

Catalyst Biotech

CS-U7000 Series
CatScope





CS-U7000

CatScope

CS-U7000 series microscopes are Infinity Optical System with upgraded Koehler Illumination System. Ergonomic design, steady system structure, easy operation, makes it suitable for various working environments. "Building blocks" design for combining multiple functions - Fluorescence, Phase Contrast, Polarizing, Dark-field attachments can be assembled on the basis of bright-field observation.



CS-U7000

Highly rigid body structure

Integrative Y-shaped body design with all-metal, casted under high pressure. High stability, no image dithering while observing under higher magnification, ensures the test precision of multi-channel fluorescence observation.

Objectives

LPLAN series Infinity Plan Achromatic objectives, designed for observing biological samples, present sharp and contrast images and equally well even for fluorescence observation.



Plan-PH series Infinity Plan Phase Contrast objectives, improve clarity and contrast, especially suitable to observe colorless or light-colored cells.



Series	Magnification	N.A.	W.D. (mm)	F.N. (mm)	Cover Glass Thickness (mm)	Immersion	Spring
Plan Series	Plan 2X	0.06	5.0	22	-	-	-
	Plan 4X	0.10	11.9	22	0.17	-	-
	Plan 10X	0.25	12.1	22	0.17	-	-
	Plan 20X	0.40	1.5	22	0.17	-	-
	Plan 40X	0.65	0.36	22	0.17	-	Yes
	Plan 60X	0.85	0.3	22	0.17	-	Yes
	Plan 100X	1.25	0.18	22	0.17	Oil	Yes
Plan PH Series	Plan PH10X	0.25	12.1	22	0.17	-	-
	Plan PH20X	0.40	1.5	22	0.17	-	-
	Plan PH40X	0.65	0.36	22	0.17	-	Yes
	Plan PH100X	1.25	0.18	22	0.17	Oil	Yes

Movable working stage

175x145mm double layer mechanical stage with right hand operating handle, accommodates two specimen slides.

Also available is 187x167mm large double layer mechanical stage, made up of oxidized metal. Moving range 80x55mm, precision: 0.1mm, right or left hand operation handle, linear driving.



Focus Adjustment

Ergonomically designed coaxial coarse and fine adjustment offers the best comfort to the operator.

Koehler illumination system

6V/30W transmitted illumination system presents a bright and uniform field under every magnification.

Telecentric designed Koehler illumination system in conjunction with N.A.1.2/0.22 swing-out achromatic condenser, works absolutely fine with 2x-100x objectives.



Safe carrying design

The slot at the back of the body makes it safe and convenient to carry the microscope.

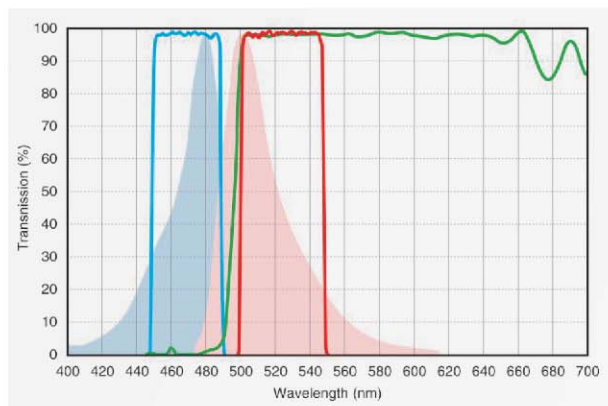


High Performance Fluorescence Filters

High performance fluorescence filters with high spectral transmission, good depth and gradient of spectral lines. High S/N ratio, high image contrast with no cross color. Adopting stray light elimination technology, presents high contrast between image and its background, creates a perfect observation effect.

Disc switching mechanism for filters

High-precision disc switching mechanism is easy to change filters and guarantees the exact position of the selected filter. It can be equipped with a maximum of six fluorescence filters. Selecting drift less high-performance fluorescence filter system, ensures an accurate experiment result of FISH. High transmittance of spectrum without a cross color but a high S/N ratio, promotes dramatically fluorescence imaging contrast.



