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Olympus is about life. About photographic innovations that capture precious moments of life. About advanced medical technology that saves lives. About information- and industry-related products that make possible a better living. About adding to the richness and quality of life for everyone. Olympus. Quality products with a **FOCUS ON LIFE**

SYSTEM MICROSCOPE

CH

CH40/CH30

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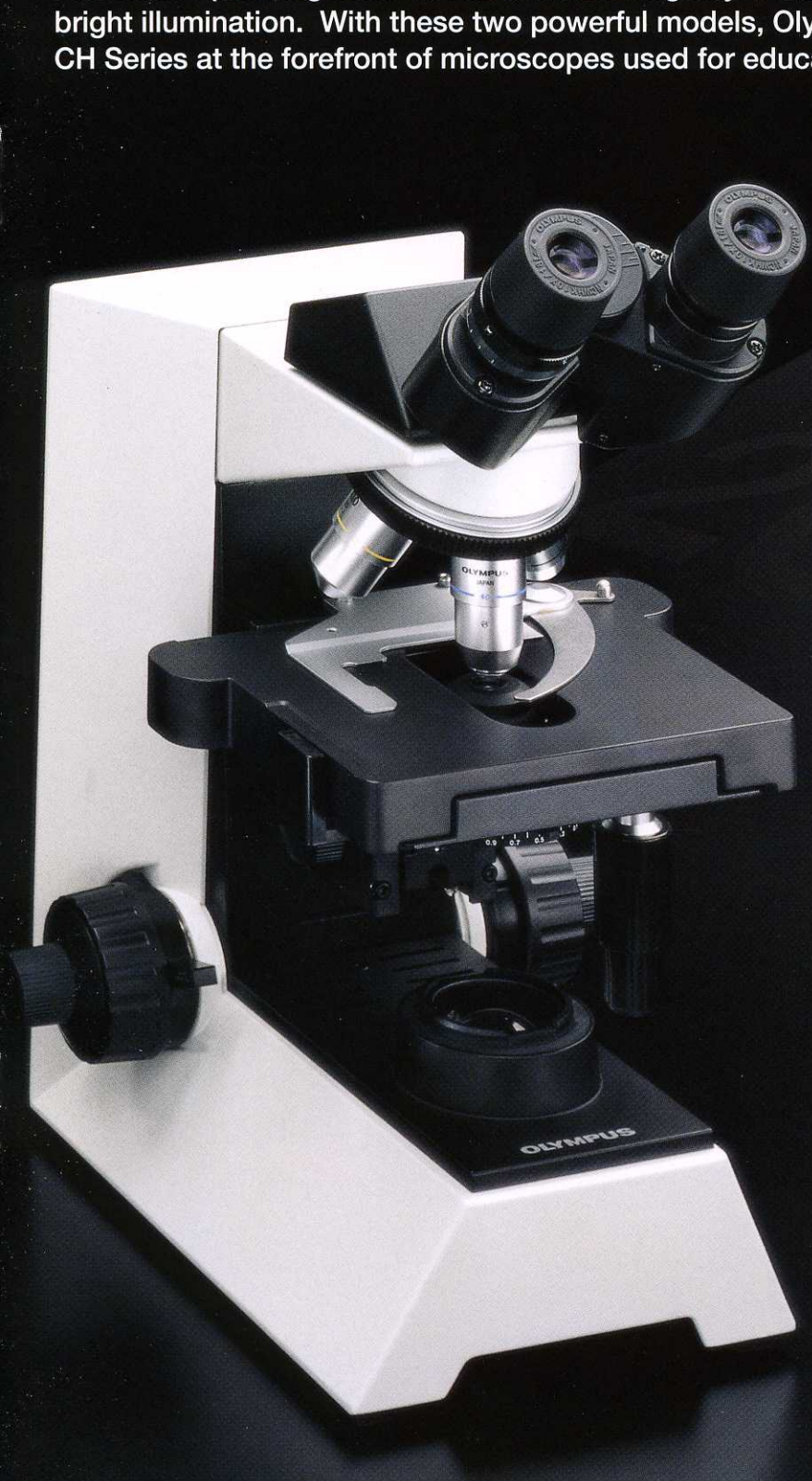
The world-renowned CH Series evolves with the popular, high-performance CH40 and CH30.

