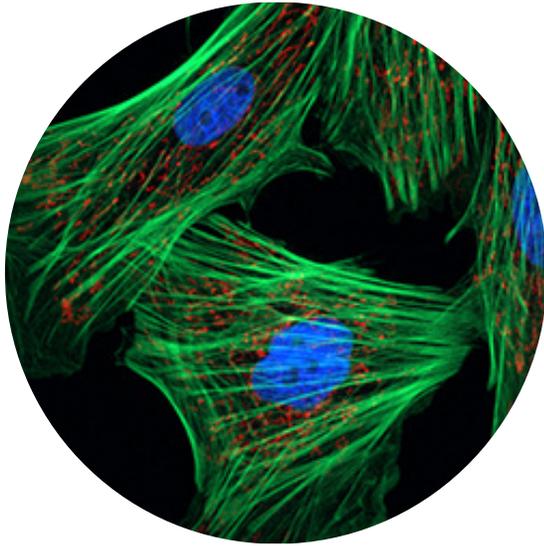


# Viridian



## Aspen

Inverted Microscope



Aspen Inverted Microscopes



**1** Ergonomically inclined head with eyetubes at 45° places user in the best working position, creating less tension and fatigue. Interpupillary distance is adjustable from 54~75mm.

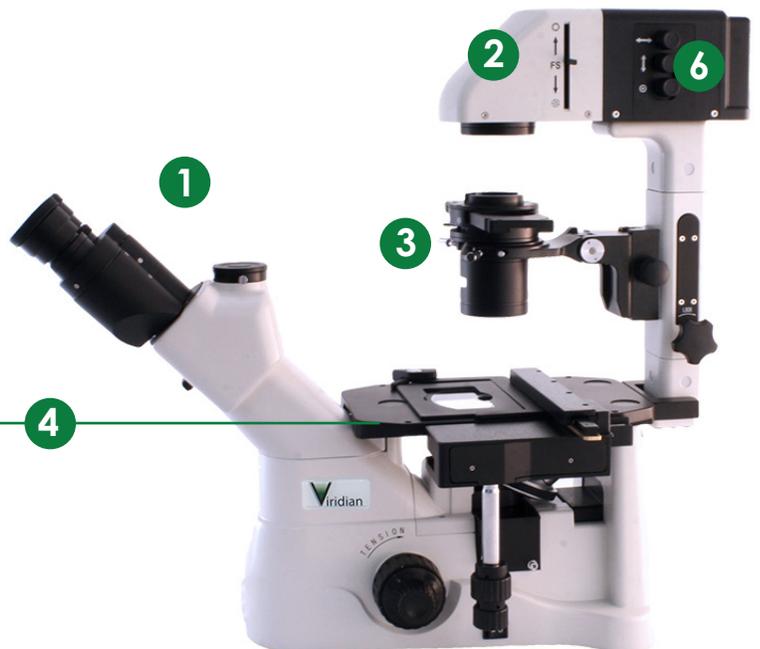
**2** Field diaphragm adjustment lever.

**3** LWD condenser with phase slider, NA 0.30 with working distance 72mm. Condenser can be swung completely out of the light path.

**4** Attachable mechanical stage with movement range of 120mm x 78mm. Stage holds slides, 35mm diameter petri dish, Terasaki plates, etc.

**5** 3-position phase slider fits into LWD condenser. Slider has positions for PH1, PH2 and brightfield.

**6** 6v 30w halogen Koehler illumination with intensity control and bulb-centering controls.



# Objective Lenses



## LWD Plan Achromat Infinity Corrected Objectives

Part #	Objective	N.A.	W.D.
LPL4	4x	0.10	22mm
LPL40	40x	0.65	3.71mm

## LWD Plan Phase Infinity Corrected Objectives

Part #	Objective	N.A.	W.D.
LPLPH10	10x	0.25	7.94mm
LPLPH20	20x	0.40	7.66mm
LPLPH40	40x	0.60	3.71mm



