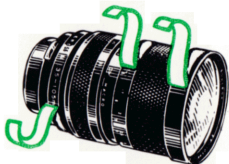


SOLIGOR[®]

C/D Auto Lenses

INSTRUCTION MANUAL



NOTICE: The Soligor C/D "ZOOM & MACRO" lenses have been packaged with protective transparent blue tapes on various parts of the barrel. These tapes must be removed before the lens is put into operation.

FORWARD: The Soligor C/D lens line represents the culmination of many years of research and development. In the quest for faster, smaller, lighter lenses. Soligor engineers have achieved a breakthrough that may not be surpassed for a decade. Soligor C/D lenses are specially coated and every one must pass a rigid series of tests to assure accuracy of performance.

The Soligor "ZOOM & MACRO" lenses are remarkably versatile lenses that allow you a great variety of lens types in one lens. Each lens covers a range of focal lengths – 35-105, 45-150, 70-210, 70-220, 100-300 etc. Each has follow focus zoom, which means that the lens does not need to be refocused as the focal length is changed. This allows rapid changes in picture composition with no change in the camera position. It also offers a great latitude in experimentation. In addition, each lens includes a "Macro" mode, allowing close-up photography.

MULTIPLE COATING AND MODULATION TRANSFER FUNCTION:

An example of our quality control testing methods is the Modulation Transfer Function test.

Modulation transfer function (or MTF) is the newest method of measuring the performance of a lens. It supplements the conventional method of resolution testing, which some experts felt was too dependent on subjective evaluation.

Besides measuring resolving power at the outer limits of the lens range, we measure the actual response values over the full range. With our MTF procedure, the lens is tested under varying conditions – with different angles of field, apertures, focus and light sources of different wavelengths. The test measures how accurately the details of the object are transmitted through the lens.

The results are shown on a graph. The percentage on the graph indicates the degree of accuracy. The

curves give percentages for different distances from the axis of the lens.

Soligor C/D lenses are almost free from optical aberrations caused by extreme light and glare situations. That's because of the advanced computerized multiple-coating techniques used to make all Soligor C/D lenses.

At Soligor, we're convinced our computerized technique of multi-coating is more advanced and far superior to any other multi-coating process. It's not even something we can explain here. Mainly because it's something you have to see in your pictures. They're virtually distortion-free, even in the most extreme light and glare situations. But for you to be as convinced as we are, you're going to have to try a Soligor lens. And once you've personally experienced the results of Soligor's optical excellence, you'll understand why Soligor computer-designed lenses make all other lenses obsolete.

MOUNTING THE LENS ON THE CAMERA:

All Soligor lenses are made to the same critical standards as the “original equipment” lenses of your camera. Follow the camera manufacturer’s instructions in attaching your lens to your camera.

MARKINGS ON YOUR SOLIGOR LENSES:

Every Soligor lens has a number of markings and numbers on the front of the lens barrel. Starting with the front end, you will find numbers that indicate the focal length and the maximum aperture of the lens. For example, 135mm is the focal length and f/2 is the maximum aperture of the diaphragm (opening). Next is the serial number, which if recorded, makes recovery of lost or stolen lenses easier. The final number indicates the filter size or screw-in size for accessories which fit the threaded front of the lens.

DEPTH OF FIELD FIELD:

Follow the camera manufacturer’s instructions on previewing depth of field. Pentax-type thread mount lenses have a preview switch below the Aperture Control Ring. When ‘M’ is visible the diaphragm is closed down for depth of field preview, and when ‘A’ can be seen the lens is set for auto diaphragm operation.

TAKE CARE OF YOUR LENSES:

Lenses are highly polished pieces of optical glass seated in finely engineered mounts—and should be treated with utmost respect to maintain their original image sharpness and clarity.

Never lubricate a lens mount. If it turns stiffly, take it to a Soligor service center. It is good practice to keep a lens set at infinity when not in use. When fitting a lens to your camera, never force it. Take time to seat it properly, preferably holding the camera in a horizontal position.

Protect lenses from dirt and scratches. Before using a lens, use a Soligor blower brush to get off any dust or dirt particles. As for smudges and stray finger marks, clean your lens with Lens Cleaning Fluid and an optical lens tissue.

Never rub a lens vigorously with lens tissue, as such action will in time imprint near-invisible marks on the surface that will eventually result in loss of optical performance.