The CH Series delivers enhanced performance and greater operational ease through Olympus' efforts to consistently incorporate new advancements.

CH40

The CH40 incorporates an advanced field iris diaphragm for Koehler illumination to deliver ample brightfield image and photomicrography advantages of this method. This model reduces superfluous light to deliver images with sharper contrast and boasts a bright 6V30W halogen light source and quintuple revolving nosepiece.

The educational microscopes of the Olympus CH Series are the first choice for educational applications the world over. Chosen for their high level of basic performance and affordability, these microscopes have maintained their popularity due to Olympus' efforts to consistently incorporate new technological advancements in the line. The CH40 and CH30 are the latest additions to this prominent series. They not only feature an ergonomically designed frame for maximum operating comfort and enhanced rigidity, but also offer the convenience of extra-bright illumination. With these two powerful models, Olympus strengthens the position of the CH Series at the forefront of microscopes used for educational purposes.



1976
1986
1996

CH30

The CH30 employs a bright 6V20W halogen light source and quadruple revolving nosepiece. Extremely easy to operate, the CH30 can be used by operators with minimal training or skills. The CH30 is also designed for flexibility and can handle any educational application with ease.

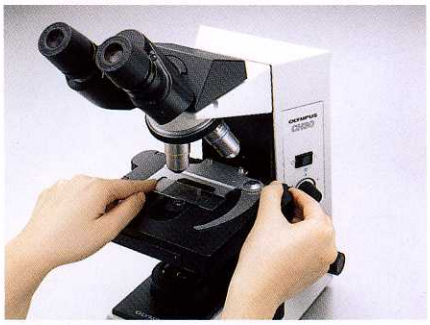
Highly rigid, easy-to-use design offers greater reliability for educational applications.

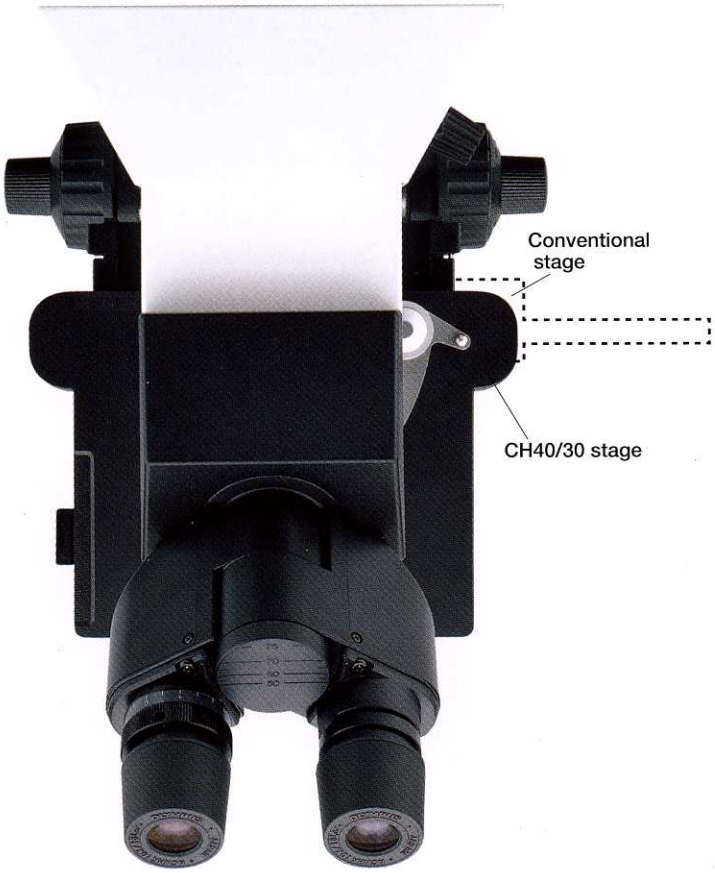
Olympus developed the compact, highly rigid microscope frame for the CH40 and CH30 to withstand frequent use and repositioning. The mechanical stage and revolving nosepiece are fixed on the microscope frame to avoid improper attachment and operation and thus reduce damage.

Durable, highly rigid frame
Microscopes used for educational and routine purposes must be sturdy to withstand rugged handling by trainees and frequent repositioning. To satisfy these requirements, Olympus incorporated a thick, extra-rigid frame on the CH40 and CH30. Olympus went further by securely attaching the revolving nosepiece and mechanical stage to the microscope stand — a design consideration that appreciably reduces operator errors.

