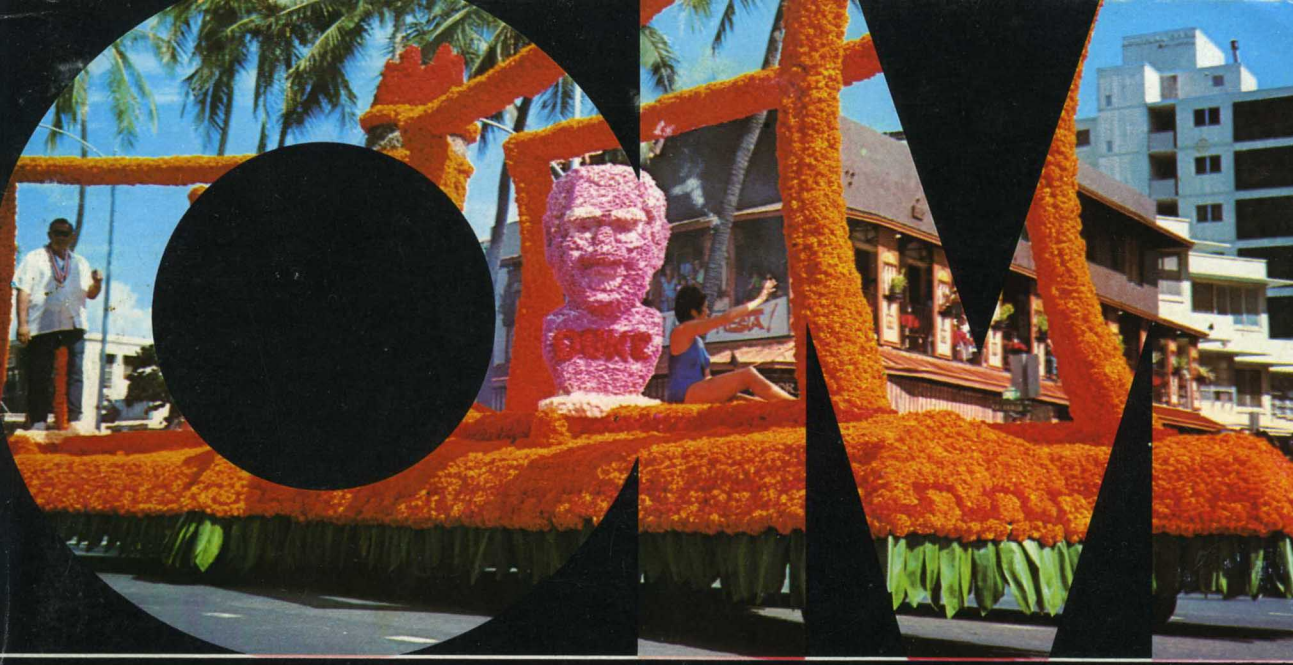

E

OLYMPUS

OM SYSTEM

MANUAL FOR ZUIKO INTERCHANGEABLE LENSES GROUP

CHANGE OF ANGLE OF VIEW

180°
16 mm

92°
21 mm

84°
24 mm

75°
28 mm

63°
35 mm

47°
50 mm

24°
100 mm

18°
135 mm

12°
200 mm

6°
400 mm

4°
600 mm

2.5°
1000 mm

ZUIKO Lens

The Olympus Optical Company began its corporate life in 1919 as a microscope manufacturer (brand name Olympus) under the name of "Takachiho" —— mythical mountain ruled by the Sun Goddess. In 1936, it began the production of cameras and camera lenses and selected "ZUIKO," meaning 'blissful light' and derived from its research laboratory, as the brand name for all Olympus camera lenses.

Every ZUIKO lens of the OM System benefits from Olympus' super modern optical research and manufacturing facilities, based on over half a century of expertise in precision optics.

O INTERCHANGEABLE LENSES GROUP

CHARACTERISTICS OF ZUIKO INTERCHANGEABLE LENSES

The Olympus OM-System was developed to provide both the advanced photographer and the scientist with the world's most versatile and sophisticated 35mm photographic system. The OM-System interchangeable lenses range from the 8mm fisheye to the 1000mm telephoto and also include a variety of unique and special purpose lenses.

ZUIKO lenses, manufactured by Olympus Optical Company, have long enjoyed a world wide reputation for excellence. Building upon this accumulated experience and employing the most up-to-date innovative technologies such as computerized designing, image evaluating simulation based on the Modulation Transfer Function, etc., the task force of Olympus engineers has produced a new generation of superb lenses and optical instruments.

These lenses which emphasize close distance ability utilize a group of correcting elements that automatically compensate for aberrations created at close distance focusing distances, maintaining unusually high performance even at short focusing distances. Careful attention was paid to color photography, including special coatings applied to certain lens surfaces. Simultaneously, efforts were concentrated on shortening the overall length to achieve the world's most compact and lightweight lens designs, permitting hand-held photography even with super telephotos, and most lenses from the 21mm to the 200mm accept the same 49mm filter. Except for a few special lenses, all lenses are equipped with automatic diaphragms. Lenses up to the 800mm are designed to eliminate viewfinder image cut-off. And, where possible, the maximum aperture ratio of the lens was increased to facilitate photography in dim light. For example, the 24mm wide-angle lens is the world's first lens of that focal length with an aperture of F2.

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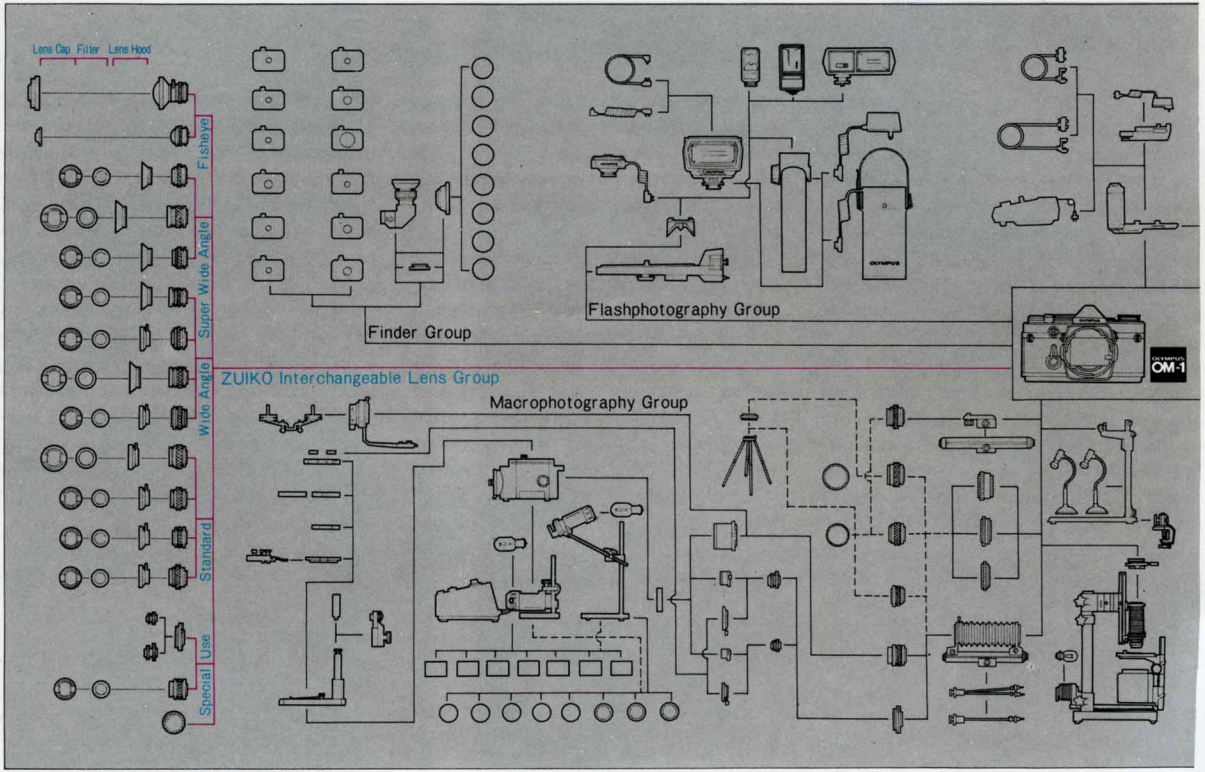
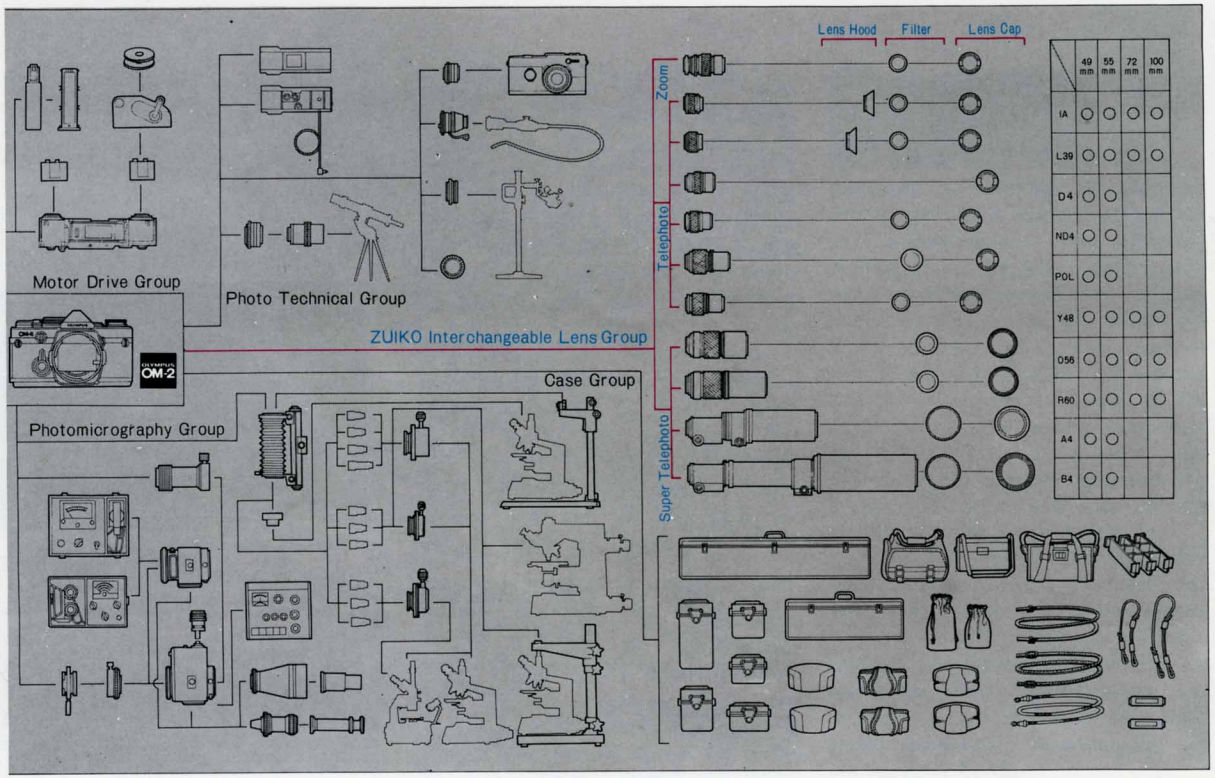

Lens Cap
Filter
Lens Hood
Fisheye
Super Wide Angle
Wide Angle
Standard
Special Use
Finder Group
Flashphotography Group
ZUIKO Interchangeable Lens Group
Macrophotography Group
OLYMPUS OM-1


Motor Drive Group
Photo Technical Group
ZUIKO Interchangeable Lens Group
Case Group
Photomicrography Group
Lens Hood
Filter
Lens Cap
Zoom
Telephoto
Super Telephoto
OLYMPUS OM-2
49 mm
55 mm
72 mm
100 mm
IA
L39
D4
ND4
POL
Y48
O56
R60
A4
B4

WHY INTERCHANGEABLE LENSES

A lens is good enough to take pictures. In reality, however, cameras capable of replacing lenses and lenses of different focal lengths are supplied in quantity. So why interchangeable lenses? The answer is that every lens has its own angle of view which corresponds to its focal length. This allows the photographer to interpret and/or record each subject individually.

