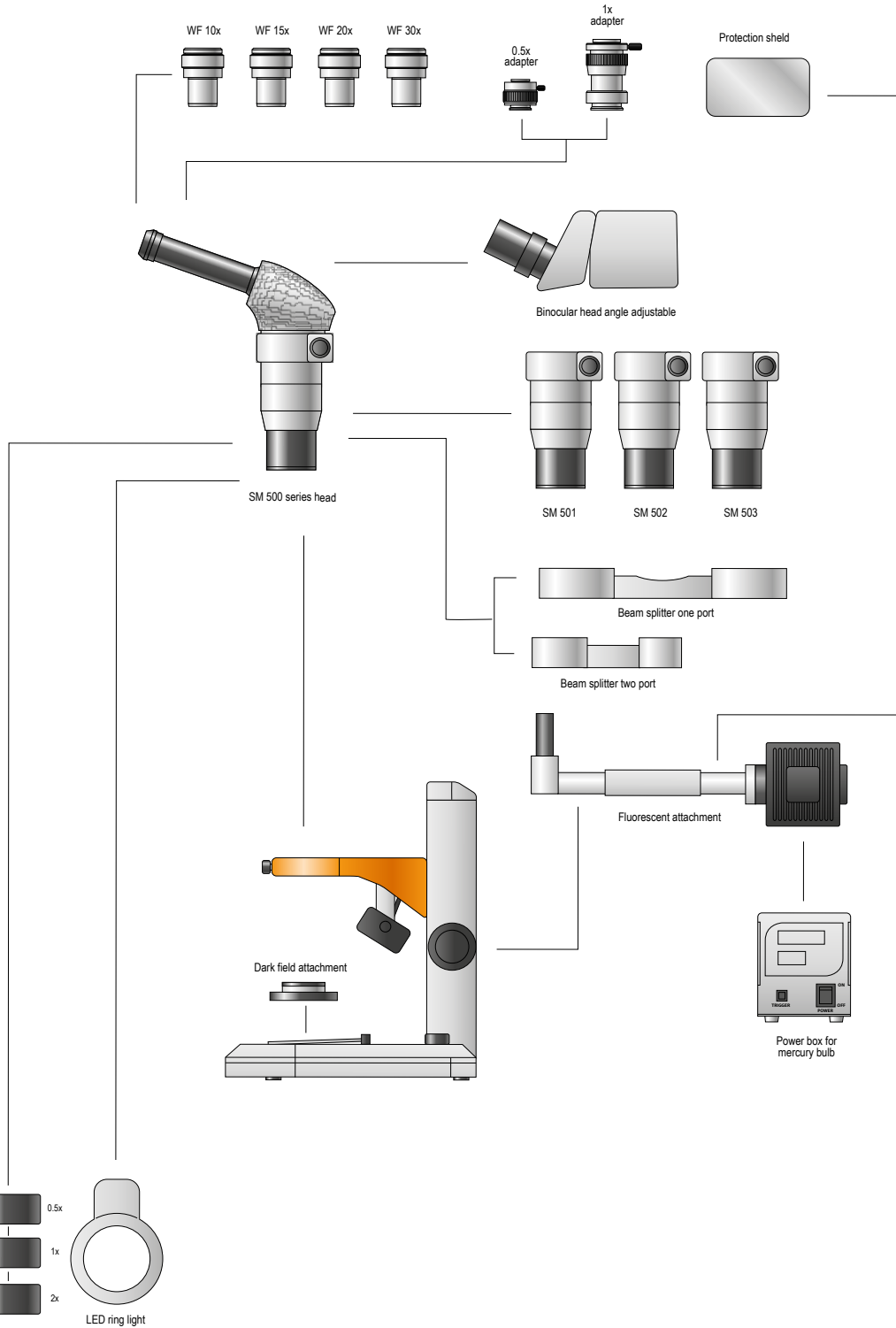
Model	Description
SM500eyp015x	Eyepiece WF 15x (ø16mm)
SM500eyp020x	Eyepiece WF 20x (ø12mm)
SM500eyp030x	Eyepiece WF 30x (ø8mm)
SM500lens0.5x	Achromatic objective 0.5x WD=195.00mm
SM500lens2x	Plan achromatic objective 2x WD=32.50mm
SM500head	Binocular tilting head, 0-35° inclined, interpupillary distance 55-75mm