Anti-fungus treatment protects quality of optical parts.
An effective anti-fungus treatment is applied to the optical parts of the CH40 and CH30 to eliminate growth of fungi, a major cause of optical system damage. The treatment, applied to the observation tubes, eyepieces and objectives, protects the long-term quality of the optical parts even in high-humidity regions.

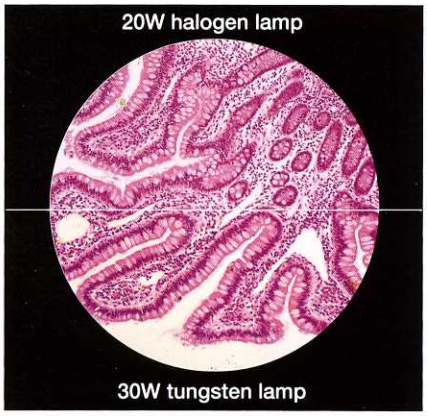
Inward-facing revolving nosepiece speeds up specimen changes.
The revolving nosepieces on the CH40 and CH30 are positioned to ensure that the objectives point away from the observer. This design not only enlarges the work area, but facilitates smoother, more rapid slide changes or specimen observation position adjustments. The CH40 is equipped with a quintuple nosepiece and the CH30 with a quadruple nosepiece.





New stage mechanism eliminates protruding guide for enhanced operability.
A wire drive mechanism moves the stage in the X and Y directions to prevent the X-direction travel guide from extending out from the stage side. This design not only keeps the work area clean, but prevents the guide from interfering with focusing and light intensity adjustments to achieve smoother microscopy. Portability is enhanced with a convenient hand grip employed at the back of the stand along with a cord rest that makes it easy to put away the cord.

Bright halogen bulb delivers ample illumination for various microscopy.
A bright halogen bulb serves as the light source for the CH Series and provides ample illumination to accommodate any observation method (6V30W for CH40, 6V20W for CH30).
** 20W halogen lamp is 1.6 times brighter than 30W tungsten lamp (in-house comparison using 40× objective).*

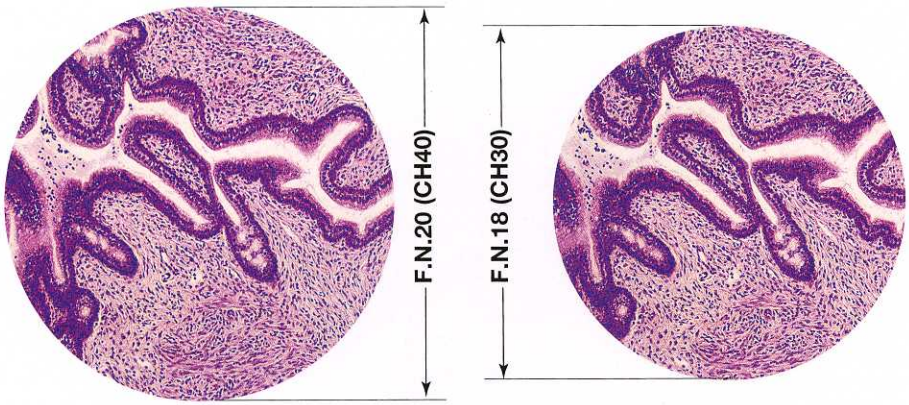


Ergonomic design for fatigue-free operation over long observation periods.
The slim microscope base design allows the operator to move arms in a natural, comfortable manner during operation. Frequently used stage controls and focusing knobs are easy for the operator to manipulate without having to raise arms and wrists from the work surface.