Angle of view is the angle in a lens between imaginary lines drawn from opposite edges of the image on the film plane to the optical center (second nodal point) of the lens. The object size and focal length determine the angle of view and only objects within this angle will appear in the final picture.

The human eye, when focused at a given point, has a field of vision of approximately 140°. When the eye is moved it then covers about 180°. Naturally, everything within this field of vision is not clearly in focus, and in reality the human eye can only discern colors and shapes within an angle of 50°, about 20° for absolute identification. In other words, the function of the retina of the eye, the human "lens", varies depending on whether a person sees things consciously or unconsciously. However, since the angle of view of a lens is fixed and determined solely by the focal length, what

the human eye identifies in a given photographic situation is different from what the lens will capture on film.

Practically speaking, angle of view is directly related to focal length. The shorter the focal length, the greater the angle and the smaller the image on the film. The longer the focal length, the narrower the angle and the larger

the image on the film. For example, when the focal length is doubled, the angle of view is reduced by approximately one half and the image size in the picture becomes larger. When replaced, the new lens of a certain focal length offers not only a different angle of view, but also different effects of

perspective and depth of field.

Perspective means the distorted effect in the space relationship of objects, i.e. a distant object seems smaller than it actually is. With a wide-angle lens, perspective is more exaggerated and is increasingly apparent as the angle of view becomes greater. With telephoto lenses, however, perspective is almost lost as the focal length becomes larger. You can see the effect of a lens on perspective as you look through the viewfinder of an SLR camera. To make the most of this phenomenon, remember that a wide-angle lens expands the vista and makes faraway objects appear smaller. If the main subject is important, you must get as close to the subject as possible to maintain a proper balance in the photograph.

Depth of field is the area in acceptable sharpness in front of and behind the subject in focus. This depth is determined by the aperture selected and by the distance from the subject in focus to the film plane and by the focal length of a lens. As the camera-to-subject distance decreases or as the aperture is made larger, depth of field becomes shallower. By making the aperture smaller or by increasing the camera-to-subject distance, this depth is increased.

Another factor in depth of field is the focal length of a lens. The shorter the focal length, the greater the depth of field. The longer the focal length, the shallower the depth of field.

The beginning photographer often chooses a wide-angle lens because it takes in a greater total picture area. Likewise, he chooses a telephoto simply because it makes a distant object appear closer. The advanced photographer, however, understands the illustrative characterstics of lenses and considers such factors as controlling perspective and varying depth of field effects. In particular, the perspective effect presents a variety of descriptions by photographic techniques on camera-to-subject distance and camera angle. The key to utilize the lenses most effectively lies in the mastery of these characteristics.

Since the ZUIKO Interchangeable Lenses are abundant, compact and lightweight, they enable the photographer, in conjunction with the super compact OM camera body, to perform easy hand-held photography and acquire a good command of camera angles, which will help broaden his photographic horizon.

FISHEYE LENSES

The fisheye lens produces some extremely unusual photographs. Deriving its name from an angle of view closely associated with that of a fish's eye, this type of lens was originally manufactured because its 180° angle could record celestial observations of an entire hemisphere. With a fisheye lens, the horizon appears farther away, objects bulge into a barrel shape, and the picture itself—replete with deformed images peculiar to the super wide-angle lens—produces a weird, circular effect. This exaggerated fisheye world can be seen in the finder system of the SLR camera and this lens is now commonly used for creative photography.

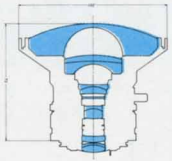
The construction of the fisheye is similar to the retrofocus type lens in which rays of light from a full 180° angle are first refracted into a cone by the concave front element and next formed into a circular image by the convex rear element. If a subject covering an angle of 180° were to be photographed by a super wide-angle lens having no distortion, theoretically the peripheral image would be infinitely large—regardless of the focal length—and an infinitely large flat film would be needed to record it. This is where the fisheye differs from the super wide-angle lens. Because of the −100% distortion, the lens is not affected by the cosine fourth law and uniform illumination is distributed over the entire lens surface.

There are different types of fisheye's distortion. ZUIKO Fisheye Lenses use equisolid angle projection. The advantage of this type is that the cubical angle of the image is easily calculated based on image size making it an excellent choice for scientific and technical applications. Because of the distortion, a circular picture is formed and the film format is not fully utilized. Another fisheye is designed to crop a rectangle out of the circular image. Fisheyes of both kinds are available in the ZUIKO Lens Group; the 8mm Fisheye which forms an image 23mm in diameter, and the 16mm which produces images covering the full film size by cropping a circular image of 44mm in diameter.

Because of the extraordinary angle of view, the photographer has to take certain precautions when using a fisheye lens. Naturally, the protruding front surface must be protected with a cap when changing lenses and film. But more important, before taking the picture he must check the viewfinder to make sure the legs of his tripod, his head and his feet do not appear.

PAN AM

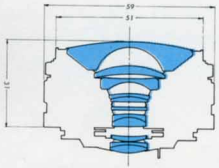
ZUIKO FISHEYE 8mm F2.8 ZUIKO FISHEYE 16mm F3.5



■ZUIKO FISHEYE 8mm F2.8

This lens establishes the relationship between cubical angle and area size of images in equisolid angle projection. Despite a lens speed of F2.8, it is designed to be extremely compact and requires no mirror lock-up in use. The automatic diaphragm enables the photographer to compose on the bright focusing screen. Covering an angle of 180°, the picture is formed in a circle 23mm in diameter. The distorted, special effect peculiar to the fisheye can be used effectively for highly creative photographic results.

•Focal length: 8mm •Angle of view: 180° (a circular image of 23mm in diam) •Optical construction: 11 elements in 7 groups •Diaphragm operation: Automatic •F/stop range: 2.8-22 •Minimum focus: 0.2m (7.9") •Focusing: Straight helicoid •Weight: 640g (22.6 oz.) •Length: 82mm (3.2") •Maximum diam: 102mm (4") •Filter: Built-in (L39, Y48, 056, R60) The exposure meter built into the OM camera body cannot be used.



■ZUIKO FISHEYE 16mm F3.5

This lens has an angle of view of 180°, yet produces an image that covers the full 35mm format. Fully automatic diaphragm allows focusing on a bright focusing screen without locking up the mirror. The innovative optical design to deliver unique photographs with high resolution and contrast uses a positive element in the second group that not only reduces chromatic aberration and increases definition, but also makes a shorter overall length possible. Three filters are built in.

•Focal length: 16mm •Angle of view: 180° (an image covering the full 35mm film size) •Optical construction: 11 elements in 8 groups •Diaphragm operation: Automatic •F/stop range: 3.5-22 •Minimum focus: 0.2m (7.9") •Focusing: Straight helicoid •Weight: 180g (6.3 oz.) •Length: 31mm (1.2") •Maximum diam: 59mm (2.3") •Filters: Built-in (L39, Y48, 056)

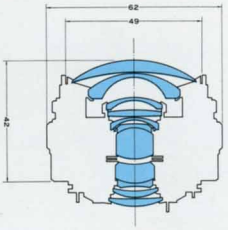
SUPER WIDE ANGLE LENSES

Generally speaking, a wide-angle lens is used for producing panoramic landscapes and shooting in cramped interiors. The super wide-angle amplifies the effect by intensifying perspective and providing greater depth of field.

The 28mm lens, not long ago looked upon as the typical "super" wide-angle, is now considered almost a "normal" wide-angle lens. Today, a super wide-angle lens group usually ranges from 15mm to 25mm. For practical applications, the most popular focal lengths are about 20mm.

The ZUIKO Super Wide Angle Lens Group includes four lenses: an 18mm, a 21mm, and two 24mm. Of this group, probably the most noteworthy is the 24mm lens which, in addition to its wide 84° angle of view, features an unusually fast speed of F2. Also of special interest is the 18mm which enables the photographer to employ greater perspective control to achieve very dramatic results.

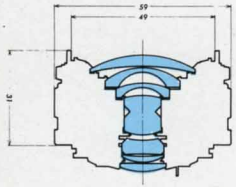
OM SYSTEM ZUIKO MC 18mm F3.5



■ZUIKO MC 18mm F3.5

This lens has the widest angle of view (100°) in the ZUIKO Super Wide Angle Lens Group. Despite its super wide-angle, the lens has been internally corrected for distortion aberrations. In addition to the fast lens speed of F3.5, it is extremely compact and does not require mirror lock-up in use. Particularly well-suited for architectural and indoor photography, the extremely exaggerated perspective is advantageous in creating dramatic effects. The quality of the lens is comparable to a conventional 28mm and an automatic correction mechanism was built in to prevent degradation of lens performance at close focusing distances. The lens accepts a 72mm threaded filter (with Adapter Ring 49→72mm).

•Focal length: 18mm •Angle of view: 100° •Optical construction: 11 elements in 9 groups •Diaphragm operation: Automatic •F/stop range: 3.5-16 •Minimum focus: 0.25m (9.8") •Min. photographic range: 20cm x 30cm (7.9" x 11.8") •Focusing: Straight helicoid •Weight: 250g (8.8 oz) •Length: 42mm (1.7") •Maximum diam: 62mm (2.4") (Automatic correction mechanism against close distance aberrations)



■ZUIKO 21mm F3.5

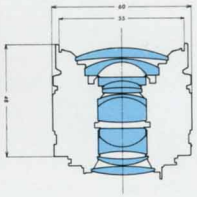
The 21mm lens is the smallest and lightest in this super wide-angle lens group. It consists of 7 elements in 7 groups and has unusually high resolving power with excellent contrast even at full aperture. In close distance work the lens discloses superb portrayal power, for much consideration was taken for compensating aberrations. The 92° angle of view is suitable for architectural and interior photography. The lens accepts a 49mm threaded filter.

•Focal length: 21mm •Angle of view: 92° •Optical construction: 7 elements in 7 groups •Diaphragm operation: Automatic •F/stop range: 3.5-16 •Minimum focus: 0.2m (7.9") •Min. photographic range: 14cm x 21cm (5.5" x 8.3") •Focusing: Straight helicoid •Weight: 180g (6.3 oz.) •Length: 31mm (1.2") •Maximum diam: 59mm (2.3")

■Alphabetical Coding

Each ZUIKO Lens is described with an alphabetical prefix and suffix such as F. ZUIKO AUTO-S, AUTO-T, etc. The prefix represents the number of elements in a lens in alphabetical order. For instance, A=1 element, B=2 elements, D=4 elements, and so forth. "AUTO" signifies automatic diaphragm. The suffix represents the type of lens: S=Standard, W=Wide Angle, and T=Telephoto.