## Optional accessories

Model	Description
SM500DFK	Dark field attachment
SM500PK	Polarizing attachment
SM500adapter01	Photo tube, beamsplitter 1 port
SM500adapter02	Photo tube, beamsplitter 2 port
SM500adapter03	Camera adapter 0.5x
SM500adapter04	Camera adapter 1x

COMPONENTS DIAGRAM

SM 500 series



SM 343 H  
SM 342 H

Continuous Zoom Stereo Microscope Head



SM 343 H



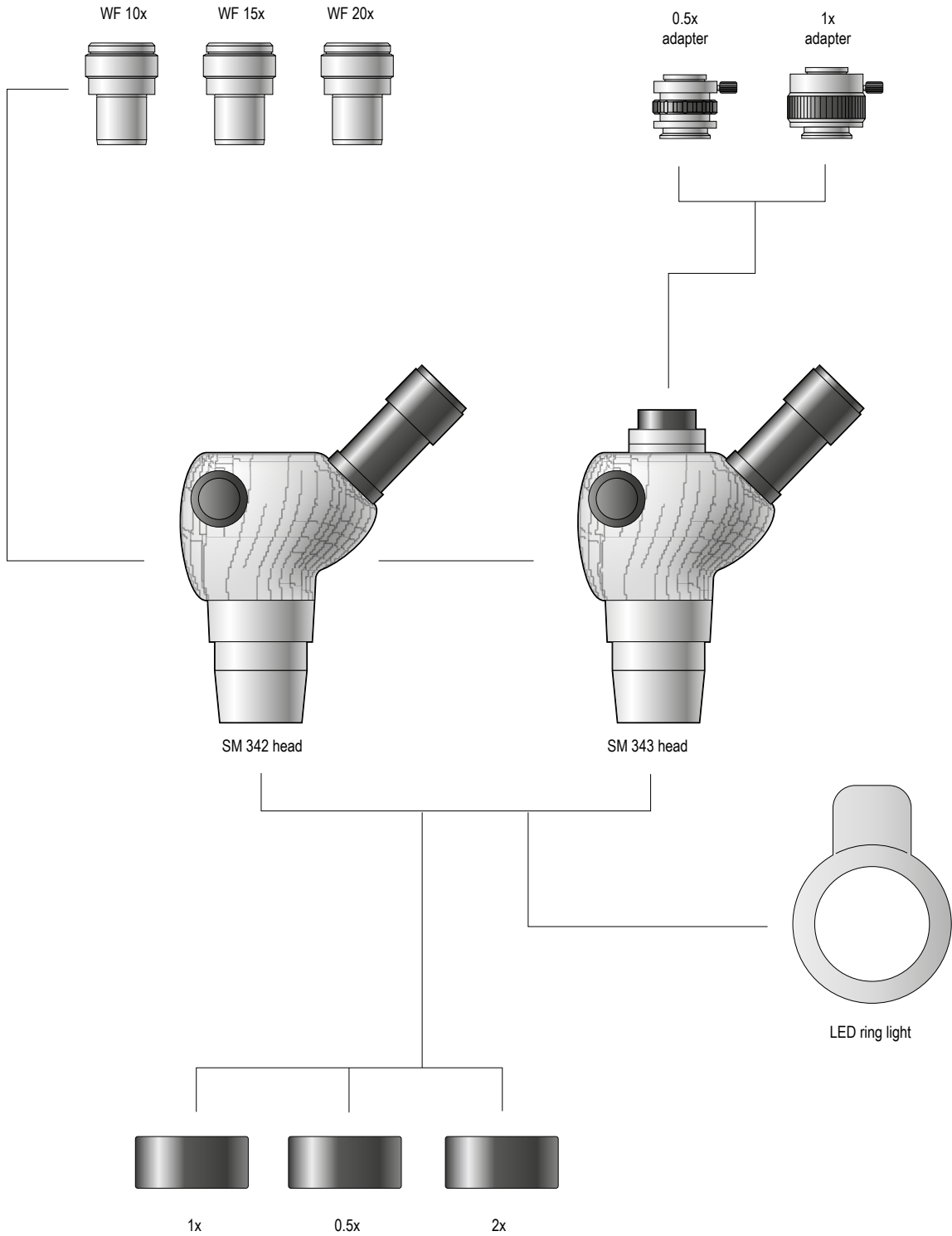
SM 342 H

Model	SM 343 H	SM 342 H
Optical system	Greenough stereoscopic	Greenough stereoscopic
Total magnification	From 8x to 50x	From 8x to 50x
Eyepiece	H WF 10x (ø22mm)	H WF 10x (ø22mm)
Zoom objectives	0.8x-5x	0.8x-5x
Zoom ratio	1:6.3	1:6.3
Zoom mode	Continuous zoom by double hand wheel	Continuous zoom by double hand wheel
Plan achromatic objective	1x WD=115.00mm	1x WD=115.00mm
Head	Trinocular	Binocular
	Inclination of 45°	Inclination of 45°
	Interpupillary distance 52-76mm	Interpupillary distance 52-76mm
	Diopter adjustable ±5	Diopter adjustable ±5
Dimensions	310x215x225mm	310x215x225mm
Weight	2kg	2kg

Optional accessories	
Model	Description
SM340eyp015x	Eyepiece WF 15x (ø16mm)
SM340eyp020x	Eyepiece WF 20x (ø12.5mm)
SM340lens0.5x	Objective PL 0.5x WD=211.00mm
SM340lens2x	Objective PL 2x WD=43.50mm
SM000002	LED ring with 60 bulbs
SM000001	Eyeshield
SM340001	Camera adapter 0.5x
SM340002	Camera adapter 1x