When a lens is not being used, always keep it safely in its case, with the front and back lens caps in place and avoid storing in extreme temperatures.

***FEATURES:**

- A. Aperture Control Ring
- B. Aperture Scale
- C. Aperture Indicator
- D. Focusing Ring
- E. Distance Scale
- F. Distance and Focal Length Indicator

- G. Screw-in Filter Thread
- H. Zoom Ring
- I. Depth-of-Field Scale
- J. Macro Engaging Button
- K. Adjustable Tripod Socket
- L. Built-in Lens Shade
- M. Macro Focusing Ring

- N. Macro Engaging Button
- O. Macro Adapter Ring
- P. Magnification Scale
- Q. Exposure Compensation Scale

**Features available only where indicated*

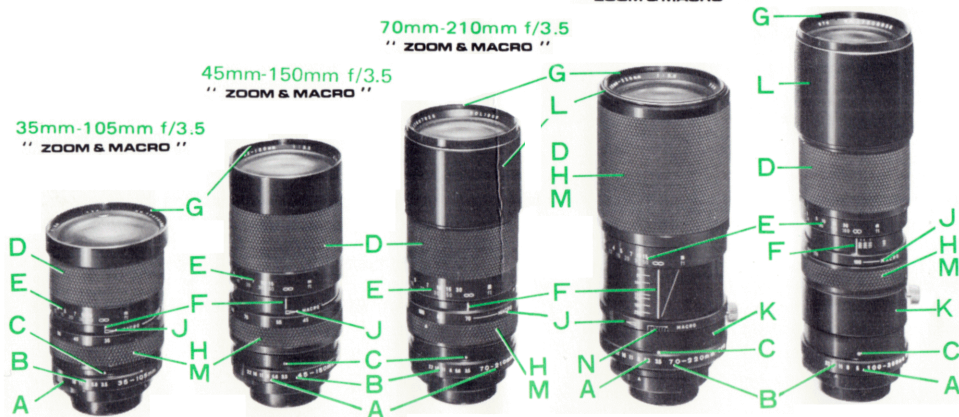
100mm-300mm f/5
" ZOOM & MACRO "

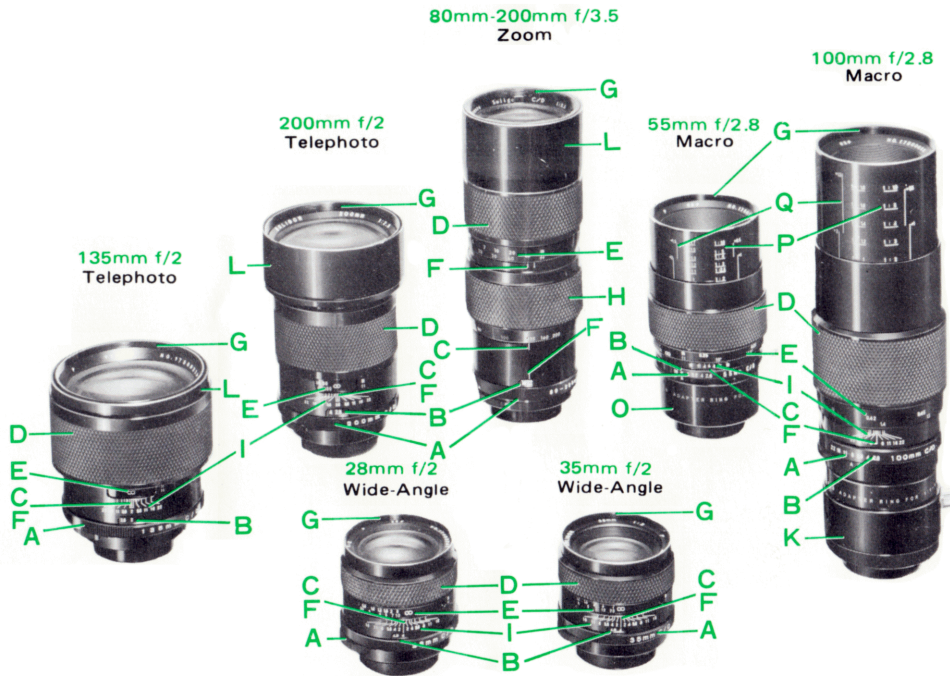
70mm-220mm f/3.5
" ZOOM & MACRO "

70mm-210mm f/3.5
" ZOOM & MACRO "