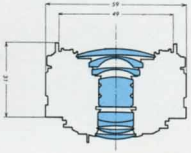
ZUIKO MC 24mm F2 ZUIKO 24mm F2.8



■ZUIKO MC 24mm F2

This is the fastest 24mm lens available today. It is particularly effective in low light photography and helps overcome the difficulty of focusing wide-angle lenses with a 35mm SLR camera. The close distance aberration correction group of elements provides superior image quality at close focusing distances. The epochal performance was achieved by the excellent lens designing and newly introduced optical glass. Accepts a 55mm filter.

•Focal length: 24mm •Angle of view: 84° •Optical construction: 10 elements in 8 groups •Diaphragm operation: Automatic •F/stop range: 2-16 •Minimum focus: 0.25m (9.8") •Min. photographic range: 15cm x 23cm (5.9" x 9") •Focusing: Straight helicoid •Weight: 280g (9.9 oz.) •Length: 48mm (1.9") •Maximum diam: 60mm (2.4") (Automatic correction mechanism against close distance aberrations)



■ZUIKO 24mm F2.8

This lens is amazingly compact and, except for the 24mm F2 lens, is the fastest lens in the super wide-angle lens group. Same as the 24mm F2, it produces dynamic images with exaggerated perspective and, even at close focusing distances, creates razor-sharp pictures. This wide-angle is extremely useful for architectural and interior photography as well as illustrative photography. Accepts a 49mm filter.

•Focal length: 24mm •Angle of view: 84° •Optical construction: 8 elements in 7 groups •Diaphragm operation: Automatic •F/stop range: 2.8-16 •Minimum focus: 0.25m (9.8") •Min. photographic range: 15cm x 23cm (5.9" x 9") •Focusing: Straight helicoid •Weight: 180g (6.3 oz.) •Length: 31mm (1.2") •Maximum diam: 59mm (2.3")

WIDE ANGLE LENSES

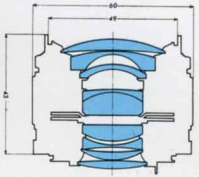
As the most popular among wide-angle lenses, the 35mm is now recognized as an all-purpose and extremely convenient lens for everyday use. With an angle of view approximately 20% wider than a standard lens, the ability of the 35mm to include more of the total picture area with near-natural perspectives has made it one of the most sought-after wide-angle lenses available.

Since the 35mm is now considered more of a "standard" lens, the 28mm lens has become a favorite among most photographers as their principal wide-angle. Although considered the perfect choice for general wide-angle purposes, the wide 75° angle of view can often be used with the expressive power and dramatic impact of a "super" wide-angle. The fast speed of F2 and great depth of field characteristics of the lens makes the 28mm extremely useful when photographing dimly lit subjects and night scenes.

Also, the latest addition to this group is the unique ZUIKO Shift 35mm F2.8 for perspective control. With this lens, the photographer can correct deformed images in architectural and composite photographs. ZUIKO "shift" is a term for the shifting, rising, and falling adjustment capabilities of the lens. An ordinary lens is designed to cover the area of the 35mm film frame and if the lens position were changed coverage would be uneven. The Shift Lens, however, is designed to distribute the light patterns evenly over an area greater than that of the film maintaining high resolving power. This is accomplished by increasing the angle of view of the regular 35mm lens (63°) to that normally found on a 24mm lens (83°). This ability to shift perspective makes this lens extremely well suited to architectural and still life photography in which the top image tends to taper, as well as for composite panoramic pictures.

OLD WHALERS
GROG SHOPPE

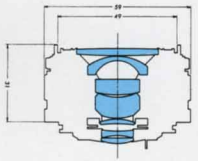
ZUIKO MC 28mm F2 ZUIKO 28mm F3.5



■ZUIKO MC 28mm F2

This retrofocus type lens has an unusually fast speed of F2 and is designed to be more compact and higher in resolution and contrast than conventional 28mm lenses. A special correcting lens group compensates for aberrations at close focusing distances. It is an excellent lens for night photography and shooting in cramped interiors. The lens accepts a 49mm threaded filter.

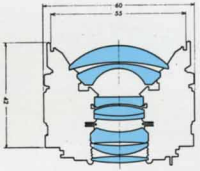
•Focal length: 28mm •Angle of view: 75° •Optical construction: 9 elements in 8 groups •Diaphragm operation: Automatic •F/stop range: 2-16 •Minimum focus: 0.3m (11.8") •Min. photographic range: 18cm x 27cm (7.1" x 10.6") •Focusing: Straight helicoid •Weight: 250g (8.8 oz.) •Length: 43mm (1.7") •Maximum diam: 60mm (2.4") (Automatic correction mechanism against close distance aberration)



■ZUIKO 28mm F3.5

Designed to be more compact than the 28mm F2 this lens is the smallest, lightest retrofocus type among 28mm lenses. High resolving power with ample marginal illumination makes it suitable for color photography. Its moderate perspective appeals to many photographers. Accepts a 49mm threaded filter.

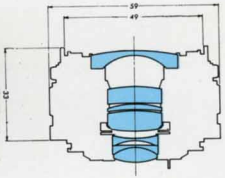
•Focal length: 28mm •Angle of view: 75° •Optical construction: 7 elements in 7 groups •Diaphragm operation: Automatic •F/stop range: 3.5-16 •Minimum focus: 0.3m (11.8") •Min. photographic range: 18cm x 27cm (7.1" x 10.6") •Focusing: Straight helicoid •Weight: 180g (6.3 oz.) •Length: 31mm (1.2") •Maximum diam: 59mm (2.3")



■ZUIKO MC 35mm F2

Most popular among wide-angle lenses, the 35mm is so versatile that it is often used as a standard lens. Innovative mechanical and optical engineering designs have resulted in one of the smallest models to be found in this class. Definition is superb and the lens is extremely bright, compact and lightweight. It is ideal for interiors and night photography. Accepts a 55mm filter.

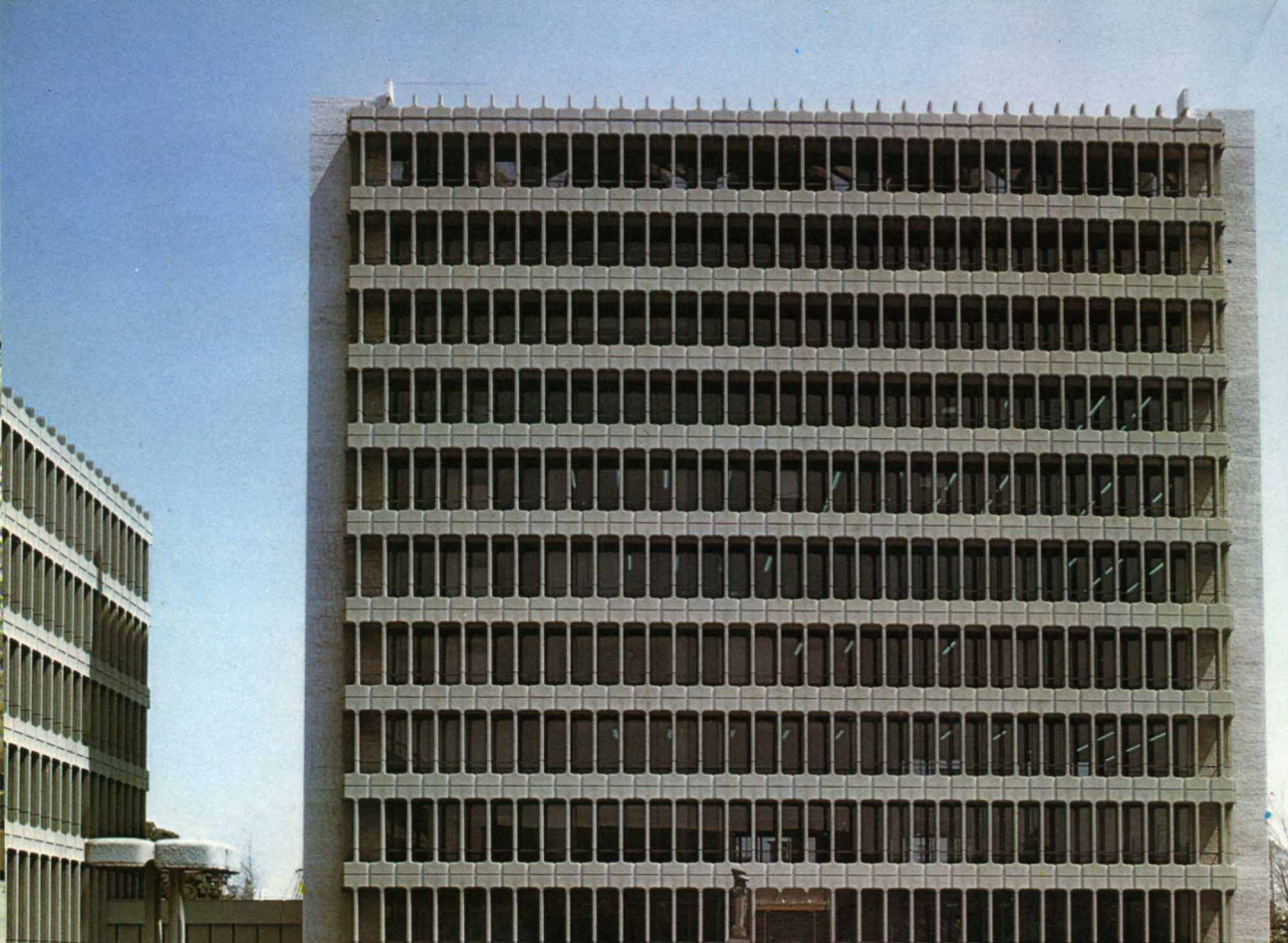
•Focal length: 35mm •Angle of view: 63° •Optical construction: 8 elements in 7 groups •Diaphragm operation: Automatic •F/stop range: 2-16 •Minimum focus: 0.3m (11.8") •Min. photographic range: 14cm x 21cm (5.5" x 8.3") •Focusing: Straight helicoid •Weight: 240g (8.5 oz.) •Length: 42mm (1.7") •Maximum diam: 60mm (2.4")



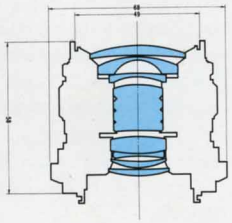
■ZUIKO 35mm F2.8

This 35mm is a retrofocus type lens that uses a deluxe construction of seven elements in six groups to minimize the comatic flare inherent in wide-angle lenses. To the photographer, this means wide angle photographs with excellent definition. The lens itself is as compact as a conventional F1.8 standard lens and accepts a 49mm threaded filter.