COMPONENTS DIAGRAM

SM 343 H / SM 342 H





SM 230 H  
SM 220 H

## Continuous Zoom Stereo Microscope Head

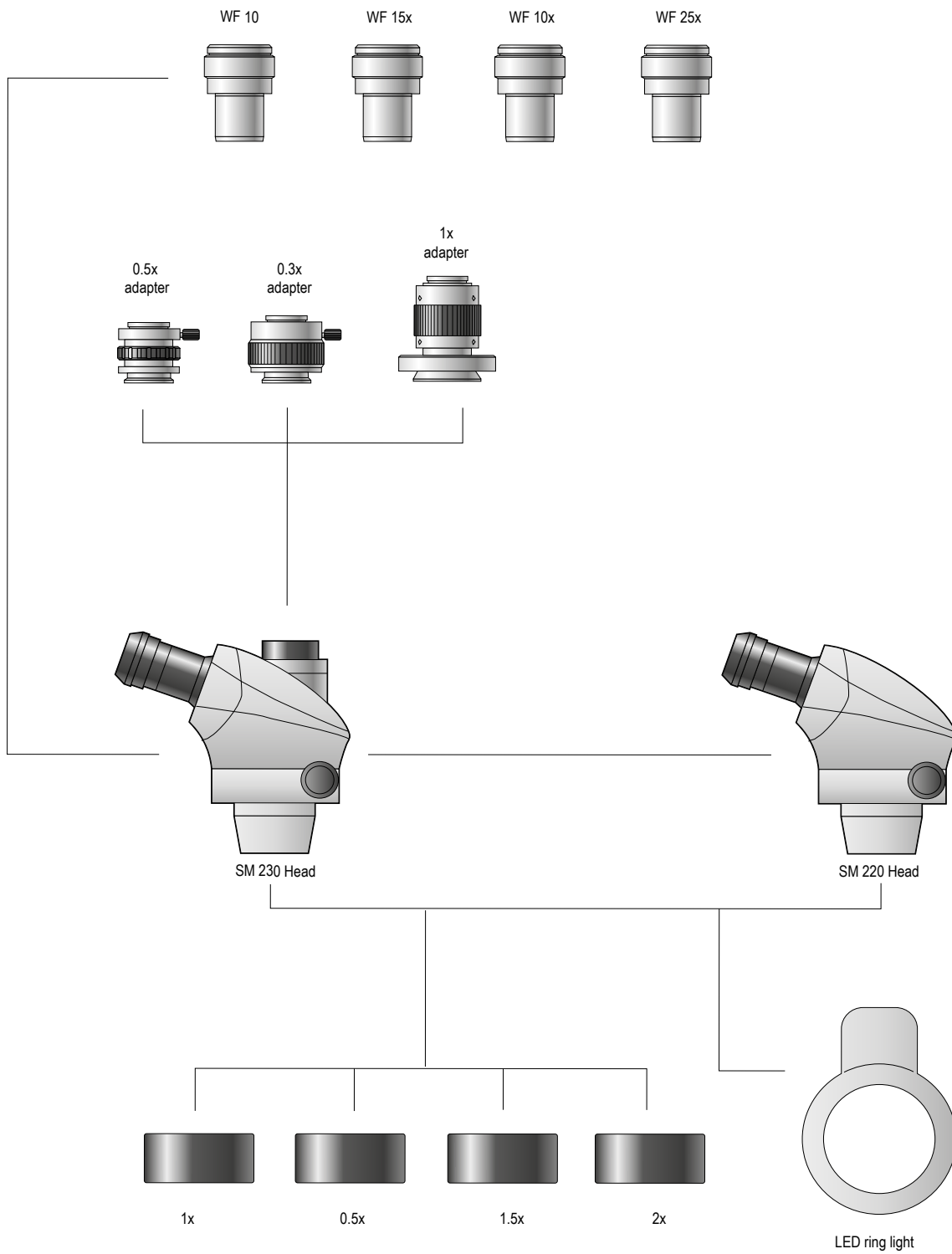


Model	SM 230 H	SM 220 H
Optical system	Greenough stereoscopic	Greenough stereoscopic
Total magnification	From 7x to 45x	From 7x to 45x
Eyepiece	H WF 10x (ø20mm)	H WF 10x (ø20mm)
Zoom objectives	0.7x-4.5x	0.7x-4.5x
Zoom ratio	1:6.4	1:6.4
Zoom mode	Continuous zoom by double hand wheel	Continuous zoom by double hand wheel
Plan achromatic objective	1x WD=100.00mm	1x WD=100.00mm
Head	Trinocular	Binocular
	Inclination of 45°	Inclination of 45°
	Interpupillary distance 54-76mm	Interpupillary distance 54-76mm
	Diopter adjustable ±5	Diopter adjustable ±5
Dimensions	310x225x210mm	310x225x210mm
Weight	1.5kg	1.5kg

Optional accessories	
Model	Description
SM200eyp015x	Eyepiece WF 15x (ø15mm)
SM200eyp020x	Eyepiece WF 20x (ø10mm)
SM200eyp025x	Eyepiece WF 25x (ø9mm)
SM220230lens0.5x	Objective PL 0.5x WD=165.00mm
SM220230lens1.5x	Objective PL 1.5x WD=45.00mm
SM220230lens2x	Objective PL 2x WD=30.00mm
SM000002	LED ring with 60 bulbs
SM000001	Eyeshield
SM230001	Camera adapter 0.5x
SM230002	Camera adapter 0.3x
SM230003	Camera adapter 1x