CS-U7000F

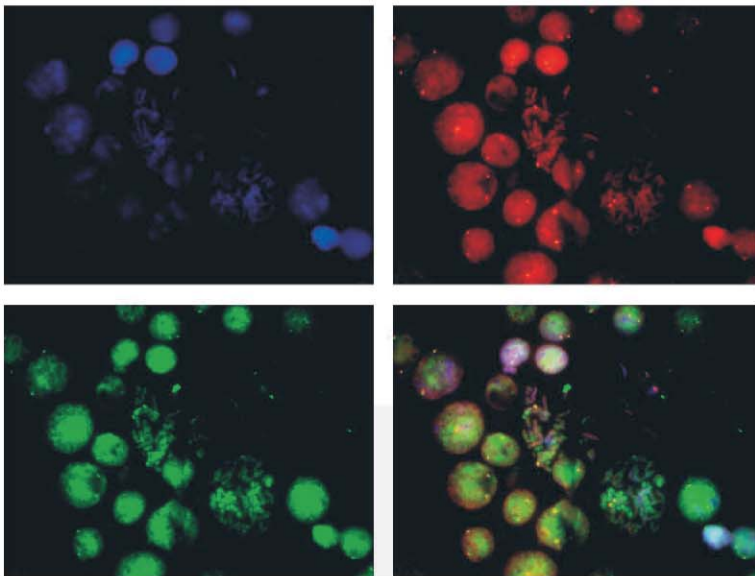
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CS-U7000F

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Semi-Apochromatic Fluorescence Objectives

Professional infinity plan semi-apochromatic fluorescence objectives(Plan-Fluor) are the best choice for fluorescence observation.

Adopting crystal optics materials perfectly corrects all kinds of chromatic aberrations. Large numerical aperture which is 25% more than the ordinary objectives, presents high resolution, high contrast micro-images. In fluorescence observation, the image is clear and bright while the background is pure black, prominent in ultraviolet fluorescence.. With advanced multi-coating wide-band technology, it helps in bandwidth and UV transmittance.



Series	Magnification	N.A.	W.D. (mm)	F.N. (mm)	Cover Glass Thickness (mm)	Immersion	Spring
Plan Fluor Series	Plan Fluor4X	0.13	18.5	25	0.17	-	-
	Plan Fluor10X	0.30	10.6	25	0.17	-	-
	Plan Fluor20X	0.50	2.33	25	0.17	-	-
	Plan Fluor40X	0.75	0.6	25	0.17	-	-
	Plan Fluor100X	1.28	0.21	25	0.17	Oil	-

Efficient Illumination system

High-grade SiO₂ quartz, with the characteristics of refractory, corrosion-resistant and high UV through rate, makes the illumination more uniform and brighter. High temperature resistant composite plastic, with heat insulation, effectively prevents the heat of illuminator from transferring to the body. Alterable field diaphragm with adjustable center, effectively reduces the stray light to obtain the best observation effect.



Power supply for mercury lamp

Digital power control system, displays operating time and current value.

Technical Specifications of CS-U7000

Optical System	Infinity Color Corrected Optical System
Head	Seidentopf Trinocular Head, Inclined at 30° and 360° rotatable Interpupillary Distance adjustment range: 54 - 75mm Diopter Adjustment: $\pm 5^\circ$
Eyepiece	High Eye-point WF PL10X/22mm
Nosepiece	Quintuple, Backward tilted, Click-stop Revolving mechanism with multiple ball bearing
Objectives	Infinity Plan Achromatic Objectives Anti-fungal, Parfocal, Parcentric, color-coded 4X, 10X, 20X, 40X (Spring), 100X (Spring, Oil)
Stage	Anti-corrosive & Anti-friction Double Layer Mechanical Stage Double Slide holder Stage size: 175 x 145mm Movement range: 76mm (x-axis) x 50mm (y-axis), Precision: 0.1mm controlled with a long right hand stage handle
Condenser	N.A. 1.2/0.22 Swing-out type achromatic Condenser with Aperture Iris diaphragm
Focusing	Coaxial focus system with upper limit and tension adjustment Focusing Adjustment by Rack & Pinion Mechanism. Coarse range : 25mm, Fine focusing interval: 0.002mm
Illumination	Built-in transmitted Koehler Illumination system, pre-centered Halogen Illumination 6V-30W, with Adjustable brightness
Power supply	100V-240V Universal Power Supply

Options in-lieu of mentioned standard specification:

- » Seidentopf Binocular Head
- » Seidentopf Ergonomically adjustable Binocular Head
- » Eye piece PL15X/16mm
- » Quadruple nose-piece
- » 187x167mm double layer mechanical stage, moving range: 80x55mm
- » Ceramic Stage
- » N.A. 0.9 swing-out type achromatic condenser
- » LED Illumination

CS-U7000 can be upgraded for the following application:

- » Plan Achromat 2X Objective
- » Plan Achromat 60X Objective
- » Micro-Photography
- » Phase Contrast Application
- » Simple Polarization Kit
- » Dark Field Application
- » Fluorescence Application (Mercury / LED Illumination)

Technical Specifications of CS-U7000F

Same as CS-U7000

Infinity Plan Achromatic Objectives are replaced with
Infinity Plan Semi-Apochromatic Fluorescence Objectives

Fluorescence Unit:

Epi-Fluorescence Illumination unit
B, G, V and UV Excitation Filters
(Turret Type with Six Slots for Filters)
100W Mercury Lamp House
100W Mercury Power Source

Technical Specifications of CS-U7000FL

Same as CS-U7000

Infinity Plan Achromatic Objectives are replaced with
Infinity Plan Semi-Apochromatic Fluorescence Objectives

Fluorescence Unit:

Epi-Fluorescence Illumination unit with brightness adjustable knob, and can switch between fluorescence observation and bright field observation

- » B1 Excitation Filter (470nm, For FITC/EGFP/GFP/Alexa Fluor@488Cy2@/DIO/Fluo-4) **OR**
 - » G1 Excitation Filter (560nm, For Texas RED@/TexasRed @-X/Cy3.5Mito Tracker@Red) **OR**
 - » UV Excitation Filter (385nm, For DAPI/Hoechst 33342/ 33258 AMCA/AMCA-X Blue/Alexa Fluor@350) **OR**
 - » B4 Excitation Filter (455nm, For TB)
- LED Lamp House with Power Source