•Focal length: 35mm •Angle of view: 63° •Optical construction: 7 elements in 6 groups •Diaphragm operation: Automatic •F/stop range: 2.8-16 •Minimum focus: 0.3m (11.8") •Min. photographic range: 14cm x 21cm (5.5" x 8.3") •Focusing: Straight helicoid •Weight: 180g (6.3 oz.) •Length: 33mm (1.3") •Maximum diam: 59mm (2.3")



ZUIKO SHIFT 35mm F2.8



■ZUIKO SHIFT 35mm F2.8

This unique wide-angle lens is capable of correcting extreme perspective effects by allowing the photographer to shift the lens position parallel to the film plane. Though 35mm in focal length, it is substantially on a par with the conventional 24mm in regard to angle coverage. Its versatility allows shifting the lens as far as 10.4mm laterally, 12mm rising, and 13mm falling. Using this lens enables the photographer to correct the leaning and tilting deformations often found in architectural photography. Accepts a 49mm filter. The Focusing Screen 1-10 is designed for use with this lens.

●Focal length: 35mm ●Angle of view: 63° (83° at maximum shift) ●Shift: 10.4mm laterally, 12mm rising and 13mm falling ●Optical construction: 8 elements in 7 groups ●Diaphragm operation: Manual ●F/stop range: 2.8-22 ●Minimum focus: 0.3m (11.8") ●Min. photographic range: 14cm x 21cm (5.5" x 8.3") ●Focusing: Straight helicoid ●Weight: 310g (10.9 oz.) ●Length: 58mm (2.3") ●Maximum diam: 68mm (2.7")

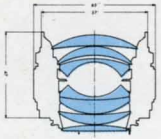
●Ordinary 35mm wide-angle lens.

STANDARD LENSES

The angle of vision within which the human eye discerns colors and shapes is about 50°. This angle is slightly greater than that of a standard lens with a focal length of 50mm. Because of this the standard lens reproduces natural perspective and is one of the most versatile lenses used by the photographer. No other lens group in the Olympus OM-System can rival the standard lenses in terms of fast lens speed, and whether the photographer chooses an F1.2, F1.4 or F1.8 standard lens his opportunities for shooting in low available light are increased considerably.

Also included in the ZUIKO standard lens group is a 50mm focal length lens that is quite unusual. This lens, the Zuiko Macro 50mm F3.5, is specially designed for copying and other close-up photographic applications. Although not as fast as other standard lenses, the 50mm Macro is highly efficient in correcting aberrations at close focusing distances while delivering high resolution and accurate tonal color rendition. In close-up photography its magnification range is from 1/10 to 1/2 life size without attachments. When used with Extension Tube 25 the Macro 50mm can extend the range from 1/2 to 1:1 life size with good results. However, to get the most precise image quality in this range, it is recommended to use Zuiko 1:1 Macro 80mm F4 in conjunction with Auto Bellows.

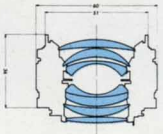
OM SYSTEM ZUIKO 55mm F1.2 ZUIKO 50mm F1.4 ZUIKO 50mm F1.8



■ZUIKO 55mm F1.2

Optically designed to correct aberrations by using a distinctive construction in which the fourth group of elements is arranged to act as a concave with the cemented surface facing the object. Despite the fast lens speed, high resolving power shows no edge fall-off in the picture; ideal for interiors, and low light situations. Accepts a 55mm filter.

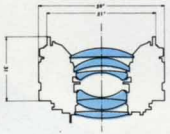
•Angle of view: 43° •Optical construction: 7 elements in 6 groups •Diaphragm operation: Automatic •F/stop range: 1.2-16 •Min. focus: 0.45m (17.7") •Min. photographic range: 15cm x 23cm (5.9" x 9.1") •Focusing: Straight helicoid •Weight: 310g (10.9 oz.) •Length: 47mm (1.9") •Max. diam: 65mm (2.6")



■ZUIKO 50mm F1.4

Designed to minimize the total length of lens, the sophisticated seven elements in six groups design of this standard lens produces high resolution and high contrast throughout the picture area even at full aperture. Accepts a 49mm filter.

•Angle of view: 47° •Optical construction: 7 elements in 6 groups •Diaphragm operation: Automatic •F/stop range: 1.4-16 •Min. focus: 0.45m (17.7") •Min. photographic range: 16cm x 24cm (6.3" x 9.4") •Focusing: Straight helicoid •Weight: 230g (8.1 oz.) •Length: 36mm (1.4") •Max. diam: 60mm (2 4")

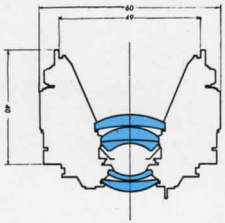


■ZUIKO 50mm F1.8

This standard lens is extremely compact and its optical design provides superb definition for maximum edge-to-edge sharp images throughout the focusing range. The fast F1.8 maximum aperture is ideal for most low light level photographic applications. Accepts a 49mm filter.

•Angle of view: 47° •Optical construction: 6 elements in 5 groups •Diaphragm operation: Automatic •F/stop range: 1.8-16 •Min. focus: 0.45m (17.7") •Min. photographic range: 16cm x 24cm (6.3" x 9.4") •Focusing: Straight helicoid •Weight: 170g (6 oz.) •Length: 31mm (1.2") •Max. diam: 59mm (2.3")

ZUIKO MC MACRO 50mm F3.5



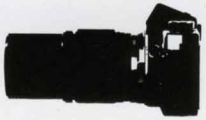
■ZUIKO MC MACRO 50mm F3.5

Primarily designed for close focusing, this lens meets the photographer's most exacting definition demands for close-ups, copying work and macrophotography. Usually in lenses of this type the lens barrel tends to become elongated at the closest focusing distance, but the new design of the ZUIKO Macro 50mm makes a very compact configuration possible. Additionally, this is the first time that an automatic correction lens group that compensates for close distance aberrations has been built into a macro lens. Because of this new design, this lens produces resolution comparable to that of a standard focal length lens throughout the focusing range. (49mm filter)

•Focal length: 50mm •Angle of view: 47° •Optical construction: 5 elements in 4 groups •Diaphragm operation: Automatic •F/stop range: 3.5-22 •Minimum focus: 0.23m (9.1") •Min. photographic range: 48mm x 72mm (1.9" x 2.8") •Focusing: Straight helicoid •Weight: 200g (7.1 oz.) •Length: 40mm (1.6") •Maximum diam: 60mm (2.4") (Automatic correction mechanism to compensate for close distance aberrations)

■Correction of Aberrations at Close Distance Focusing

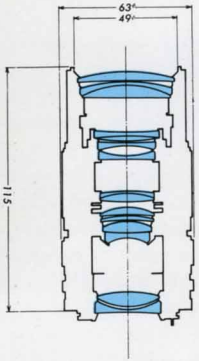
In general, lenses are designed for maximum performance at infinity. Accordingly, when the lens barrel is fully extended to the shortest focusing distance, resolution is reduced. Although this is negligible for ordinary lenses, it becomes increasingly important in lenses specially designed for close distance photography. The new ZUIKO mechanism moves certain lens components as a unit automatically correcting for aberrations. This assures high lens performance throughout the focusing range.



Many photographers still believe that a zoom lens is bulky, heavy, and has resolving powers inferior to those of fixed focal length lenses. However, technological advancement in both optics and mechanical configurations as well as newly-introduced optical glass now make it possible to design zoom lenses that are compact, lightweight, and most important, able to deliver image quality comparable to lenses with fixed focal lengths.

The time saved in changing lenses is only one of the advantages of a zoom lens. Because the photographer can choose from a large number of focal lengths, the zoom provides him with extraordinary opportunities for composing his pictures. The ability to change quickly from one focal length to another allows him to pick the one focal length that is perfect for his subject—instantly and without changing the camera position.

The compact, lightweight ZUIKO 75—150mm F4 zoom lens is ideal for portraits, landscapes and sports events as well as general photography.



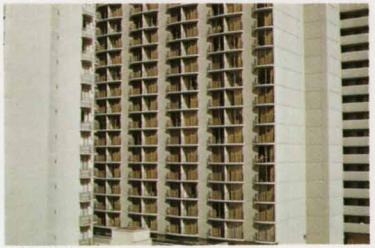
●f=150mm

■ZUIKO ZOOM 75-150mm F4

With an ordinary lens, the angle of view changes only slightly because its focal length is fixed. A zoom lens, on the other hand, is specially designed to allow the photographer to freely vary the focal length. This enables him to produce the effects of many telephoto lenses. Because of the unique optical design, subjects remain in focus throughout the zoom range and the photographer can expect the high resolution and contrast once associated only with fixed focal length lenses. Extremely compact, lightweight and easy to operate, this zoom is convenient for general photography such as portraits, landscapes, particularly efficient when shooting mountain scenery from a tight place. Accepts a 49mm filter.

●Focal length: 75-150mm ●Angle of view: 32°-16° ●Optical construction: 15 elements in 11 groups ●Diaphragm operation: Automatic ●F/stop range: 4-22 ●Minimum focus: 1.6m (5'2 3/8") ●Min. photographic range: 21cm x 32cm–42cm x 64cm (8.3" x 12.6"–16.5" x 25.2") ●Focusing: Revolving helicoid ●Weight: 440g (15.5 oz.) ●Length: 115mm (4.5") ●Maximum diam: 63mm (2.5")

●f=75mm



●f=100mm

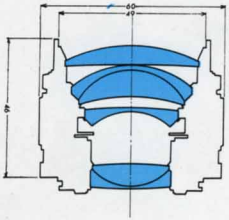
TELEPHOTO LENSES

Generally speaking, lenses having a focal length longer than that of a standard lens are called telephotos. They fall into two catagories: first, those of the "long focus" variety with constructions similar to those of standard lenses. With telephotos of this nature, focal length is measured from the second nodal point of the lens to the film plane with the focus set at infinity. The second type of telephoto is the "short barrel" or "telephoto" variety where the distance from the front vertex to the focus of the lens is much shorter than its actual focal length. All ZUIKO telephoto lenses are of the "short barrel" type and are extremely lightweight and compact.

Among telephotos, the 85mm lens has become widely known as an ideal lens for portraits and still life photography because it provides moderate perspective with negligible distortion. Because this lens has a maximum aperture of F2, the photographer can take full advantage of the extremely shallow depth-of-field and use it creatively to produce pleasing out-of-focus backgrounds or foregrounds.

In addition to the many innovative optical and mechanical designs incorporated into OM-System ZUIKO lenses, Olympus engineers have made great strides in reducing the overall size of telephoto lenses. For example, the ZUIKO 100mm and 135mm lenses have been reduced to the size of conventional standard lenses. These ultra-compact telephoto lens designs enable the photographer to take hand-held photographs at slower shutter speeds.

There is a wide variety of ZUIKO telephoto lenses in the Olympus OM-System allowing the photographer to choose a lens to match each and every photographic situation.



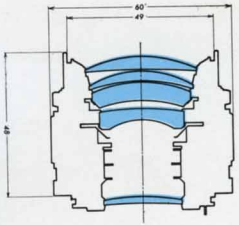
■ZUIKO 85mm F2

This lens produces images 1.5 times as large as those of a standard lense yet is almost the same size (telephoto ratio 1.06) as conventional standard lenses. It produces photographs with a natural perspective making it ideal for portrait and still life photography. A built-in automatic correction mechanism compensates for aberrations at close focusing distances. The fast F2 lens speed and inherent shallow depth-of-field is extremely useful for creating pleasing out-of-focus foregrounds and backgrounds in portrait photography. It is a perfect lens for low light situations such as interiors and night scenes and the fast speed enables the photographer to focus quickly and easily. It accepts a 49mm threaded filter.