COMPONENTS DIAGRAM

SM 230 H / SM 220 H



## SM 216 H

## Stereo Microscope Head



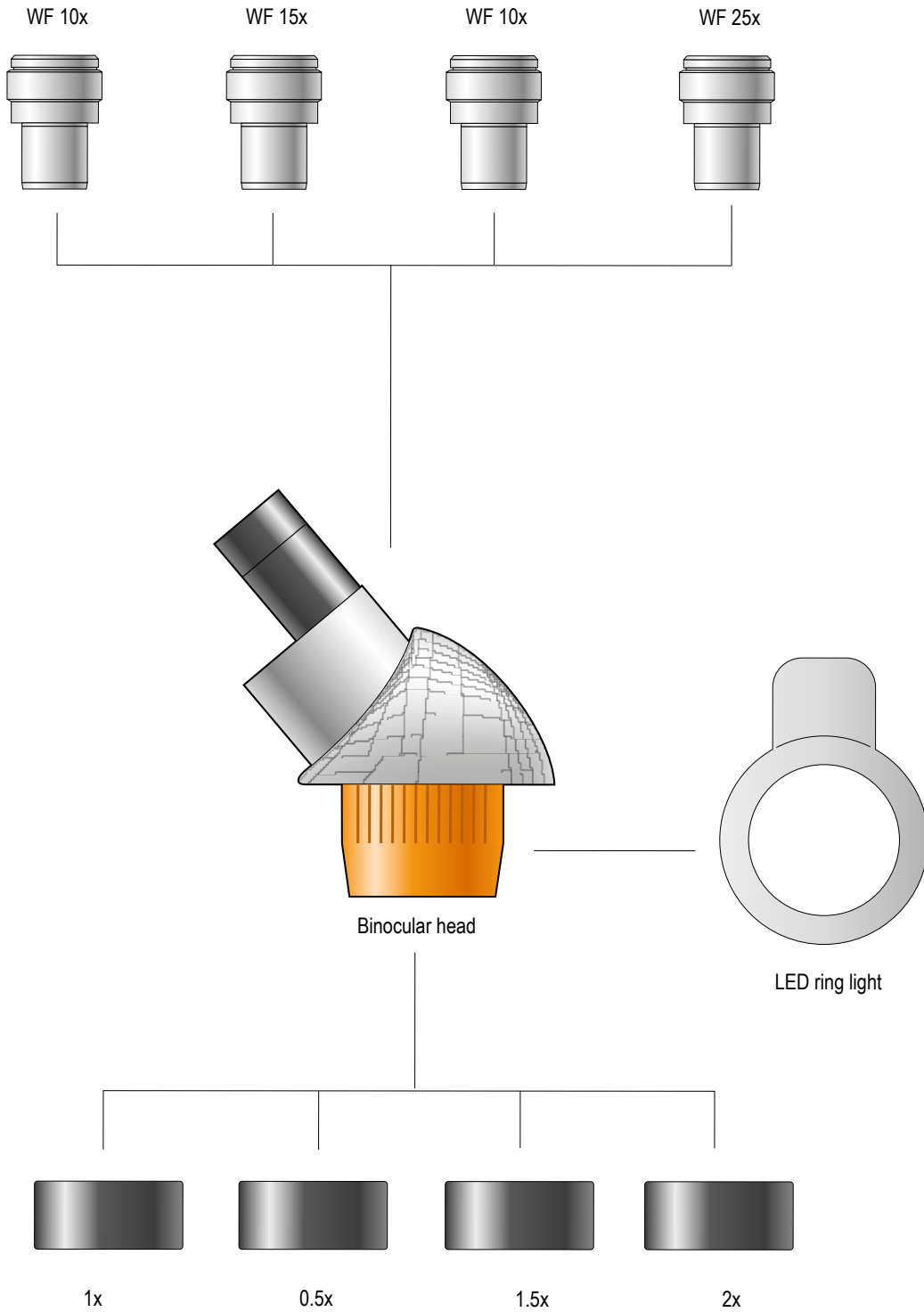
Model	SM 216 H	SM 215 H
Optical system	Greenough stereoscopic	Greenough stereoscopic
Total magnification	20x/40x	10x/30x
Eyepiece	H WF 10x (ø20mm)	H WF 10x (ø20mm)
Turret type objective	2x/4x	1x/3x
Zoom mode	2 objectives switchable by eyepiece rotating tube	2 objectives switchable by eyepiece rotating tube
Head	Binocular	Binocular
	Inclination of 45°	Inclination of 45°
	Interpupillary distance 54-76mm	Interpupillary distance 54-76mm
	Diopter adjustable ±5	Diopter adjustable ±5
Dimensions	310x210x225mm	310x210x225mm
Weight	1.5kg	1.5kg

## Optional accessories

Model	Description
SM200eyp015x	Eyepiece WF 15x (ø15mm)
SM200eyp020x	Eyepiece WF 20x (ø10mm)
SM200eyp025x	Eyepiece WF 25x (ø9mm)
SM200210lens0.5x	Objective PL 0.5x WD=165.00mm
SM200210lens1.5x	Objective PL 1.5x WD=45.00mm