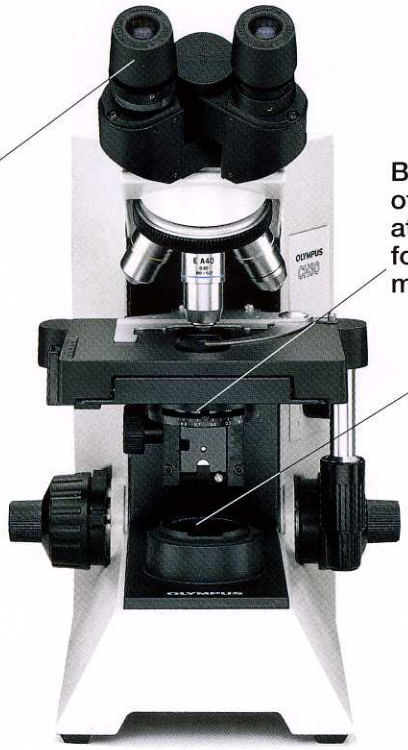
CH30

❶LB Series eyepieces
High eyepoint design facilitates use by operators wearing eyeglasses. The CH40's eyepieces allow widefield observation of F.N. 20 (F.N. 18 for CH30).
❷Binocular observation tube
Interpupillary distance adjustment is over 48mm to 75mm to ensure comfortable use. Diopter adjustment ring compensates for eye acuity needs.
❸Fixed quintuple revolving nosepiece
(Fixed quadruple revolving nosepiece for CH30)
❹LB Series objectives
The LB Series objectives optimize contrast and offer long working distance to deliver high resolution and optical performance with ease of use.
❺Fixed mechanical stage
Size: 188 (W) × 134 (D) × 23 (H) mm
Stage travel range: 76mm (X), 50mm (Y)
❻Condenser
N.A.: 1.25 (oil immersion)
❼Front handgrip
❽Coaxial coarse and fine focusing knobs
Lever provides a limiting stop to prevent contact between focused specimen and objective. Tension adjustment ring is also provided.
❾Light intensity control
This control allows fully variable adjustment of light intensity and is equipped with a reference vernier scale for photomicrography.
❿Back handgrip

A range of observation methods to suit specific specimen types.



The CH40 and CH30 are ideal for observation and education with various specimens using a range of microscopy methods. In addition to brightfield microscopy, the CH40 and CH30 deliver a variety of transmitted light microscopy techniques including phase-contrast, polarized light and darkfield. The CH40 and CH30 incorporate an LB optical system to allow use of existing accessories.



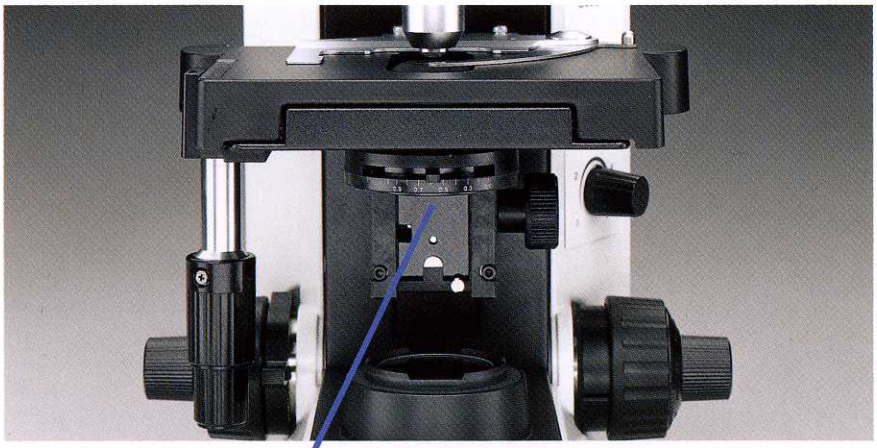
CH3-CD brightfield condenser
The CH40 and CH30 employ an Abbe condenser with a numerical aperture of 1.25 (oil immersion) and an A.S. vernier scale as a standard feature. The aperture iris diaphragm permits optimum illumination of the specimen depending on the N.A. (numerical aperture) of objective.

Accessories for a variety of observation methods to suit a range of specimens.

BH2-PC phase-contrast condenser
The BH2-PC is an indispensable unit for observation of transparent specimens. It can be used with 10× to 100× objectives.

CH2-PCD phase-contrast condenser
By simply rotating the turret, the CH2-PCD condenser can be set for three different types of microscopy: brightfield, darkfield, and phase-contrast. It corresponds to phase-contrast objectives 10× and 40×.

Simplified attachments offer setting ease for a variety of observation methods.

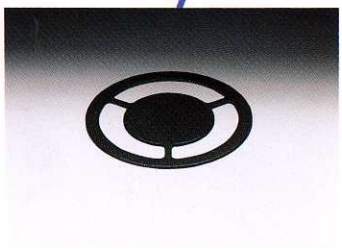


CH3-AL attachment lens
CH3-FS field iris diaphragm*
This unit offers Koehler illumination when used with a brightfield condenser or polarizing condenser.