•Focal length: 85mm •Angle of view: 29° •Optical construction: 6 elements in 4 groups •Diaphragm operation: Automatic •F/stop range: 2-16 •Minimum focus: 0.85m (2'8 3/8") •Min. photograph range: 17cm x 25cm (6.7" x 9.8") •Focusing: Straight helicoid •Weight: 260g (9.2 oz.) •Length: 46mm (1.8") •Maximum diam: 60mm (2.4") (Automatic correction mechanism against close distance aberrations)

■Modulation Transfer Function

Subject matters reveal themselves in a multitude of contrast levels and fabrics corresponding to time and places. Irrespective of circumstances of subjects, the lens performance is best expressed in terms of spatial frequency response (Modulation Transfer Function). With this method, resolution is expressed as a plot of response versus line separation (spatial frequency). The higher the MTF, the better lens performance in reproducing detailed and faithful contrast of a subject. Through the use of MTF curve, the high performance of all ZUIKO lenses can be objectively illustrated.



■ZUIKO 100mm F2.8

Although its focal length is twice as long, this 100mm lens is approximately the same size (telephoto ratio 0.93) and weight as a conventional standard 50mm lens. However, because of its 24° angle of view, it produces images twice as large. It has been designed to deliver the same high resolution and contrast as a standard lens yet it yields a better perspective that is ideal for portraits and all other situations where a moderate telephoto focal length is required. Accepts a 49mm filter.

•Focal length: 100mm •Angle of view: 24° •Optical construction: 5 elements in 5 groups •Diaphragm operation: Automatic •F/stop range: 2.8-22 •Minimum focus: 1m (3'3 5/8") •Min. photographic range: 19cm x 29cm (7.5" x 11.4") •Focusing: Straight helicoid •Weight: 230g (8.1 oz.) •Length: 48mm (1.9") •Maximum diam: 60mm (2.4")

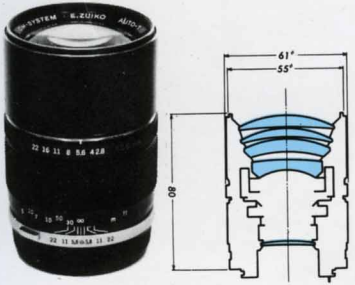
■Telephoto Ratio

Telephoto ratio is derived by dividing the distance from the front vertex of a lens to the film plane by the focal length. The smaller the telephoto ratio, the smaller the total length of the lens.

■Angle of View

The total subject area which can be photographed by a particular lens is expressed as an angle. Though there are three types of angles which can be measured (based on horizontal, vertical, and diagonals of the film frame), the lens must be designed to cover the widest angle in the diagonal direction. Therefore, the angle of view is the angle between imaginary lines drawn from the opposite ends of the film plane to the second nodal point of the lens. All objects within this angle will be recorded by the lens on the film.

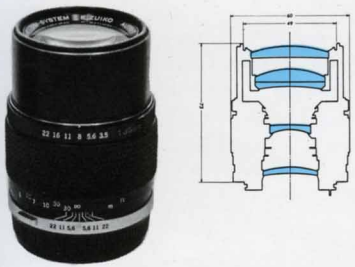
OM SYSTEM ZUIKO MC 135mm F2.8 ZUIKO 135mm F3.5



■ZUIKO MC 135mm F2.8

An extremely compact (telephoto ratio 0.93) and lightweight lens, this 135mm medium telephoto incorporates 5 elements in 5 groups to assure high resolution and contrast for maximum edge-to-edge sharpness in the picture. Its relatively fast F2.8 lens speed makes it an excellent choice for indoor sports and stage photography as well as portrait and landscape photography. As one of the smallest lenses capable of producing true telephoto effects, it is an ideal addition to any photographer's equipment. Accepts a 55mm filter.

•Focal length: 135mm •Angle of view: 18° •Optical construction: 5 elements in 5 groups •Diaphragm operation: Automatic •F/stop range: 2.8-22 •Minimum focus: 1.5m (4'10 3/4") •Min. photographic range: 21cm x 32cm (8.3" x 12.6") •Focusing: Straight helicoid •Weight: 360g (12.7 oz.) •Length: 80mm (3.1") •Maximum diam: 61mm (2.4")

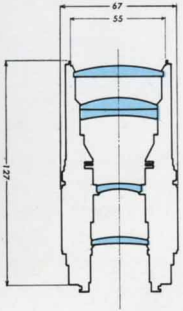


■ZUIKO 135mm F3.5

Although slightly slower in lens speed, Olympus design engineers were able to produce a medium telephoto lens that is even more compact than the 135mm F2.8 (telephoto ratio 0.87). To assure superior image quality, 5 elements rather than the normal 4 were used. This additional element when tested through MTF has resulted in measurable improvement in resolution and contrast. Same as with the 135mm F2.8, the lens features a built-in retractable lens hood and accepts a 49mm threaded filter.

•Focal length: 135mm •Angle of view: 18° •Optical construction: 5 elements in 4 groups •Diaphragm operation: Automatic •F/stop range: 3.5-22 •Minimum focusing: 1.5m (4'10 3/4") •Min. photographic range: 21cm x 32cm (8.3" x 12.6") •Focusing: Straight helicoid •Weight: 290g (10.2 oz.) •Length: 73mm (2.9") •Maximum diam: 60mm (2.4")

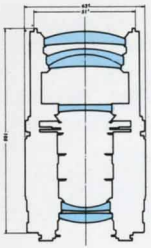
ZUIKO MC 200mm F4 ZUIKO 200mm F5



■ZUIKO MC 200mm F4

This relatively fast and very compact 200mm lens is ideal for hand-held telephoto photography. The ingenious lens designing well corrected aberrations and the lens displays superb resolution all over the picture. The 4 times image size that of a standard lens makes it a perfect choice for shooting landscapes, animals, and candid portraits taken from a distance. It has a built-in retractable lens hood and accepts a 55mm threaded filter.

•Focal length: 200mm •Angle of view: 12° •Optical construction: 5 elements in 4 groups •Diaphragm operation: Automatic •F/stop range: 4-32 •Minimum focus: 2.5m (8'2 3/8") •Min. photographic range: 24cm x 36cm (9.4" x 14.2") •Focusing: Straight helicoid •Weight: 510g (18.0 oz.) •Length: 127mm (5") •Maximum diam: 67mm (2.6")



■ZUIKO 200mm F5

Amazingly short, 105mm (4.1"), for a 200mm telephoto—actually it accepts a 49mm filter in common with the F1.8 Standard Lens—the extremely compact size and lightweight configuration of this lens makes it ideal for hand-held telephoto shooting. Equally important, it features a deluxe optical construction of 6 elements in 5 groups which successfully corrected various aberrations to insure high resolution all over the picture as well as high performance in close distance photography. The Focusing Screen 1-1~4, 1-6, 1-10 or 1-13 is recommended. The 1-6 offers a bright field, however, the meter built into the OM-1 and OM-2 (on MANUAL) cannot be used. In the OM-2 on AUTO, correct exposures are made, but the meter needle does not indicate correct shutter speeds.

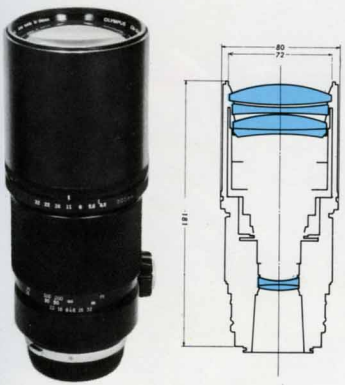
•Focal length: 200mm •Angle of view: 12° •Optical construction: 6 elements in 5 groups •Diaphragm operation: Automatic •F/stop range: 5-32 •Minimum focus: 2.5m (8'2 3/8") •Min. photographic range: 24cm x 36cm (9.4" x 14.2") •Focusing: Straight helicoid •Weight: 380g (13.4 oz.) •Length: 105mm (4.1") •Maximum diam: 62mm (2.4")

SUPER TELEPHOTO LENSES

The 300mm, 400mm, 600mm, and 1000mm lenses produce the most dramatic telephoto effects. Where the 100mm or 200mm gently changes the perspective, these super telephotos startle the eye by drastically compressing the space relationship of objects in the picture. And in situations that do not allow the photographer to get close to his subject, these super telephotos can produce images 6 to 20 times the size of those produced by a standard lens without ever changing the camera position.

Because of their extremely compact and lightweight design, hand-held shooting is possible with both the ZUIKO 300mm F4.5 and 400mm F6.3 super telephotos. The new ZUIKO 600mm and 1000mm lenses have also been designed to be smaller than conventional lenses of equal focal lengths. However, these lenses should be used on a tripod for best results.

Because of their extremely long-focal lengths, using any of the ZUIKO telephoto lenses where atmospheric conditions are poor requires the use of filters. Even if these precautions are taken, lens performance will generally fall off on extremely hazy or smoggy days.

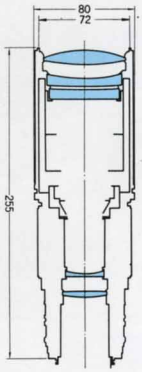


■ZUIKO 300mm F4.5

This lens produces an image size 6 times that of a standard lens. Although designed to be smaller (telephoto ratio 0.75) and lighter than other 300mm lenses, the incorporation of newly-developed optical glass provides higher resolving power and a minimum of chromatic aberration. The compact styling and superior performance makes this ZUIKO 300mm an ideal lens for sports, wild life, and mountain photography even when it is hand-held. Features a built-in retractable lens hood and accepts a 72mm threaded filter. The tripod mount ring is removable for convenience in handheld shooting. Focusing screens suited are 1-1~4, 1-6~8, 1-10 and 1-13. The 1-6 and 1-7 offer a bright finder, however, the meter built into the OM-1 and OM-2 (on MANUAL) cannot be used. In the OM-2 on AUTO, correct exposures are made, but the meter needle does not indicate correct shutter speeds.

●Focal length: 300mm ●Angle of view: 8° ●Optical construction: 6 elements in 4 groups ●Diaphragm operation: Automatic ●F/stop range: 4.5-32 ●Minimum focus: 3.5m (11'6") ●Min. photographic range: 22cm x 33cm (8.7" x 13") ●Focusing: Straight helicoid ●Weight: 1100g (38.8 oz.) ●Length: 181mm (7.1") ●Maximum diam: 80mm (3.1") ●Removable tripod mount ring

ZUIKO 400mm F6.3



The design concept of this lens was to bring out a 400mm which can exert fully the versatility of OM camera body in super-telephotography. The compact construction, automatic diaphragm and straight helicoid focusing facilitate hand-held shooting with a 400mm previously thought impossible. Ideal for outdoor photography, sports, photojournalism which require fast action of the photographer. The lens has a built-in retractable lens hood and accepts a 72mm filter. Focusing screens suited are 1-2, 1-4, 1-6, 1-7, 1-8 and 1-10. The 1-6 and 1-7 offer a bright finder, however, the meter built into the OM-1 and OM-2 (on MANUAL) cannot be used. In the OM-2 on AUTO, correct exposures are made, but the meter needle does not indicate correct shutter speeds.