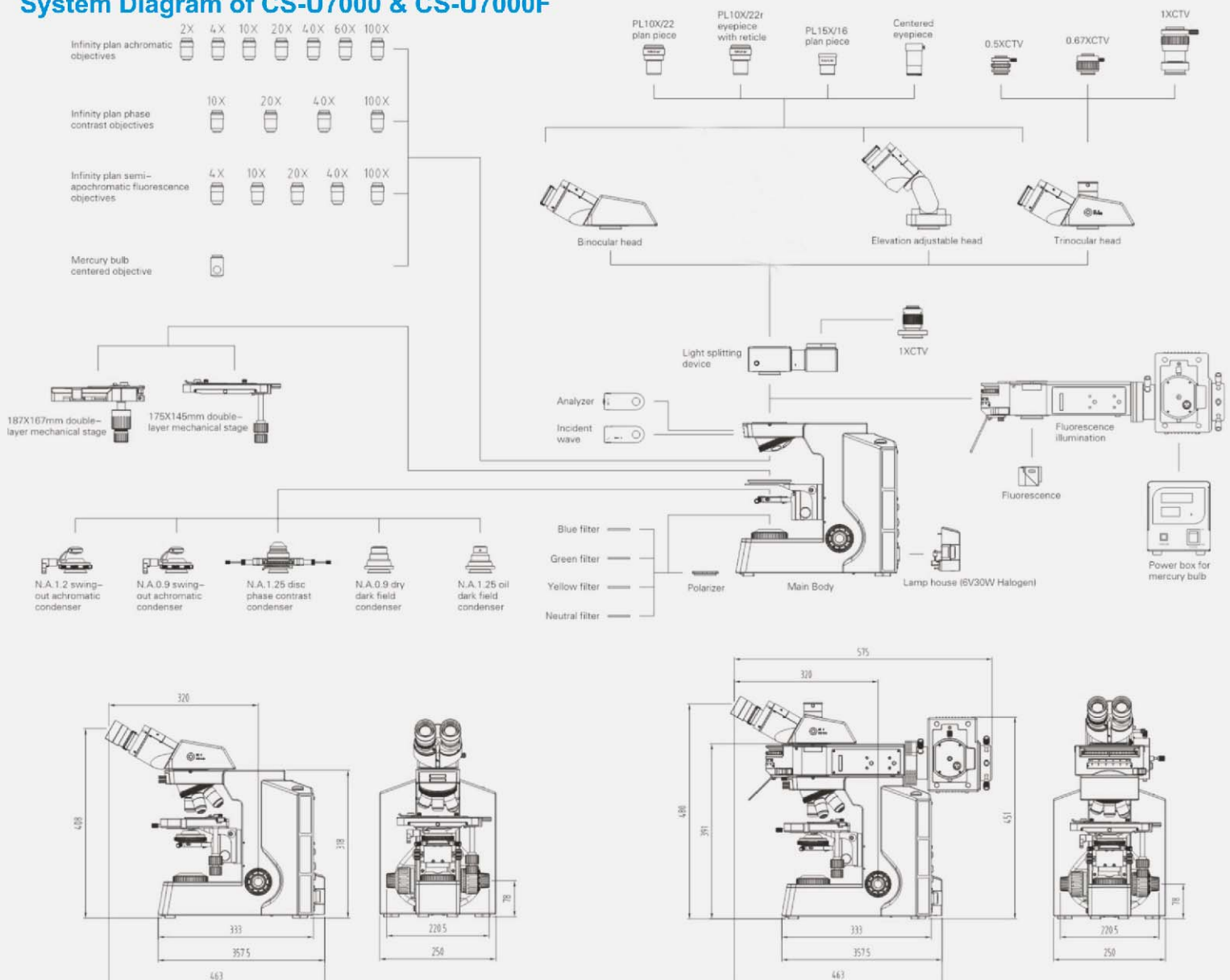
CS-U7000FL



CS-U7000

CS-U7000F

System Diagram of CS-U7000 & CS-U7000F





CS-U7000MV

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CS-U7000MV is specially designed for group discussion.

Technical Specifications of CS-U7000MV5

Same as CS-U7000 with following replacements/add-ons:

Head :

Seidentopf Type Infinity Trinocular Head – 01pc.

Seidentopf Type Infinity Binocular Head – 04pcs.

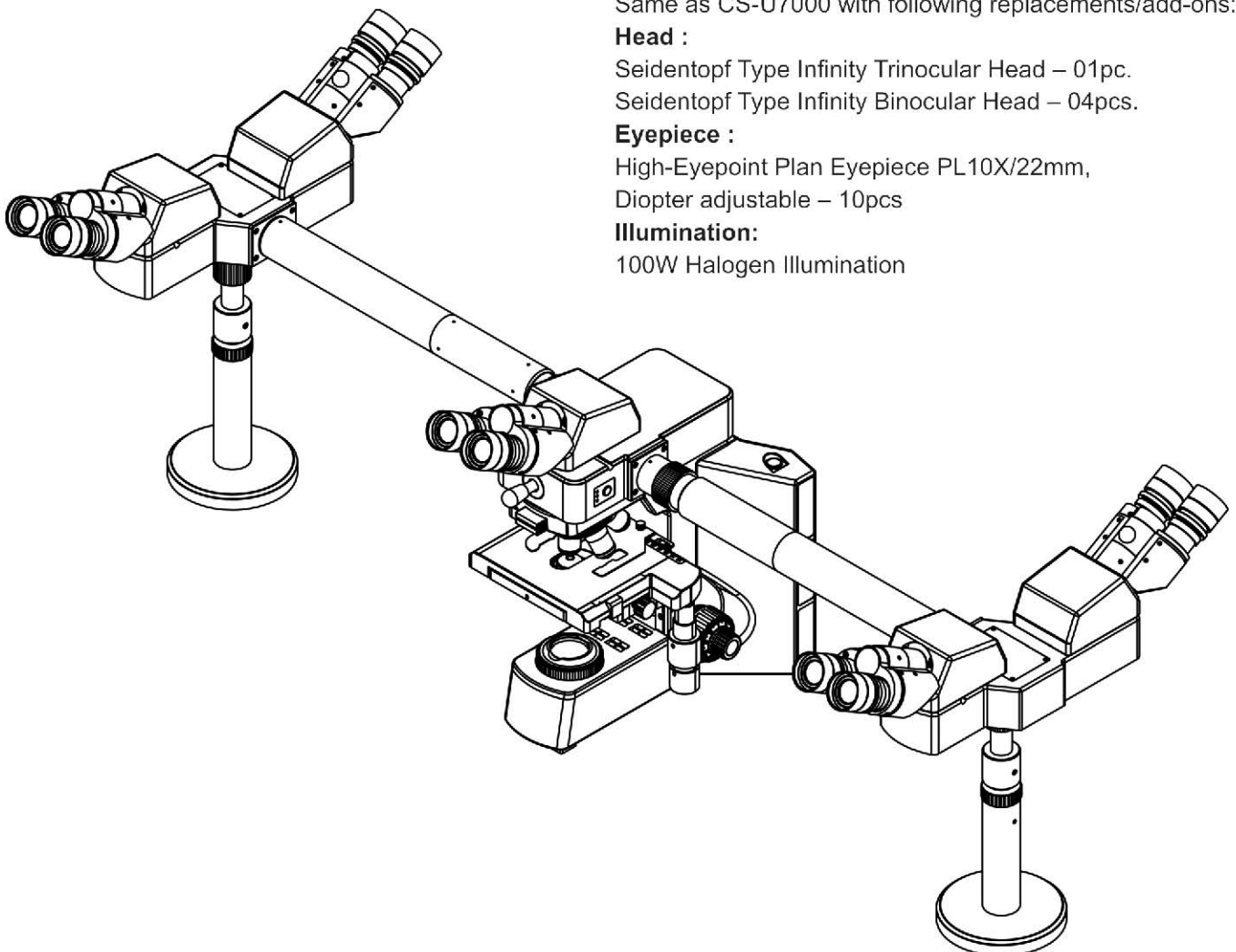
Eyepiece :