## LWD Plan Phase Semi Apochromat Fluor Infinity Corrected Objectives



Part #	Objective	N.A.	W.D.
LPLPHF20	20x	0.45	5.91mm
LPLPHF40	40x	0.65	1.61mm

## LWD Plan Semi Apochromat Fluor Infinity Corrected Objectives

A new generation of professional infinity plan semi-apochromatic fluorescence lenses with high numerical aperture, which is 25% higher than ordinary plan objective lenses, can excite the sample with brighter light and make a substantial increase in image resolution and clarity. The system uses high quality environmental protection materials, no autofluorescence, and high UV through rate. Compared with ordinary brightfield achromatic lenses in bandwidth and UV transmittance, the objectives with wideband multi-coating technology have obvious advantages.

Part #	Objective	N.A.	W.D.
LPLFL4	4x	0.13	18.52m
LPLFL10	10x	0.30	7.11mm
LPLFL20	20x	0.45	5.91mm
LPLFL40	40x	0.65	1.61mm
LPLFL60	60x	0.75	1.04mm





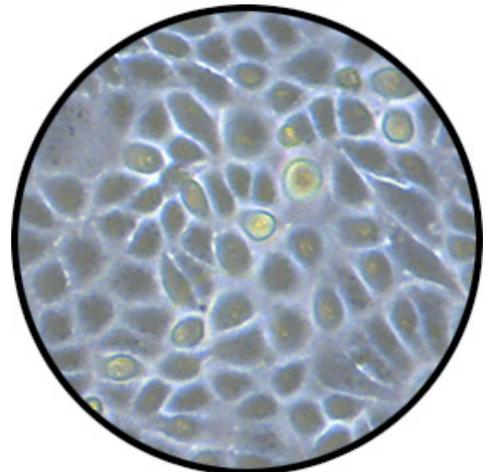
## LWD Condenser

Long working distance condenser with NA 0.30 and a slot for the phase slider. The condenser can easily be swung out of the light path. The working distance is 72mm. Condenser has adjustable aperture diaphragm and provides Koehler illumination.

## Koehler Illumination System

6v 30w halogen bulb provides Koehler illumination. Bulb is centerable and intensity adjustable. Condenser has aperture diaphragm and field diaphragm and both are adjustable.

Designed for observing cells and tissue cultures, the Aspen inverted microscope can be used to observe cell growth, tissue profiles and internal structures of cells, among many other uses.



## Phase Contrast



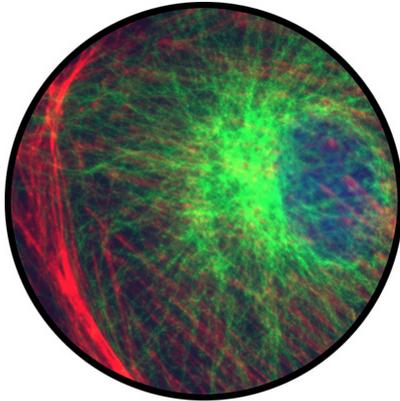
Phase contrast accessories include a phase centering telescope, LWD plan phase and LWD plan phase fluor objective lenses, green interference filter and a phase slider. The phase slider has 3 positions: BF, PH1, PH2. The brightfield position (empty slot) can be fitted with a color filter, or left empty when performing brightfield microscopy. Position PH1 is used for the 10x and 20x phase contrast objectives and position PH2 is for the 40x phase contrast objective.

# Microscope Features

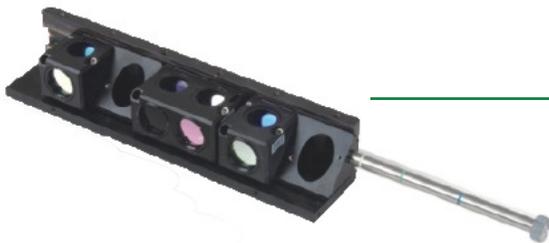


## High Performance Fluorescence Filters

Our selected high-performance fluorescence filters not only have a high transmittance of the spectrum, but also have good depth and steepness of the cutoff line. Without a cross color but a high S/N ratio, fluorescence imaging contrast was promoted dramatically. We choose stray light elimination of the background to the filter blocks. Thus, the background of the image becomes darker, and the fluorescence brighter.