•Focal length: 400mm •Angle of view: 6° •Optical construction: 5 elements in 5 groups •Diaphragm operation: Automatic •F/stop range: 6.3-32 •Min. focus: 5m (16.4') •Min. photographic range: 24cm x 36cm (9.4" x 14.2") •Focusing: Straight helicoid •Weight: 1300g (2 lbs. 14oz) •Length: 255mm (10") •Max. diam: 80mm (3.2") •Removable tripod mount ring

▪Aberrations (1)

The "ideal" lens would reproduce a subject in a faithful, clearly defined image on film. Aberrations, which can be divided into six basic faults, affect the ideal performance in an optical system.

1) **Spherical aberration**
   Basically, a beam of light passing through a lens parallel to the optical axis converges to form a focused image on the film. Spherical aberration is the term for an optical fault caused by the spherical form of a lens that produces different focus points along the axis for central and marginal rays.
2) **Curvature of field**
   This optical defect causes points on an object plane perpendicular to the lens axis to focus on a curved surface rather than a plane.
3) **Astigmatism**
   Rays of light from a single point of an object which is not on the axis of a lens fail to meet in a single focus thus causing the image of a point to be drawn out into two sharp lines, one radial to the optical axis and another perpendicular to this line, in two different planes near the curvature of field.

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レストラン 2
ィルーム
菓子 1
京銀行
BANK
OF
TOKYO
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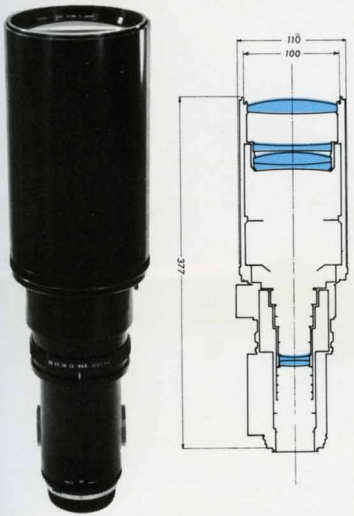
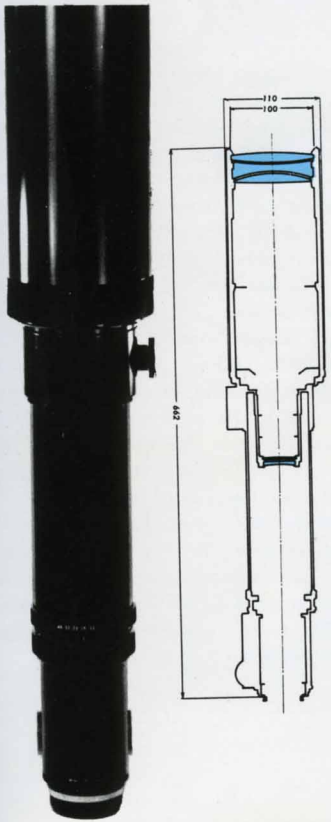


■ZUIKO 600mm F6.5

With an angle of view of only 4°, the 600mm super telephoto produces images 12 times the size of those produced by a standard lens. As with most lenses of this focal length, the considerable increase in size and weight was unavoidable. However, due to the original ZUIKO optical design, an unprecedented telephoto ratio of 0.7 was achieved. Although extremely compact in size, the incorporation of newly-introduced optical glass makes possible superb image quality even at minimum focusing distances. And unlike some super telephoto lenses, there is no image cut-off in the viewfinder. This makes the 600mm F6.5 an ideal lens for sports, wild life, landscape, etc. Features a built-in retractable lens hood and accepts a 100mm filter. Rotatable tripod mount ring is attached. Focusing screens suited are 1-2, 1-4, 1-7 1.8 and 1-10. The 1-7 offers a bright finder, however, the meter built into the OM-1 and OM-2 (on MANUAL) cannot be used. In the OM-2 on AUTO, correct exposures are made, but the meter needle does not indicate correct shutter speeds.

●Focal length: 600mm ●Angle of view: 4° ●Optical construction: 6 elements in 4 groups ●Diaphragm operation: Automatic ●F/stop range: 6.5-32 ●Minimum focus: 11m (36'1") ●Min. photographic range: 37cm x 55cm (14.6" x 21.7") ●Focusing: Rack and pinion ●Weight: 2800g (6 lbs. 3 oz.) ●Length: 377mm (14.8") ●Maximum diam: 110mm (4.3") ●Rotatable tripod mount ring

ZUIKO 1000mm F11



■ZUIKO 1000mm F11

The front component consists of apochromatic type elements having minimum chromatic aberration designed to provide superior definition and contrast. It is probably the smallest (telephoto ratio 0.7) and lightest lens in its class, and to further its versatility it features an automatic diaphragm that contributes to its mobility and portability. Image cut-off in the viewfinder is almost unnoticeable. Features a built-in retractable lens hood and accepts a 100mm filter. Focusing screens suited are 1-4, 1-7, 1-8 and 1-10. The 1-7 offers a bright finder, however, the meter built into the OM-1 and OM-2 (on MANUAL) cannot be used. In the OM-2 on AUTO, correct exposures are made, but the meter needle does not indicate correct speeds.

●Focal length: 1000mm ●Angle of view: 2.5° ●Optical construction: 5 elements in 5 groups ●Diaphragm operation: Automatic ●F/stop range: 11-45 ●Minimum focus: 30m (98'5") ●Min. photographic range: 65cm x 98cm (25.6" x 38.6") ●Focusing: Rack and pinion ●Weight: 4000g (8 lbs. 13 oz.) ●Length: 662mm (26") ●Maximum diam: 110mm (4.3") ●Rotatable tripod mount ring

■Aberrations (2)

4) Coma

This optical defect causes the image of an off-axis point of light to appear as a comet-shaped blur of light. Coma, as well as curvature of field and astigmatism, degenerate the image forming ability of the lens at the rims of the picture.

5) Distortion

Even if the first four aberrations were totally eliminated, images could result that still have a distorted appearance. For example, a rectangle may appear as a barrel or pin cushion-shaped object.

6) Chromatic aberration

This aberration is caused by light rays of different wavelengths coming to focus at different distances from the lens. Blue will focus at the shortest distance and red at the greatest distance. Since the natural rays of light are a mixture of colors, each aberration will give a different value corresponding to each color thus producing blurred images.

OTHER LENSES FOR SPECIAL USE

The Olympus OM-1 and OM-2 35mm SLR cameras were specifically designed to meet a great variety of photographic requirements. In keeping with this concept, the ZUIKO Interchangeable Lens Group was designed to provide many exclusive and special lenses to satisfy even the most exacting demands of the professional photographer. Among these lenses, the Macro Lens Group is extremely significant. The extensive experience of Olympus as a world-wide supplier of precision microscopes has enabled them to design macro lenses that deliver high resolution and contrast even at extremely high magnification.

Although an SLR with a standard lens can be used in close-up photography, one lens can never be expected to satisfy all the needs of the expert in the field. Usually lenses are designed to deliver best performance at specific focusing distances. Because of this, the lens quality inevitably falls off as the distance to the subject changes. Most lenses are optimized for best performance at infinity, but in practice, for example, a standard lens performs well up to distances as close as 1m from the film plane. However, as the focusing distance becomes closer, the magnification of the image increases to such a great extent that it becomes increasingly difficult for the lens to deliver high resolution.

Conventional macro lenses are designed to deliver their best performance at magnifications up to 1/10 life size and can be used with good results for general close-up photography. As magnification increases to life size or beyond, the lens performance drops sharply. To overcome this problem, Olympus optical engineers created three special macro lenses designed to meet the resolution demands of high magnification photography.

Three types of macro lenses are available in the ZUIKO Lens Group, each designed specifically for use with the OM System Auto Bellows. The ZUIKO Macro 20mm F3.5 is designed for magnifications from 4X to 12X, the ZUIKO Macro 38mm F3.5 for magnifications from 1.8X to 6X, and the ZUIKO 1:1 Macro 80mm F4 which is optimized to deliver the highest possible resolution at life size magnifications.

Of special interest is the ZUIKO 1:1 Macro 80mm F4. Unlike most lenses of its kind, it was designed by Olympus to be used with an SLR to achieve life size reproduction with resolution and contrast standards higher than any other lens of its type.

These lenses, when used in conjunction with the Auto Bellows, provide the photographer with all the tools required to deliver macro photographs with maximum edge-to-edge sharpness at all magnifications.

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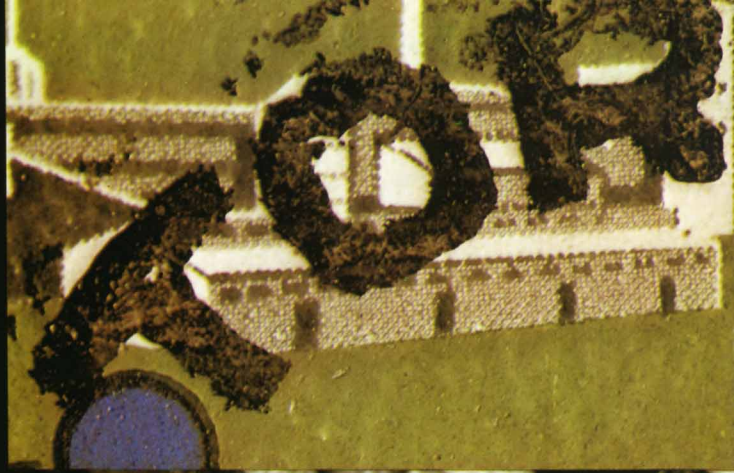
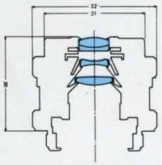
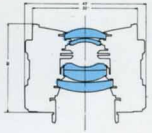
Macro38㎜F3.5 ▶

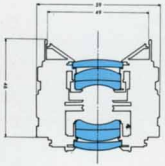
Macro20㎜F3.5 ▶



MACRO 20mm F3.5 MACRO 38mm F3.5 1:1 MACRO 80mm F4







One of the major problems of macrophotography is that lens quality suffers at magnification of 1:1 or greater. However, an additional consideration is the fact that many times higher magnifications cannot be attained because the lens extension possible is limited by the length of the bellows itself. The three ZUIKO Macro Lenses, however, were designed exclusively for macrophotography, recopying and close-up work in conjunction with the Auto Bellows. (A mounting attachment is necessary for the Macro 20mm and 38mm.)* By offering a choice of three focal lengths, the ZUIKO Macro Lens Group enables the photographer to achieve the highest possible resolution throughout the magnification range of each individual lens. The magnification range for each lens is as follows:

- Macro 20mm F3.5 . . . . . 4X to 12X
- Macro 38mm F3.5 . . . . . 1.8X to 6X
- 1:1 Macro 80mm F4 . . . 1/2X to 2X

A Macro 135mm is in the course of development which is suitable for shooting a subject with a great depth at close distances.