High-Eyepoint Plan Eyepiece PL10X/22mm,

Diopter adjustable – 10pcs

Illumination:

100W Halogen Illumination



- » Y shape structure, high rigidity and high stability.
- » Building block concept, detachable and flexible.
- » Special surface processing technic
- » Optimized illumination system and energy efficient.

Y shape frame adopts the design principle of roof. As the main load bearing part, solid column structure eliminates most impact force to ensure stable operation. Innovative lamp-house inserts into the concave part on the back as a tail fin. Surface uses special spray powder, protective, decorative, water and solvent resistant. The center of the filament is preset in the reflected and transmitted lamp house with 12V/50W halogen bulb. Illumination system enhances the service efficiency of light. 100-240V wide voltage system with stable output voltage increases the life of the bulb. Electrical system with main switch reduces the power consumption in standby.



CS-P7000

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Intermediate device for professional conoscopic observation, with internal Bertrand lens and analyzer, λ & $\lambda/4$ & quartz wedge attachable.

- Centerable Bertrand with rotating switch, focusing recyclable, make it easier to observe interference image.
- Pluggable analyzer, 360° rotatable, 2° increment, 6" precision.

Reflected illuminator with polarizer and beam splitter, field and aperture diaphragms adjustable.

- Pluggable polarizer is removable for ordinary observation and easy to be replaced
- Removable beam splitter is designed for improving the image quality by all the transmitted light concentrated in binocular.



For polarizing observation, the vibrating axis of the polarizer and analyzer in microscope should be orthogonal. In another word, the east-west vibrating axis and the south-north axis should be in line with the vertical and horizontal scale line of reticle in the eyepiece. Therefore, it is necessary to have a bayonet for fixing the eyepiece with reticle.

Big round metal stage, 160mm diameter, 360° rotatable, can be positioned with lock screw. The stage is anti-corrosive and anti-friction as it is coated with graphite. The scale is silk-printed by special material which **will not** fade or wear-out after long-term operation.

Low position focusing knob for comfortable operation. Upper limited and tension adjustable functions is helpful to protect slides and objective lens.



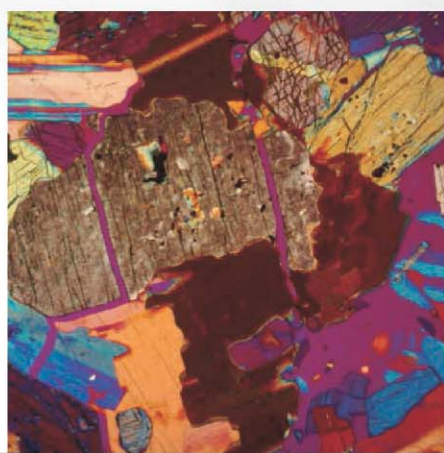
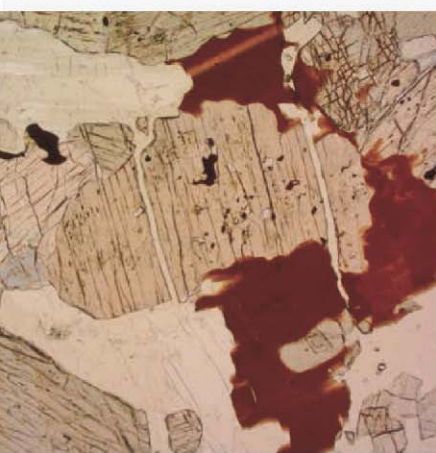
CS-P7000