SM200210lens2x	Objective PL 2x WD=30.00mm
SM000002	LED ring with 60 bulbs
SM000001	Eyeshield

COMPONENTS DIAGRAM

SM 216 H / SM 215 H



**SM-B4**

Base for Stereo Microscope



Model	SM-B4
Base	Size 200x255x22mm
Draw tube	Height 300mm
	Size ø76mm
Focus distance	100mm
Weight	1kg

**SM-B7**

Base for Stereo Microscope



Model	SM-B7
Base	With clip
	With glass platen ø95mm
	Size 205x275x42mm
Drawtube	Height 300mm
	ø76mm
Transmitted illumination	3W LED lamp
	Brightness control
Reflected illumination	3W LED lamp
	Brightness control
Focus distance	100mm
Power supply	110/220V 50/60Hz 1pH
Weight	3kg

**SM-B8**

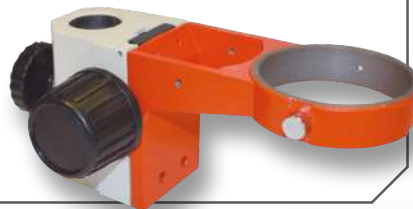
Base for Stereo Microscope



Model	SM-B8
Base	With clip
	With black & white platen ø95mm
	Size 205x275x42mm
Pillar	Height 240mm
	ø32mm
Reflected illumination	3W double LED lamp, independent switch
	Brightness control
Arm type	SM-A1
Power supply	110/220V 50/60Hz 1pH
Weight	3kg