*Objective Lens Mount PM-MTob

Specifications

■ZUIKO Macro 20mm F3.5

•Angle of view: 9° (highest magnification) •Optical construction: 4 elements in 3 groups •Diaphragm operation: Manual •F/stop range: 3.5-16 •Min. range: 5mm x 8mm–2mm x 3mm •Focusing: With bellows and mounting attachment* •Weight: 70g (2.5 oz.) •Length: 20mm (0.8") •Max. diam: 32mm (1.2")

■ZUIKO Macro 38mm F3.5

•Angle of view: 9° (highest magnification) •Optical construction: 5 elements in 4 groups •Diaphragm operation: Manual •F/stop range: 3.5-16 •Min. range: 13mm x 20mm–4mm x 6mm •Focusing: With bellows and mounting attachment* •Weight: 90g (3.2 oz.) •Length: 28mm (1.1") •Max. diam: 43mm (1.7")

■ZUIKO 1:1 Macro 80mm F4

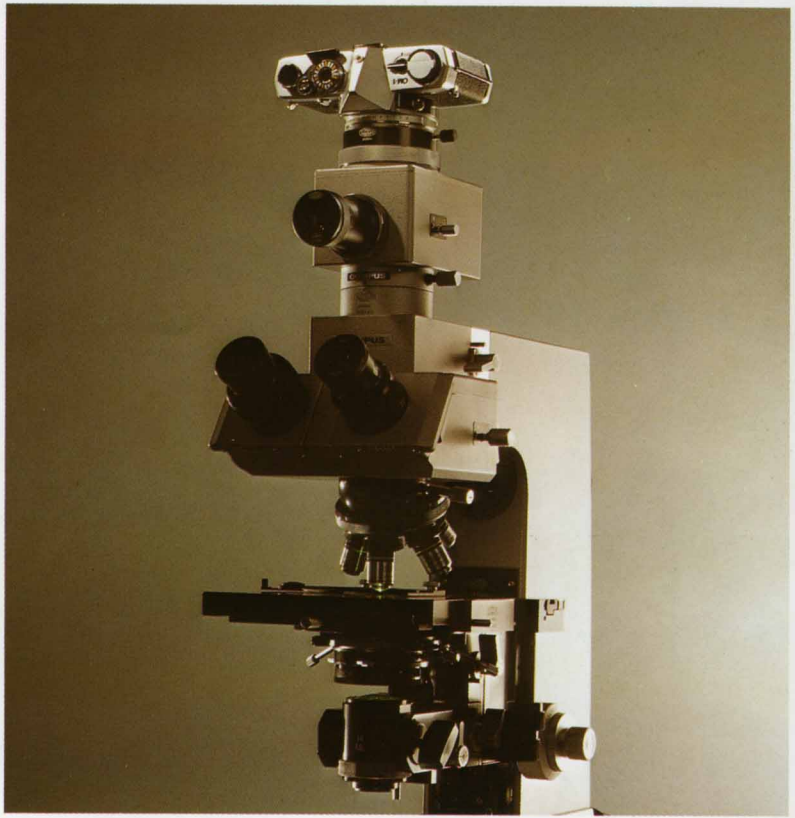
•Angle of view: 9° (highest magnification) •Optical construction: 6 elements in 4 groups •Diaphragm operation: Manual •F/stop range: 4-22 •Min. range: 48mm x 72mm–12mm x 18mm •Focusing: With bellows •Weight: 200g (7.1 oz.) •Length: 46mm (1.8") •Max. diam: 59mm (2.3")

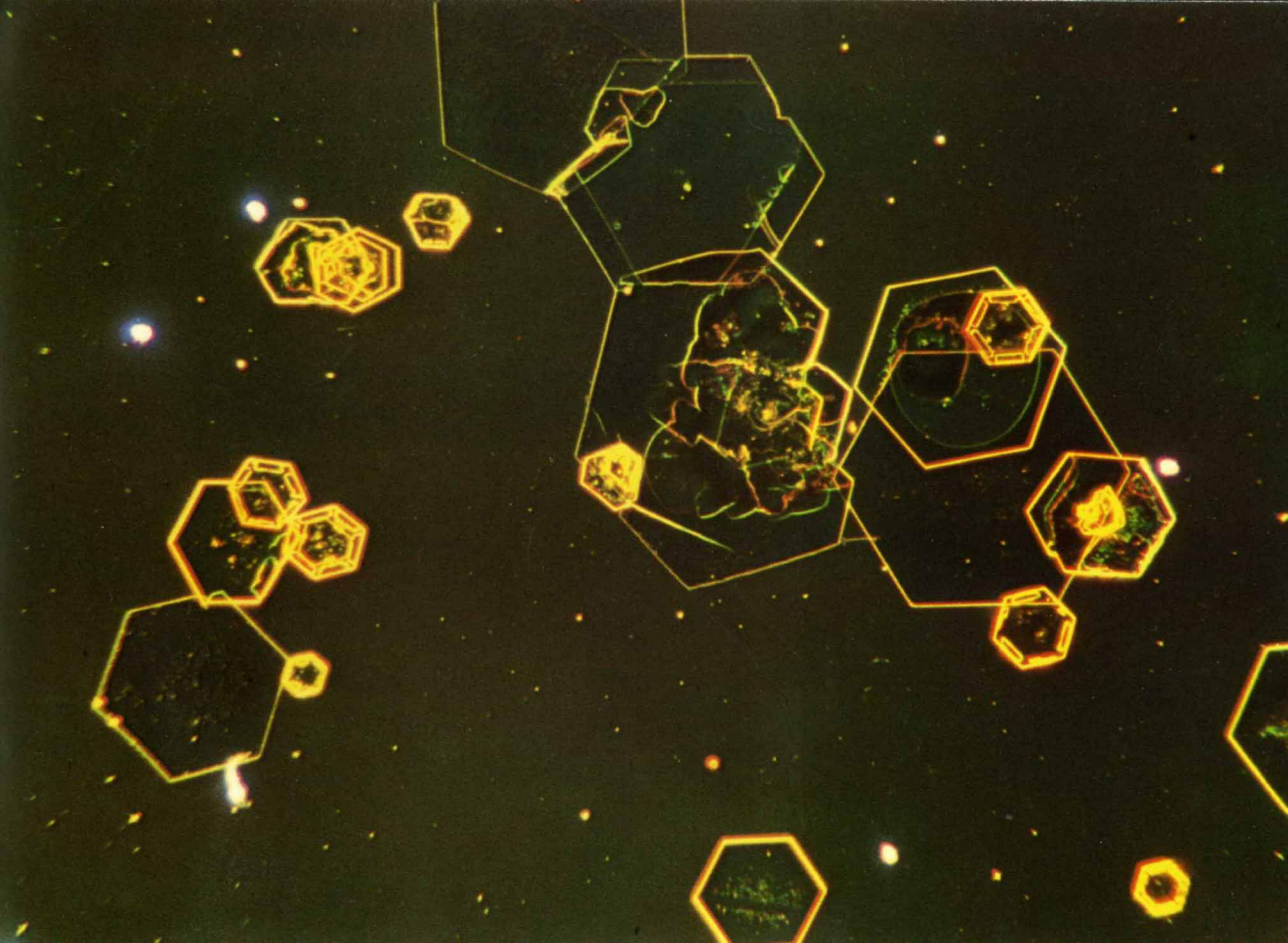
MACROPHOTO GROUP

The Macrophoto Group includes four macro lenses, Auto Bellows, Macrophoto Stand, Mechanical Stage, trans-illuminators, color temperature compensation filters, and other equipment designed to meet the highest standards of the macrophotographer. The PMT-35, which consists of approximately 46 macrophotographic units, is available for professionals and advanced amateurs. Also included are interchangeable focusing screens which can be used selectively for focusing at specific image magnifications, and the Varimagni Finder for critical focusing needs.

PHOTOMICRO GROUP

Olympus has an outstanding reputation for manufacturing precision microscopes used by scientists throughout the world. Naturally, when Olympus developed the OM System, it included a sophisticated array of units for photomicrography. The system includes a variety of microscope adapters, rugged stands, a special shutter to prevent vibration at high magnification, and an automatic exposure mechanism operated by an electronic shutter which successfully solves the difficult problem of microscopic exposures. Emphasis has been placed on creating accurate and convenient tools for photomicrography and this group will be continually expanded as the study and research of micro-organism bionomics and other scientific applications and techniques progress.





MOTOR DRIVE GROUP

Even in its conceptual stage, the OM System was designed to incorporate a motor drive, a winder (for single release) and all the related units. The motor drive is an invaluable tool when shooting fast moving objects or taking a series of exposures. The speed of the motor drive can be set for a single series of shots, or a burst of shots five frames per second in sequential photography. The Control Grip, 250 Film Back, AC Control Box, and other units are available in this group. The motor drive has many uses which encompass such varied fields as photo journalism, sports, wild life, and fashion photography. Compact enough for hand-held photography even with a 300mm telephoto lens, the motor drive or the winder is perfect for taking photographs of sports and other action subjects.

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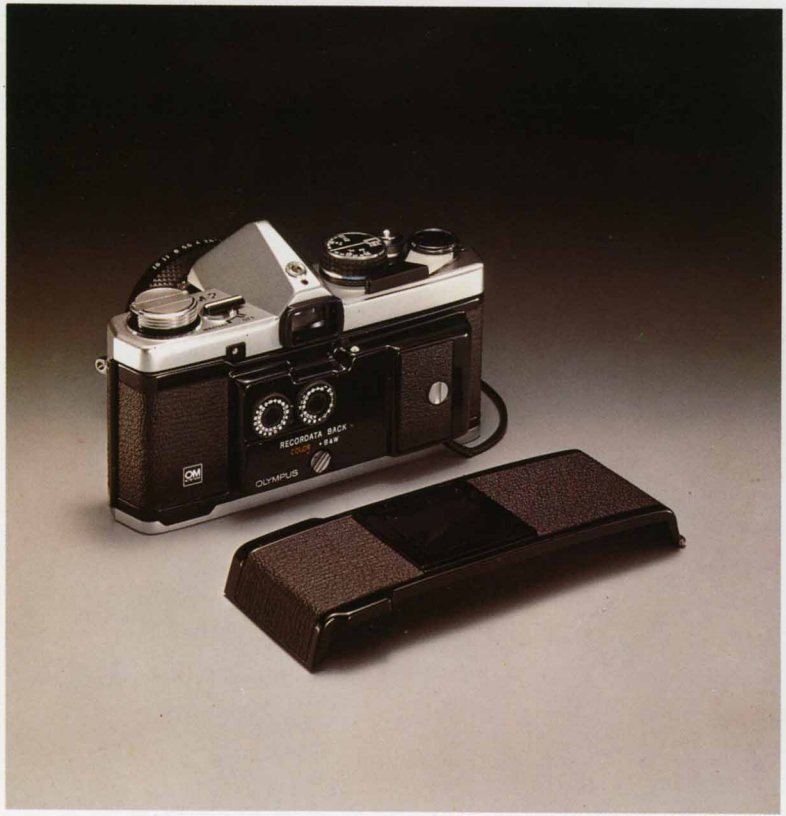
RECORDATA BACK

The Olympus OM cameras feature yet another outstanding advantage—the rear back is removable and easily interchanged with the Recordata Back 1 and Memo Holder Back 1. Once in place, Recordata Back automatically imprints numbers and alphabetical letters directly on the picture when the exposure is made. The information can be particularly important when classifying photographs taken with the eye fundus camera, stereoscopic operation microscope, or fiberoptic endoscope, etc.

The Memo Holder Back conveniently holds a film box strip or memo slip. The OM-2 comes equipped with this back.