The innovation of technology creates vivid visual experience. Innovatively designed CS-P7000 improves the stress free system and reflected illumination system, more vivid image is available as the polarizing performance improves. Ergonomic design of the microscope makes the operation easy and comfortable for the user.

N.A 1.2 Swing-out achromatic condenser, center adjustable, horizontally insert, vertically raise. Adjustable aperture diaphragm with scale remedies the disadvantage of fixed condenser, provides ample uniform light and clear image for different magnification observations.



Professional measuring stage is attachable.



2 Sets of Objectives



Concentrated with full of sincerity and intelligence, **CS-P7000** polarizing microscope adopts LMPlan POL series lenses. New producing and assembling technology of these objectives eliminate the stress, which is generated in the process of heat treatment, gluing and alignment. As the background of field of view is almost black in orthogonal state, LMPlan POL is a representative work of craftsmanship, economy and green, especially well done for reflected observation.

Item	Magnification	N.A.	W.D.(mm)	Cover glass(mm)	Parfocal distance(mm)	Conjugate distance(mm)
LMPlan POL	5X	0.15	10.80	0	45	∞
	10X	0.30	10.00			
	20X	0.45	4.00			
	50X	0.55	7.90			
Item	Magnification	N.A.	W.D.(mm)	Cover glass(mm)	Parfocal distance(mm)	Conjugate distance(mm)
Plan POL	4X	0.10	20.80	0.17	45	∞
	10X	0.25	5.30			
	20X	0.40	1.60			
	40X	0.60	0.36			
	60X	0.85	0.47			

Technical Specifications of CS-P7000

Optical System	Infinity Color Corrected Optical System
Head	Seidentopf Trinocular Head, Inclined at 30° and 360° rotatable Interpupillary Distance adjustment range: 54 - 75mm Diopter Adjustment: ±5°
Eyepiece	High Eye-point WF PL10X/22mm
Intermediate Tube	Removable internal Bertrand Lens, Analyzer and Compensator
Analyzer	Pluggable analyzer, 360c rotatable, 2° division, precision 6', with locking device
Compensator	Gypsum λ (Ø 18mm, optical path difference 551nm), Mica $\lambda/4$ (Ø 18mm, optical path difference 147.3nm), Quartz Wedge (Class I - IV)
Nosepiece	Quintuple, Backward tilted, Click-stop Revolving mechanism with multiple ball bearing
Objectives	Infinity Plan destressing objectives Anti-fungal, Parfocal, Parcentric, color-coded 4X, 10X, 40X (Spring), 60X (Spring)
Stage	Anti-corrosive & Anti-friction Round Revolving metal stage, Graphite coated, 360° Rotatable, Stage size Ø160mm, Center Adjustable, Division 1°, precision 6'
Condenser	N.A. 1.2 Swing-out type achromatic Condenser with 360° Rotatable Polarizer, four adjustable scale: 0/90/180/270
Focusing	Coaxial focus system with upper limit and tension adjustment Focusing Adjustment by Rack & Pinion Mechanism. Coarse range : 25mm, Fine focusing interval: 0.002mm
Transmitted Illumination	Built-in transmitted Koehler Illumination system, pre-centered Halogen Illumination 12V-50W, with iris diaphragm and Adjustable brightness
Power supply	100V-240V Universal Power Supply

Options in-lieu of mentioned standard specification:

- » Seidentopf Binocular Head
- » Seidentopf Ergonomically adjustable Binocular Head
- » Eye piece PL10X/22mm with reticle
- » Eye piece PL10X/22mm with gridding
- » Eye piece PL15X/16mm
- » Quadruple nose-piece
- » LED Illumination

CS-P7000 can be upgraded for the following application:

- » Reflected Illumination
- » Micro-Photography

Technical Specifications of CS-P7000R

Same as CS-P7000

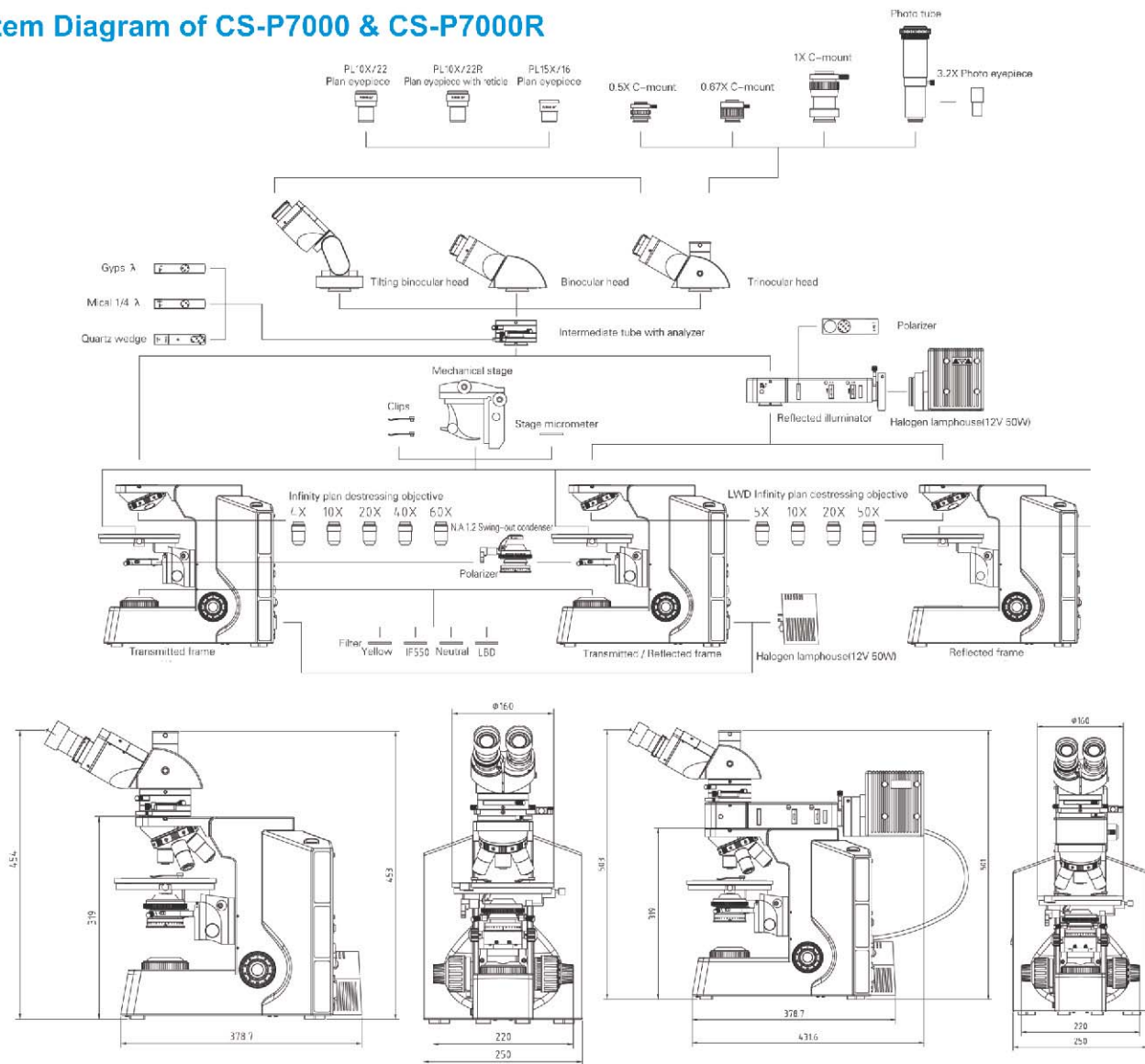
Infinity Plan destressing Objectives are replaced with LWD Infinity destressing Objectives - 5X, 10X, 20X, 50X (Semi-Apochromatic)

Reflected Illumination Unit:

Reflected illuminator with LBD filter and pluggable polarizer
Adjustable Field diaphragm and aperture diaphragm
12V/50W Halogen Lamp House



System Diagram of CS-P7000 & CS-P7000R



Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer.
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