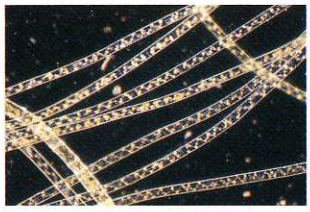
*CH40 incorporates field iris diaphragm

CH2-FH filter holder
The filter holder allows the operator to insert a 32.5mmØ filter into the condenser bottom section.

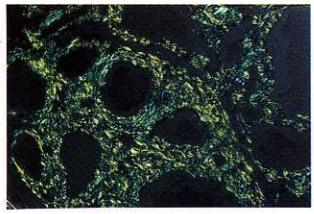
CH2-RS10/CH2-RS40 simple phase-contrast attachments
By simply utilizing the filter holder to mount these attachments on the bottom section of the brightfield condenser, phase-contrast observation at 10× and 40× is possible.



CH2-DS
darkfield central stop
The CH2-DS enables darkfield observation at 4× through 40× when the filter holder or attachment lens is used to mount it on the brightfield condenser bottom section.



BH-DCD dry darkfield condenser
Clear darkfield images are delivered by this dry condenser which eliminates the oil-immersion procedure. The numerical aperture is 0.8/0.92, corresponding to 10×, 20× and 40× objectives with an N.A. up to 0.65.



CH3-CDP simple polarizing condenser
This Abbe condenser assures simple polarizing observation at 4× through 100× magnifications. An optional polarizer (U-POT) is placed on the light exit window of the microscope frame and an optional analyzer (CH3-AN) in the observation tube mount.

Convenient accessories dramatically expand observation method options.

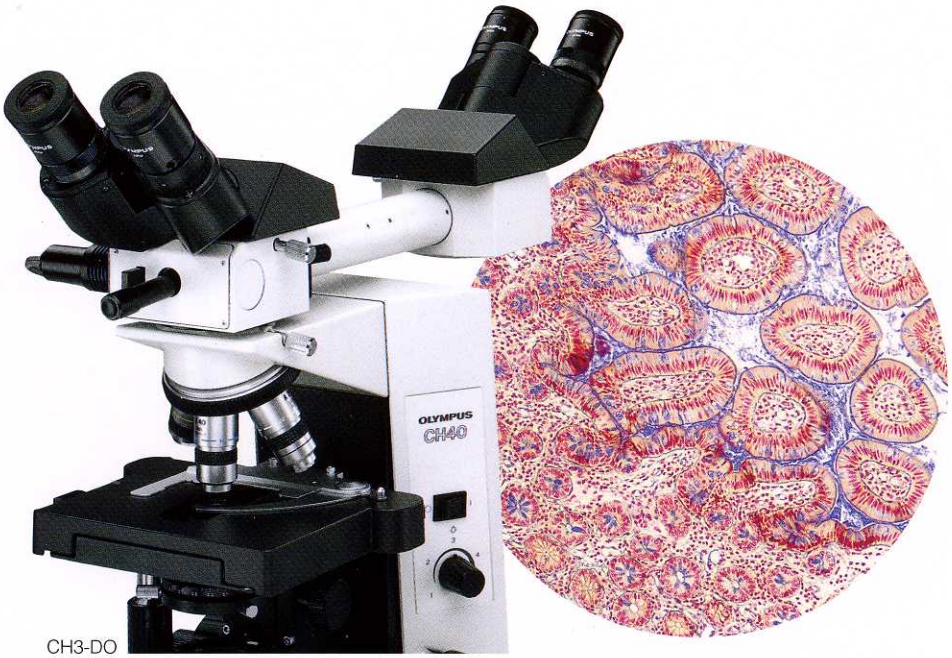
CH3-DO
dual observation attachment
This attachment enables dual, simultaneous observation of a single specimen from the same direction with uniform magnification and brightness for both operators. A pointer can be used to indicate specific sections of the specimen to smooth the training process and promote discussion.

PM-10AK3 semi-automatic exposure photomicrographic system
Large-format to 35mm cameras are accommodated with this compact, lightweight system. The system features automatic exposure control and automatic film-winding capability.