Other units included in the Photo Technical Group are: OM camera body mounting adapters for Olympus fiberscopes and stereo operating microscope, an OM lens mounting adapter for Pen F; etc.



OM CASE GROUP

However ruggedly constructed, the camera is essentially a precision instrument and should be kept away from abrupt motions as much as possible. On the other hand, various units require rapid changing in actual use. Replacement of interchangeable lenses, for example, may have to be carried out quickly to meet changing photographic conditions.

The outstanding versatility of a true system camera can be enhanced if it is easy to operate and carry. With a properly designed case, both carrying and using your equipment becomes more convenient.

The OM System Case Group includes a large variety of cases so that the OM Body and other units may fit properly. They are compartment cases, specially made of tough synthetic leather, and designed to perfectly accommodate the photographic units. The adjustable partitions can be rearranged in the case to suit the photographer's individual requirements. Soft, hard and semi-hard cases to fit the OM Body and standard lenses, with a choice of carrying straps, are also available.

SELECTING INTERCHANGEABLE LENSES

When selecting an interchangeable lens, the telephoto is often the photographer's first choice. Generally speaking, the most popular are those having focal lengths from 85mm to 150mm. Because they are small, lightweight, easy to handle, and capable of producing excellent telephoto effects, 135mm lenses are among the top favorites.

Among telephoto lenses, zoom lenses are becoming more popular every day. For example, the ZUIKO 75-150mm Zoom provides the photographer with many focal lengths from which to choose and can be used for virtually all forms of photography.

Most photographers also find that a wide-angle lens is a welcome addition to their equipment. The 28mm and 35mm are among the most popular. Due to their great depth of field, the photographer can obtain sharp crisp photographs from foreground to infinity even with an aperture of F5.6.

One of the prime goals of Olympus designers was to produce wide-angle lenses that would be extremely compact and lightweight. As a result, all ZUIKO wide-angle lenses combine high resolution and contrast in easy-to-handle designs.

The tremendous variety of ZUIKO interchangeable lenses for the OM cameras open new creative doors for the photographer. In selecting right lenses effectively from such an abundance, a series of 1.6X focal lengths may be a helpful guide.

For example, with telephoto lenses:
85mm → 135mm → 200mm → 300mm → 500mm or, 100mm → 160mm → (300-mm) → 400mm

and with wide-angle lenses:
35mm → 24mm → 18mm or, 28mm → 21mm → 18mm

Primarily the photographer should be guided by the subject matters he likes to shoot most. If he is interested in portrait photography and shooting stage shows, his best choice would be an 85mm or 100mm; for sports events, landscapes and mountain scenery, a 75-150mm Zoom, 135mm or 200mm is recommended.

Additionally, selection may be based on characteristics of the lenses. For example, the 24mm F2 has the fastest maximum aperture in the 24mm lens class and would be particularly useful in low light level wide-angle photography. (The ZUIKO lenses are designed for use with one filter. Two or more filters in combination can result in vignetting.)

Olympus OM System Interchangeable Lenses

Specifications subject to change without notice.

TYPE	INTERCHANGEABLE LENSES	ANGLE OF VIEW	OPTICAL CONSTRUCTION ELEMENT-GROUP	DIA-PHRAGM	F-STOP RANGE	MIN. FOCUS (ft)	MIN. PHOTO-GRAPHIC RANGE
FISHEYE	ZUIKO FISHEYE 8mm F2.8	180°(circle)	11—7	AUTO.	2.8-22	0.2 m (0.7)	
	ZUIKO FISHEYE 16mm F3.5	180°	11—8	AUTO.	3.5-22	0.2 m (0.7)	
SUPER WIDE	ZUIKO MC 18mm F3.5	100°	11—9	AUTO.	3.5-16	0.25m (9.8")◎	30×20cm
	ZUIKO 21mm F3.5	92°	7—7	AUTO.	3.5-16	0.2 m (0.7)	21×14cm
	ZUIKO MC 24mm F2	84°	10—8	AUTO.	2-16	0.25m (0.8)◎	23×15cm
	ZUIKO 24mm F2.8	84°	8—7	AUTO.	2.8-16	0.25m (0.8)	23×15cm
WIDE	ZUIKO MC 28mm F2	75°	9—8	AUTO.	2-16	0.3 m (1.0)◎	27×18cm
	ZUIKO 28mm F3.5	75°	7—7	AUTO.	3.5-16	0.3 m (1.0)	27×18cm
	ZUIKO MC 35mm F2	63°	8—7	AUTO.	2-16	0.3 m (1.0)	21×14cm
	ZUIKO 35mm F2.8	63°	7—6	AUTO.	2.8-16	0.3 m (1.0)	21×14cm
	ZUIKO SHIFT 35mm F2.8	63°(max.83°)	8—7	MANUAL	2.8-22	0.3 m (1.0)	21×14cm
STANDARD	ZUIKO 55mm F1.2	43°	7—6	AUTO.	1.2-16	0.45m (1.5)	23×15cm
	ZUIKO 50mm F1.4	47°	7—6	AUTO.	1.4-16	0.45m (1.5)	24×16cm
	ZUIKO 50mm F1.8	47°	6—5	AUTO.	1.8-16	0.45m (1.5)	24×16cm
	ZUIKO MC MACRO 50mm F3.5	47°	5—4	AUTO.	3.5-22	0.23m (0.8)◎	72×48cm
ZOOM	ZUIKO ZOOM 75-150mm F4	32°-16°	15—11	AUTO.	4-22	1.6 m (5.2)	32×21cm 64×42cm
TELEPHOTO	ZUIKO 85mm F2	29°	6—4	AUTO.	2-16	0.85m (2.8)◎	25×17cm
	ZUIKO 100mm F2.8	24°	5—5	AUTO.	2.8-22	1 m (3.3)	29×19cm
	ZUIKO MC 135mm F2.8	18°	5—5	AUTO.	2.8-22	1.5 m (4.9)	32×21cm
	ZUIKO 135mm F3.5	18°	5—4	AUTO.	3.5-22	1.5 m (4.9)	32×21cm
	ZUIKO MC 200mm F4	12°	5—4	AUTO.	4-32	2.5 m (8.2)	36×24cm
	ZUIKO 200mm F5	12°	6—5	AUTO.	5-32	2.5 m (8.2)	36×24cm
SUPER TELEPHOTO	ZUIKO 300mm F4.5	8°	6—4	AUTO.	4.5-32	3.5 m(11.5)	33×22cm
	ZUIKO 400mm F6.3	6°	5—5	AUTO.	6.3-32	5 m(16.4)	36×24cm
	ZUIKO 600mm F6.5	4°	6—4	AUTO.	6.5-32	11 m(36.1)	55×37cm
	ZUIKO 1000mm F11	2.5°	5—5	AUTO.	11-45	30 m(98.4)	98×65cm
SPECIAL USE	ZUIKO MACRO 20mm F3.5	9° at highest mag.	4—3	MANUAL	3.5-16	W/Auto Bellows & PM-MTob	max. 8× 5mm min. 3× 2mm
	ZUIKO MACRO 38mm F3.5	9° at highest mag.	5—4	MANUAL	3.5-16	W/Auto Bellows & PM-MTob	max. 20×13mm min. 6× 4mm
	ZUIKO 1 : 1MACRO 80mm F4	9° at highest mag.	6—4	MANUAL	4-22	W/Auto Bellows	max. 72×48mm min. 18×12mm

◎Automatic correction mechanism against close distance aberrations.

Compatible: The meter needle gives correct light readings. In the combination marked with *, microprism, split-prism and edges of the finder darken.

Compatible: The meter in the OM-1 and OM-2(on MANUAL)can not be used. On AUTO the OM-2 makes correct exposures, but the meter needle does not indicate correct shutter speeds.

WEIGHT(oz.)	LENGTH	MAX. DIAMETER	HOOD	FILTER	FOCUSING SCREEN												
					1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12	1-13
640g (22.6)	82mm	102mm	—														
180g (6.3)	31mm	59mm	—			*											
250g (8.8)	42mm	62mm	49mm Screw-in	72mm		*											
180g (6.3)	31mm	59mm	49mm Screw-in	49mm		*											
280g (9.9)	48mm	60mm	55mm Screw-in	55mm		*											
180g (6.3)	31mm	59mm	49mm Screw-in	49mm		*											
250g (8.8)	43mm	60mm	49mm Screw-in	49mm		*											
180g (6.3)	31mm	59mm	49mm Screw-in	49mm		*											
240g (8.5)	42mm	60mm	55mm Screw-in	55mm													
180g (6.3)	33mm	59mm	51mm Slide-on	49mm													
310g (10.9)	58mm	68mm	49mm Screw-in	49mm	*	*	*										
310g (10.9)	47mm	65mm	57mm Slide-on	55mm													
230g (8.1)	39mm	60mm	51mm Slide-on	49mm													
170g (6.0)	31mm	59mm	51mm Slide-on	49mm													
200g (7.1)	40mm	60mm	—	49mm													
440g (15.5)	115mm	63mm	Built-in	49mm													
260g (9.2)	46mm	60mm	49mm Screw-in	49mm													
230g (8.1)	48mm	60mm	49mm Screw-in	49mm													
360g (12.7)	80mm	61mm	Built-in	55mm													
290g (10.2)	73mm	60mm	Built-in	49mm													
510g (18.0)	127mm	67mm	Built-in	55mm													
380g (13.4)	105mm	62mm	Built-in	49mm													
1100g (38.8)	181mm	80mm	Built-in	72mm													
1300g (46.0)	255mm	80mm	Built-in	72mm	*		*										*
2800g (98.8)	377mm	110mm	Built-in	100mm	*		*										*
4000g(141.0)	662mm	110mm	Built-in	100mm	*	*	*										*
70g (2.5)	20mm	32mm	—	21mm Slide-on	*	*	*	*						*			*
90g (3.2)	28mm	43mm	—	32mm Slide-on	*	*	*										*
200g (7.1)	46mm	59mm	—	49mm	*	*	*										*

FOR ASTROPHOTOGRAPHY

FOR ENDOSCOPIC PHOTOGRAPHY

FOR CLOSE-UP PHOTOGRAPHY & MACROPHOTOGRAPHY

FOR MACROPHOTOGRAPHY & PHOTOMICROGRAPHY

CHANGE OF BACKGROUND BY ANGLE OF VIEW

16mm (180°)

21mm (92°)

28mm (75°)

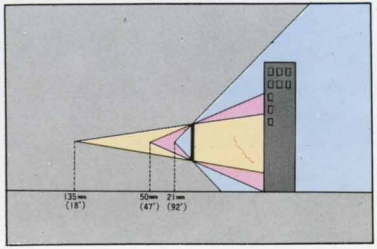
50mm (47°)

100mm (24°)

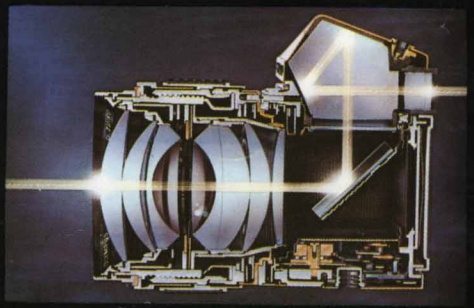
135mm (18°)

200mm (12°)

300mm (8°)



OLYMPUS



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