45mm-150mm f/3.5
" ZOOM & MACRO "

35mm-105mm f/3.5
" ZOOM & MACRO "

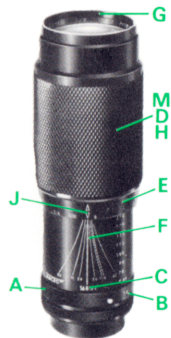




75mm-205mm f/3.5
"ZOOM & MACRO"



78mm-210mm f/3.5
"ZOOM & MACRO"

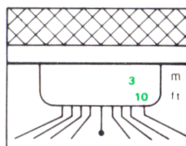
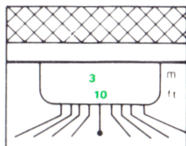
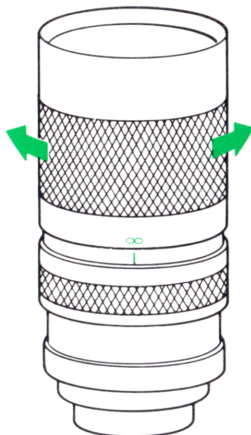
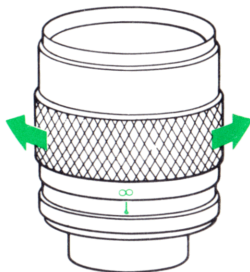


80mm-200mm f/3.5
"ZOOM & MACRO"



100mm-300mm f/5
COMPACT
"ZOOM & MACRO"





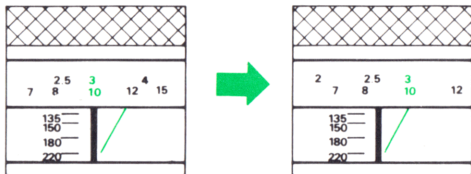
FOCUSING:

To achieve the proper focus rotate the focusing ring until the image you see in the viewfinder is perfectly crisp. With zoom lenses, set the zoom ring at maximum telephoto length before focusing. Once focused you can zoom to different focal lengths without having to re-focus. The image will remain in focus throughout the zoom range.

You may pre-focus the lens to a measured or estimated distance by lining up the Distance Indicator opposite a number on the distance scale (indicated in both feet and meters). The distance indicated is from the film plane to the subject.

INFRARED FOCUSING:

When using Black & White infrared film a compensation must be made due to an unseen focus shift in the infrared spectrum. Focus as you would normally, and check the number indicated by the Distance Indicator (red line on 28, 35, 55, 100, 135, and 200mm lenses) (white line on 70-220, 80-200, and 100-300mm lenses).



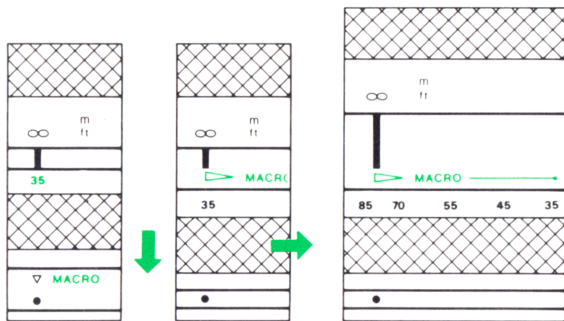
Then move the focusing ring to the right until that number lines up with the red Infra-red Distance Line. No compensation is needed when using Color infrared film.

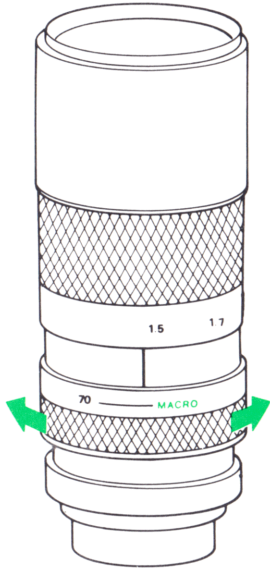
MACRO FOCUSING:

For both the 35mm-105mm and the 45m-150mm:

The uniqueness of the Soligor zoom lens is its Macro mode. Now the capabilities of your telephoto have been enhanced to permit you to take dramatic close-ups of insects, flowers, or wherever your imagination takes you.

To switch into the macro mode, set the zoom ring at the shortest focal length (indicated in yellow). This will align it with the macro engaging indicator. Pull the ring towards the camera body until the macro range indicator is revealed. The zoom ring disengages and becomes the focusing ring while in the macro mode. To return to the zoom mode, realign the yellow number with the macro indicator and push the ring forward.