PM-10M3
manual photomicrographic system
The compact, easy-to-use PM-10M3 employs a shutter with unique rubber cushion to prevent vibration transmission. Exposure and color temperature measurement are easy and accurate with the EMM-7-4 photographic exposure meter attached.

CH3-TR45
trinocular observation tube
The CH3-TR45 provides for binocular viewing and offers a phototube for simultaneous use of a photomicrographic system.

BH2-DA drawing attachment
Accurate sketching of the observed image is made easy with this attachment as the tip of the drawing utensil is visible through the observation tube. Magnifications from 20× to 1,000× are possible.



CH3-DO

PM-10AK3

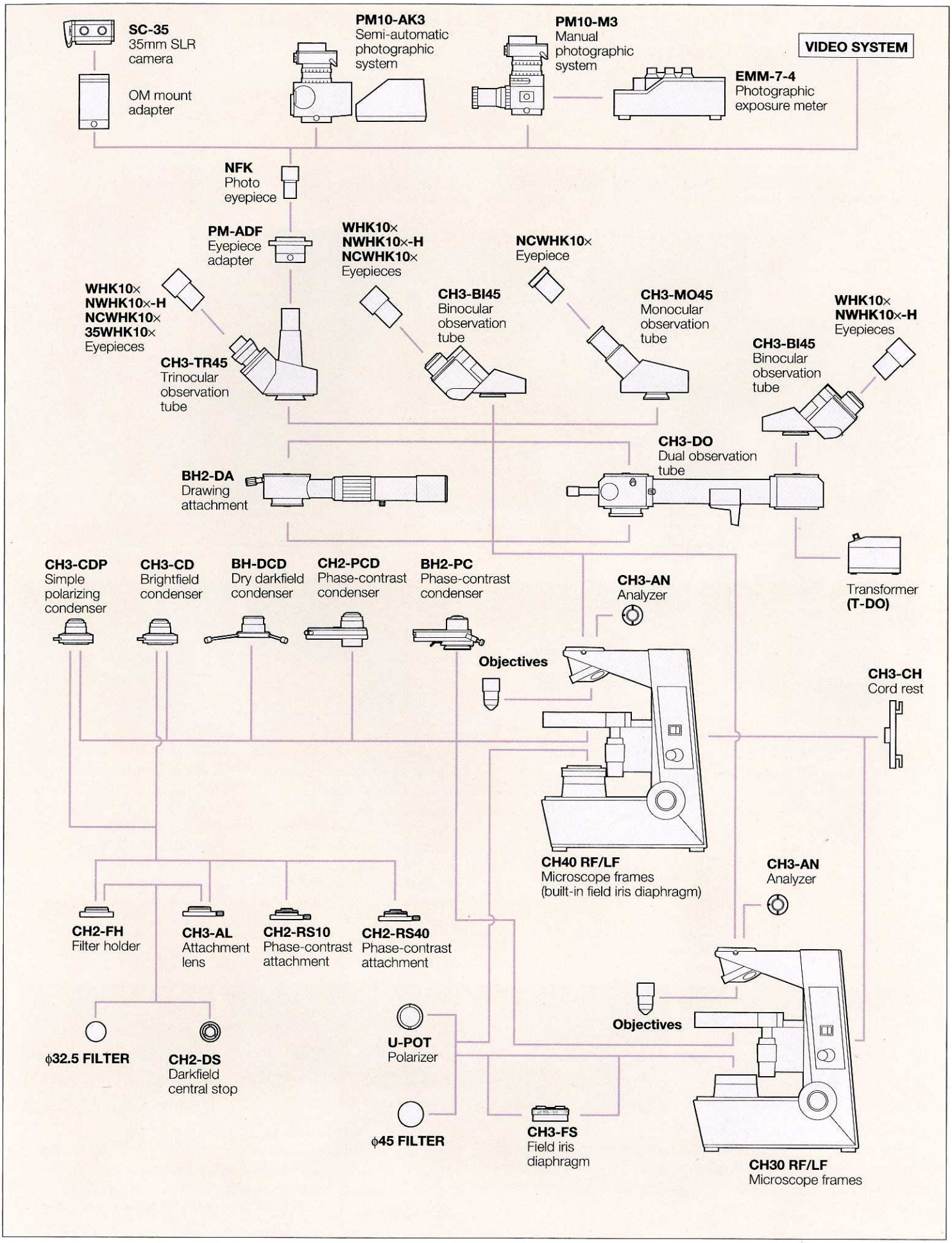
PM-10M3

CH3-TR45

EMM-7-4

BH2-DA

CH40/CH30 SYSTEM DIAGRAM



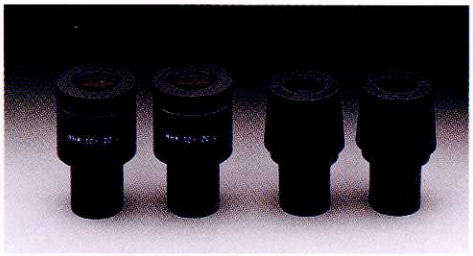
Specifications

Item	CH40	CH30
Optical system	LB optical system (finite-corrected system)	
Illumination	6V30W halogen Koehler illuminator	6V20W halogen bulb
Focusing	Stage movement by roller guide (rack & pinion), coaxial coarse and fine focusing knob, coarse stroke per rotation: 39.6mm, fine stroke per rotation: 0.2mm, full range stroke: 25mm, upper limit stopper, torque adjustment on coarse focus knob	
Revolving nosepiece	Built-in quintuple nosepiece with inward tilt	Built-in quadruple nosepiece with inward tilt
Observation tube	CH3-MO45: Monocular tube, tube inclination: 45°	
	CH3-BI45: Binocular tube, tube inclination: 45°, interpupillary distance adjustment 48-75mm	
	CH3-TR45: Trinocular tube, tube inclination: 45°, interpupillary distance adjustment 53-72mm	