Filter sets can be customized to meet requirements.



Fluorescence illumination with filter slider that holds three filter cubes. Illuminator options include metal halide illuminator with liquid light guide and collimating adapters or LED illuminator.



Attachable mechanical stage with movement range of 120mm x 78mm. Stage holds cell culture plates, slides, 35mm diameter petri dishes, Terasaki plates and other inserts.

## Widefield Plan Eyepieces

High eyepoint widefield plan eyepieces are available in two magnifications. FPL-WF 10x, FN22 with retaining ring to hold a 26mm diameter reticle. FPL-WF 15x, FN 16 with a retaining ring to hold a 25mm diameter reticle.



## Focusing C-Mount Adapters

Part #	C-Mount	Camera Chip Size
ASPN-CMT0.35x	0.35x	1/4" - 1/3"
ASPN-CMT0.5x	0.5x	1/2" - 1/1.8"
ASPN-CMT0.65x	0.65x	2/3"
ASPN-CMT1x	1.0x	2/3" - 1"

## Digital Options

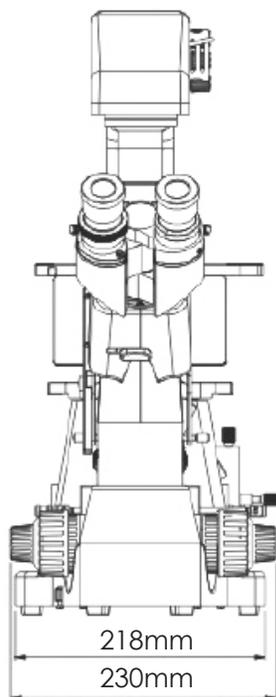
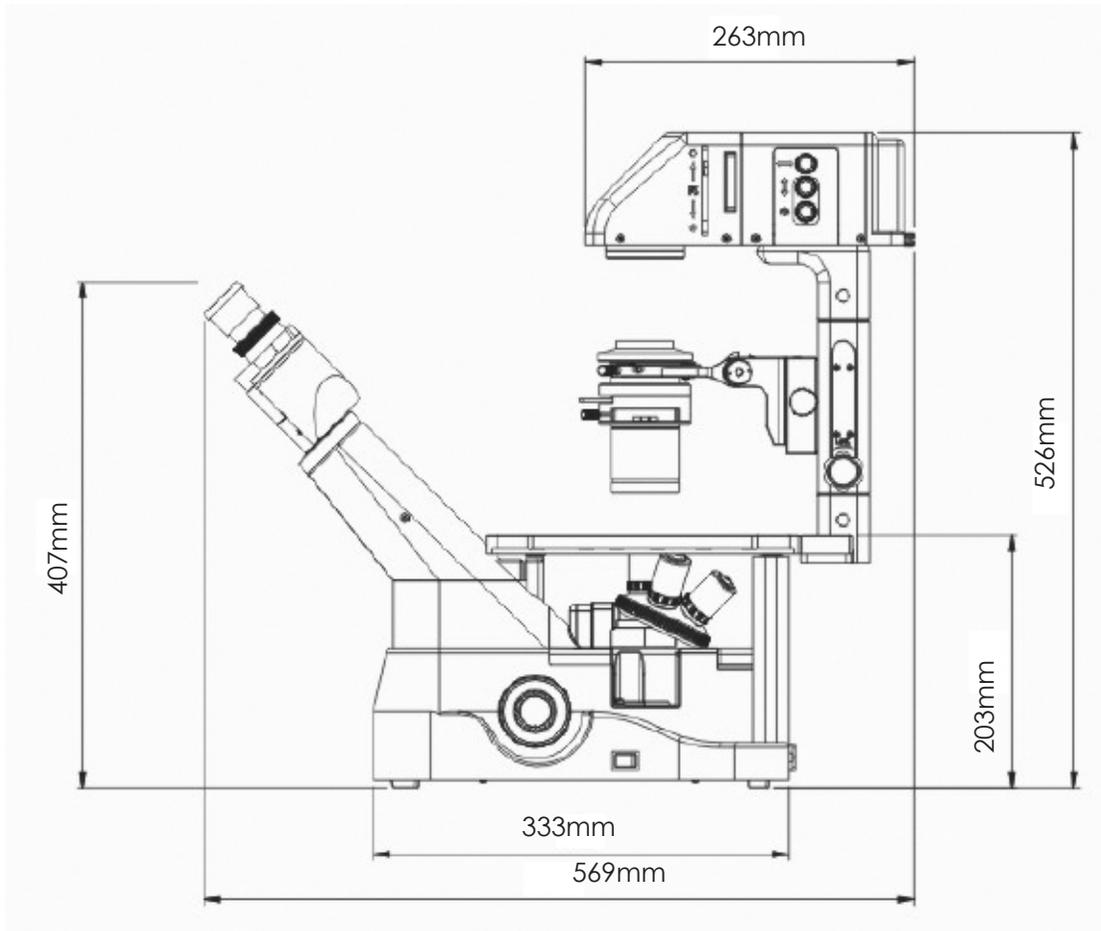
Aspen microscope shown with high definition HD camera and HD monitor for viewing live cells, capturing images and making measurements. The HD camera provides a fast live frame rate and the ability to capture video in HD. A variety of cameras and microscopy software can be combined with the inverted microscope to solve individual microscopy needs.