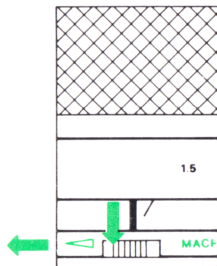
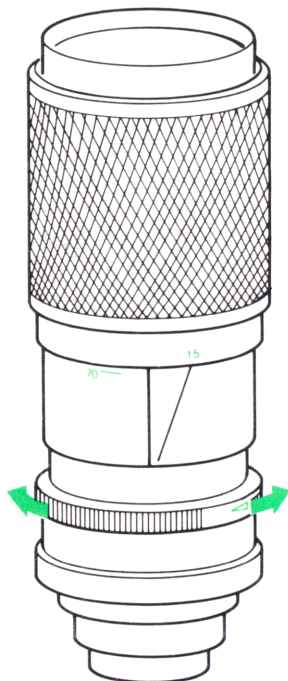




For both the 70mm-210mm and the 100mm-300mm:

To switch into the macro mode, rotate the zoom ring to the left past the click position at its shortest focal length. The focusing ring disengages and the zoom ring becomes the focusing ring within the area indicated in yellow. To return to the zoom mode, rotate the ring back to the other side of the click point.

To focus, move in on the subject until the image in the viewfinder is sharp. Next, turn the Zoom Ring slightly right or left (within the yellow area) for fine adjustment. Closest focus is achieved when the Focusing Ring is turned to the right as far as it will go (barrel is fully extended), and the Zoom Ring is turned to the left as far as it will go.



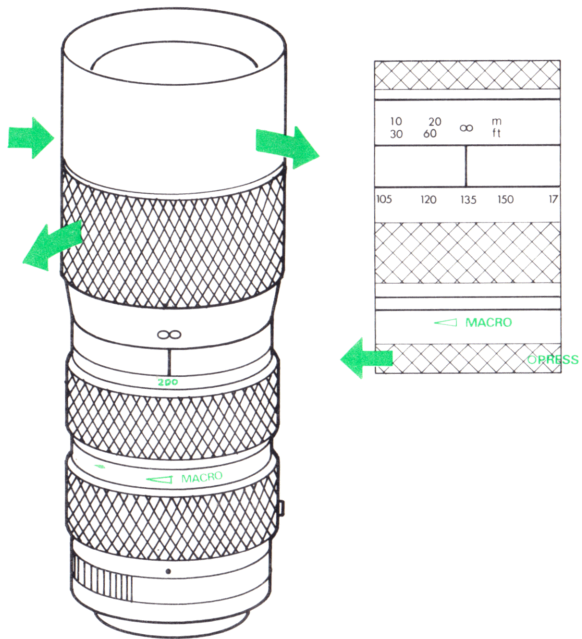
MACRO FOCUSING:

For the 70mm-220mm:

To switch into the macro mode, depress the button on the macro ring and rotate to the left. Focusing is now available by using both the macro ring and the focusing ring. Macro work can be done at all focal lengths of this lens. This allows you great latitude in your approach to your subject.

To focus, move in on the subject until the image in the viewfinder is sharp.

Next, turn the macro ring slightly right or left for fine adjustment. Closest focus (2.5cm) and greatest magnification (0.7 times life-size) is achieved when the macro ring is turned left as far as it will go, and the zoom ring is slid all the way forward (70mm) and turned all the way to the right (past 1.5m on the distance scale). As the zoom ring is slid back towards 220 you can move farther away from the subject.

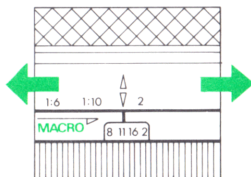
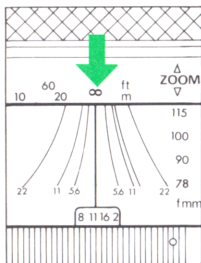
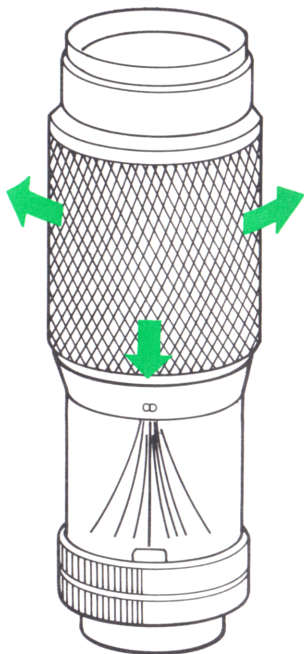


MACRO FOCUSING:

For the 80-200mm MC **ZOOM & MACRO** press the small button on the macro focusing ring and turn that ring fully to the left, in the direction of the arrow marked on the ring. The zoom ring should now be turned fully to the right until the ring is on the 80mm mark. Focus should be made by the focusing ring. By moving backwards and forwards and varying the zoom ring, different degrees of magnification can be obtained.