Stage	Size:188mm × 134mm, movement: 76mm X-direction × 50mm Y-direction, specimen holder: double slide holder	
Condenser	Abbe condenser, N. A. 1.25 (with oil-immersion), aperture iris diaphragm provided Optional condensers; CH3-CDP, CH2-PCD and BH-DCD also available.	
Dimensions and weight	233(W) × 392(H) × 301(D) mm; 8.5kg (18.7 lb) (CH40) / 8.2kg (18 lb) (CH30)	

Objectives and eyepieces

EDACH	Numerical aperture (N.A.)	Working distance (W.D.) mm
4 ×	0.10	29.00
10 ×	0.25	6.30
40 × (spring)	0.65	0.53
100 × oil (spring)	1.25	0.20

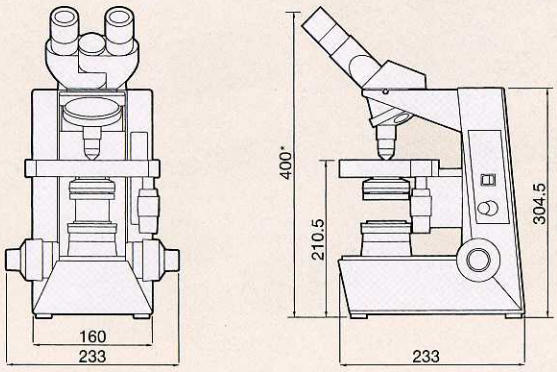
DACH	Numerical aperture (N.A.)	Working distance (W.D.) mm
4 ×	0.10	18.23
10 ×	0.25	7.18
20 × (spring)	0.40	1.63
40 × (spring)	0.65	0.63
100 × oil (spring)	1.30	0.20



Eyepieces	Field number (F.N.)
WHK10 ×	20
NCWHK10 ×	18

* NWHK10 × -H, 35WHK10 ×, PWHK10 ×, MicroNWHK10 ×, CROSSWHK10 ×, WHK10 × and various OC-M micrometer reticles also available.

Dimensions



Lengths marked with an asterisk (*) may vary according to interpupillary distance. Distance for figure shown is 62mm.

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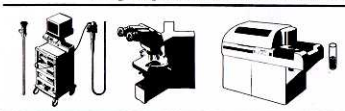
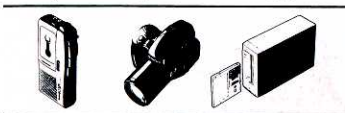
Specifications are subject to change without any obligation on the part of the manufacturer.

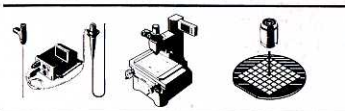
Olympus business areas



Medical and health-care area



Imaging and information area



Industrial applications area

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