# Microscope Specifications



Optical System	Infinity Color Corrected Optical System
Viewing Head	45° inclined gemel trinocular head with erect image. Interpupillary distance adjustable 54~75mm. Beam splitter ratio = 100:0, 0:100.
Eyepieces	FPL-WF 10x widefield, high eyepoint plan eyepieces, FN22. Reticle retaining ring for 26mm diameter reticle.
	FPL-WF 15x widefield, high eyepoint plan eyepieces, FN16. Reticle retaining ring for 25mm diameter reticle.
Objective Lenses	Infinity Corrected LWD Plan Achromat 4x, 40x.
	Infinity Corrected LWD Plan Semi Apochromat Fluor 4x, 10x, 20x, 40x, 60x.
	Infinity Corrected LWD Plan Phase 10x, 20x, 40x.
	Infinity Corrected LWD Plan Phase Semi Apochromat Fluor 20x, 40x.
Nosepiece	Revolving quintuple nosepiece.
Focus Adjustment	Low position coaxial focusing system with tension adjustment, coarse focusing range 9mm. Fine adjustment precision of 0.002mm.
Body	Automatic voltage sensing power supply 110v~240v, removable power cord.
Stage	Fixed stage 250mm x 160mm. Travel range of 120mm x 78mm. Mechanical stage available with 120mm (X) x 78mm (Y) travel with holder for slide, 35mm Ø petri dish holder, or Terasake holder.
Condenser	N.A. 0.3 LWD Achromat condenser, bracket can be removed from optical path. WD = 72mm. Condenser has slot for phase slider.
Illumination	6v, 30w halogen Koehler illuminator with adjustable field diaphragm. Bulb is pre-centered and intensity adjustable.
Phase Contrast	Phase centering telescope, green interference filter, phase objectives. Phase slider has 3 positions: open for brightfield or inserting a 45mm diameter color filter, PH1 for 10x/20x and PH2 for 40x.
Fluorescence	Fluorescence illumination with three position filter slider. Metal halide illuminator with liquid light guide and collimating adapters or LED illuminator. Variety of filter sets available. Fluorescence illuminator has adjustable iris field diaphragm and aperture diaphragm.
C-Mount Adapters	Focusing 0.35x, focusing 0.5x, focusing 0.65x, 1x.
Filters	Yellow, green, blue, neutral density 45mm diameter filters.
Reticles	Variety of 26mm Ø and 25mm Ø reticles available including: grid, ruler, cross-line, etc. Metric or inches.



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