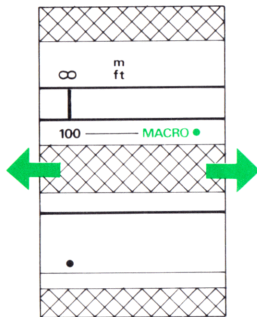
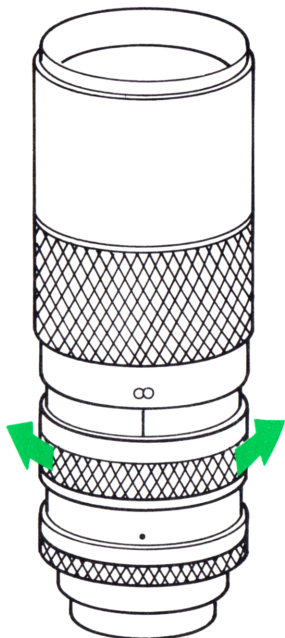


For the 75-205 MC **ZOOM & MACRO**, turn the macro ring until the yellow line moves from “normal” to macro position. Focusing can be made merely by rotating the zoom ring to the appropriate position.



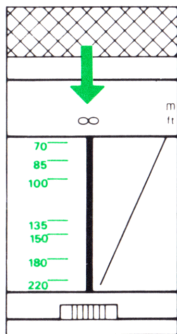
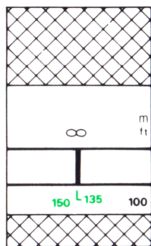
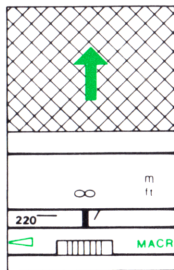
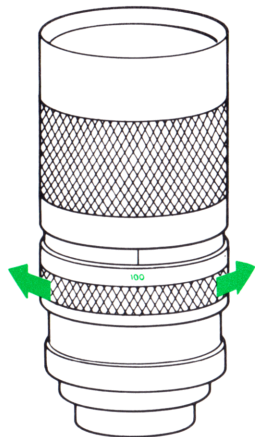
MACRO FOCUSING:

For the 78-210mm multicoated **ZOOM & MACRO** lens, the zoom/focus ring should be moved down the lens barrel towards the camera body. By rotating this zoom/focus ring the yellow arrow marked on it should now be lined up with the white line running down the centre of the lens barrel. When this has been done, further pressure on the lens barrel, toward the camera body, will snap the lens into the macro position. The same zoom/focus ring may now be turned left or right to give focus in the macro mode. Reverse the above operation to return the lens to its normal position for standard photography.



MACRO FOCUSING:

For the 100-300mm compact **ZOOM & MACRO** lens all macro functions are performed by the macro focusing ring. Macro focus is done by turning the macro focusing ring either clockwise or counterclockwise and then varying the distance between the camera lens and the subject to be photographed.

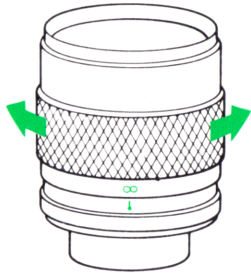


ZOOMING:

On all but the 70mm-220mm lens the zoom ring rotates to the left and the right. The focal length increases as you turn to the right and decreases as you turn to the left. To find the composition you want, look through the viewfinder while rotating the ring. The white index line will indicate which focal length you have chosen. If you desire a particular focal length you can preset it by aligning the middle of the desired number with the white index line. (On the 45-150mm the 135mm position is at the top of the 'L'.) Once focused, the lens remains focused throughout the zoom range. This affords a wonderful opportunity for experimentation. You might, for instance, choose a very slow shutter speed and zoom from your shortest to your longest focal length during the exposure.