**SM-A1**

Arm type for Stereo Microscope



**SM-B9**

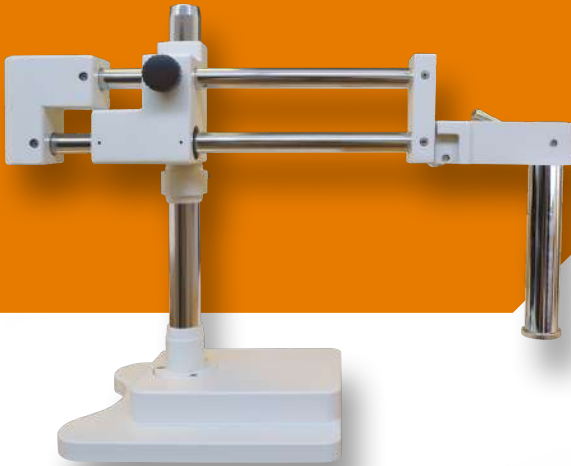
Base for Stereo Microscope



Model	SM-B9
Base	With clip
	With glass platen ø95mm
	Size 300x295x58mm
Draw tube	Height 358mm
	Size ø76mm
Transmitted illumination	3W LED lamp
	Brightness control
Power supply	110/220V 50/60Hz 1pH
Weight	3kg

**SM-B16**

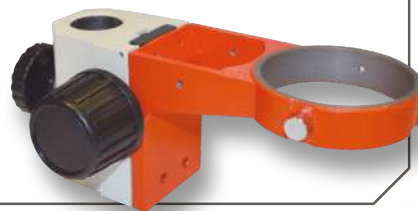
Base for Stereo Microscope



Model	SM-B16
Base	Size 210x260x40mm
Pillar	Height 380mm
	ø32mm
Horizontal moving	235mm
Arm type	SM-A1
Weight	14kg

**SM-A1**

Arm type for Stereo Microscope



**SM-B20**

Base for Stereo Microscope



Model	SM-B20
Base	With clip
	With black & white platen ø95mm
	Size 240x180x22mm
Drawtube	Height 280mm
	ø76mm
Focus distance	230mm
Power supply	110/220V 50/60Hz 1pH
Weight	4kg

## SM-B21

## Base for Stereo Microscope



Model	SM-B21
Base	With clip
	With glass platen $\varnothing 95\text{mm}$
	Size 240x180x22mm
Drawtube	Height 280mm
	$\varnothing 76\text{mm}$
Transmitted illumination	3W LED lamp
	Brightness control
Reflected illumination	3W LED lamp
	Brightness control
Focus distance	230mm
Power supply	110/220V 50/60Hz 1pH
Weight	6kg



SM 216 - B21



Model	SM 216 H
Optical system	Greenough stereoscopic
Total magnification	20x/40x
Eyepiece	H WF 10x (ø20mm)
Turret type objective	2x/4x
Zoom mode	2 objectives switchable by eyepiece rotating tube
Head	Binocular
	Inclination of 45°
	Interpupillary distance 54-76mm
	Diopter adjustable ±5
Dimensions	310x210x225mm
Weight	1.5kg

Model	SM-B21
Base	With clip
	With glass platen ø95mm
	Size 240x180x22mm
Drawtube	Height 280mm
	ø76mm
Transmitted illumination	3W LED lamp
	Brightness control
Reflected illumination	3W LED lamp
	Brightness control
Focus distance	230mm
Power supply	110/220V 50/60Hz 1pH
Weight	6kg

SM 230 - B7



Model	SM 230 H
Optical system	Greenough stereoscopic
Total magnification	From 7x to 45x
Eyepiece	H WF 10x (ø20mm)
Zoom objectives	0.7x-4.5x
Zoom ratio	1:6.4
Zoom mode	Continuous zoom by double hand wheel
Plan achromatic objective	1x WD=100.00mm
Head	Trinocular
	Inclination of 45°
	Interpupillary distance 54-76mm
	Diopter adjustable ±5
Dimensions	310x225x210mm
Weight	1.5kg

Model	SM-B7
Base	With clip
	With glass platen ø95mm
	Size 205x275x42mm
Drawtube	Height 300mm
	ø76mm
Transmitted illumination	3W LED lamp
	Brightness control
Reflected illumination	3W LED lamp
	Brightness control
Focus distance	100mm
Power supply	110/220V 50/60Hz 1pH
Weight	3kg