The 70-220mm zoom operates by moving the focusing ring forward and backward on the barrel. Wherever the bottom of the ring falls on the focal length scale indicates the focal length chosen.

55 & 100 MM MACRO LENSES:



Both the 55mm and 100mm Macro lenses have been designed to provide extra sharp edge-to-edge performance required in macro photography up to life size (1:1) image reproduction. Without the macro adapter ring attached the lenses perform superbly as a standard (55mm) or telephoto (100mm) optic with a magnification ratio from smaller than 1:10 (1/10 size) up to 1:2 (1/2 size).

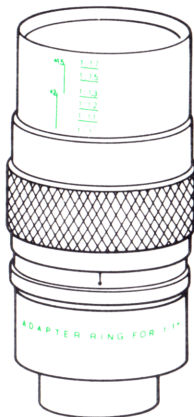
With the adapter attached, magnification from 1:2 to 1:1 is possible. For macro photography it is suggested that you mount the camera on a tripod and use a cable release to trigger the shutter. This will eliminate possible blur caused by hand shake or other camera movement.

Without the Macro Adapter Ring:

Focus as you would normally. Both distance and depth-of-field can be read from the respective scales. For added convenience a magnification scale (1:10 to 1:2) is marked in white on the extended barrel.

MACRO REPRO. SCALE

MAGNIFICATION RATIO	SUBJECT SIZE (mm)
1:1	36.3 x 24.5
1:1.1	39.9 x 27.0
1:1.2	43.6 x 29.4
1:1.3	47.2 x 31.9
1:1.4	50.8 x 34.3
1:1.5	54.5 x 36.8
1:1.6	58.1 x 39.2
1:1.7	61.7 x 41.7
1:1.8	65.3 x 44.1
1:2	72.6 x 49.0
1:2.5	90.8 x 61.3
1:3	109.9 x 73.5
1:4	145.2 x 98.0
1:5	181.5 x 122.5
1:10	363.0 x 243.0



When using the macro lens with a camera not having a built-in thru-the-lens (TTL) exposure meter or when using a flash as the main light source, exposure compensation must be made. This is also marked in white (+0.5 or +1) on the barrel. For example: barrel is fully extended and lens is focused at 0.25m—the magnification is 1:2 and the aperture must be increased one (+1) stop. For instance if a hand held meter shows f8 at 1/125 second, then either set the aperture scale to f5.6 & shutter to 1/125 sec., or f8 at 1/60 sec.

With Macro Adapter Ring attached:

Focus as you would normally. Distance and depth-of-field scales cannot be used. When the macro adapter ring is attached, the green magnification scale (1:1.7 or 1:1.8 to 1:1) is used. At 1:1 the image on the film is the same size as the subject. When using a non-TTL camera, or flash as the main light source perform exposure compensation as explained above but use green scale (+1.5 or +2).

C/D AUTO LENSES

"ZOOM & MACRO"



35mm-105mm f/3.5

Type: Soligor C/D "ZOOM & MACRO"
 Construction: 13 elements, 11 groups
 Angle of View: 63-23 degrees
 Min. Focus Distance:
 Telephoto—1.5m; Macro—29cm
 Magnification Ratio:
 At Macro Setting—1:5
 At Telephoto Setting—0.7x-2.1x
 Aperture Range: f/3.5-f/16
 Filter Size: 72mm
 Length at ∞ : 99.5mm Wt.: 700g
 Diaphragm: Fully Automatic
 Multicoated

45mm-150mm f/3.5

Type: Soligor C/D "ZOOM & MACRO"
 Construction: 13 elements, 11 groups
 Angle of View: 51-16 degrees
 Min. Focus Distance:
 Telephoto—1.5m; Macro—39cm.
 Magnification Ratio:
 At Macro Setting—1:5
 At Telephoto Setting—0.9x-3.0x
 Aperture Range: f/3.5-f/22
 Filter Size: 67mm
 Length at ∞ : 140mm Wt.: 900g
 Diaphragm: Fully Automatic
 Multicoated

70mm-210mm f/3.5

type: Soligor C/D "ZOOM & MACRO"
 Construction: 12 elements, 9 groups
 Angle of View: 34-11 degrees
 Min. Focus Distance:
 Telephoto—1.5m; Macro—38cm
 Magnification Ratio:
 At Macro Setting—1:4
 At Telephoto Setting—1.4x-4.2x
 Aperture Range: f/3.5-f/22
 Filter Size: 67mm
 Length at ∞ : 165mm Wt.: 1,020g
 Diaphragm: Fully Automatic
 Multicoated

70mm-220mm f/3.5

Type: Soligor C/D "ZOOM & MACRO"
 Construction: 15 elements, 12 groups
 Angle of View: 34-11 degrees
 Min. Focus Distance:
 Telephoto—1.5m; Macro—25.7cm
 Magnification Ratio:
 At Macro Setting—1:1.45
 At Telephoto Setting—1.4x-4.4x
 Aperture Range: f/3.5-f/22
 Filter Size: 72mm
 Length at ∞ : 184.5mm Wt.: 1,300g
 Diaphragm: Fully Automatic
 Multicoated

100mm-300mm f/5

Type: Soligor C/D "ZOOM & MACRO"
 Construction: 12 elements, 9 groups
 Angle of View: 24-8 degrees
 Min. Focus Distance:
 Telephoto—2.0m; Macro—71cm
 Magnification Ratio:
 At Macro Setting—1:5
 At Telephoto Setting—2.0x-6.0x
 Aperture Range: f/5-f/22
 Filter Size: 67mm
 Length at ∞ : 217mm Wt.: 1,200g
 Diaphragm: Fully Automatic
 Multicoated

WIDE-ANGLE TELEPHOTO



28mm f/2

Type: Soligor C/D Wide-Angle
Construction: 8 elements, 7 groups
Angle of View: 74 degrees
Min. Focus Distance: 23cm
Magnification: 0.56x
Aperture Range: f/2-f/16
Filter Size: 58mm
Length at ∞ : 56mm
Weight: 330g
Diaphragm: Fully Automatic
Multicoated

35mm f/2

Type: Soligor C/D Wide-Angle
Construction: 8 elements, 7 groups
Angle of View: 62 degrees
Min. Focus Distance: 30cm
Magnification: 0.7x
Aperture Range: f/2-f/16
Filter Size: 58mm
Length at ∞ : 51mm
Weight: 270g
Diaphragm: Fully Automatic
Multicoated

135mm f/2

Type: Soligor C/D Telephoto
Construction: 6 elements, 5 groups
Angle of View: 18 degrees
Min. Focus Distance: 1.8m
Magnification: 2.7x
Aperture Range: f/2-f/22
Filter Size: 77mm
Length at ∞ : 91mm
Weight: 740g
Diaphragm: Fully Automatic
Multicoated

200mm f/2.8

Type: Soligor C/D Telephoto
Construction: 6 elements, 4 groups
Angle of View: 12 degrees
Min. Focus Distance: 2.2m
Magnification: 4.0x
Aperture Range: f/2.8-f/22
Filter Size: 77mm
Length at ∞ : 124mm
Weight: 520g
Diaphragm: Fully Automatic
Multicoated

55mm f/2.8

Type: Soligor C/D Macro
Construction: 5 elements, 4 groups
Angle of View: 41 degrees
Min. Focus Distance:
Normal—25cm; Macro—22cm
Magnification Ratio:
At Macro Setting—1:2-1:1
At Normal Setting—1:1x
Aperture Range: f/2.8-f/16
Filter Size: 67mm
Length at ∞ : 68.5mm* Wt.: 480g
Diaphragm: Fully Automatic
Mixed Coated

100mm f/2.8

Type: Soligor C/D Macro
Construction: 6 elements, 4 groups
Angle of View: 24 degrees
Min. Focus Distance:
Telephoto—42cm; Macro—38.5cm
Magnification Ratio:
At Macro Setting—1:2-1:1
At Telephoto Setting—2x
Aperture Range: f/2.8-f/22
Filter Size: 67mm
Length at ∞ : 132mm* Wt.: 770g
Diaphragm: Fully Automatic
Mixed Coated

* Without adapter

ZOOM & MACRO



80mm-200mm f/3.5

Type: Soligor C/D Zoom
Construction: 12 elements, 8 groups
Angle of View: 29-12 degrees
Min. Focus Distance: 2m
Magnification: 1.6-4.0x
Aperture Range: f/3.5-f/22
Filter Size: 62mm
Length at ∞ : 182.6mm
Weight: 860g
Diaphragm: Fully Automatic
Multicoated

"THE
SOLIGOR
PEOPLE"



ANOTHER QUALITY PRODUCT OF
SOLIGOR CORP.