

Panasonic®

Owner's Manual INTERCHANGEABLE LENS FOR DIGITAL CAMERA

Model No. **H-X012**

LUMIX



Please read these instructions carefully before using this product, and save this manual for future use.



HD

LEICA
DG SUMMILUX



If you have any questions, visit:

USA : <http://shop.panasonic.com/support>

Canada : www.panasonic.ca/english/support

Register online at <http://shop.panasonic.com/support> (U.S. customers only)

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THE FOLLOWING APPLIES ONLY IN CANADA.

CAN ICES-3(B)/NMB-3(B)

Information for Your Safety

Keep the unit as far away as possible from electromagnetic equipment (such as microwave ovens, TVs, video games, radio transmitters, high-voltage lines etc.).

- Do not use the camera near cell phones because doing so may result in noise adversely affecting the pictures and sound.
- If the camera is adversely affected by electromagnetic equipment and stops functioning properly, turn the camera off and remove the battery and/or the connected AC adaptor. Then reinsert the battery and/or reconnect the AC adaptor and turn the camera on.

The lens can be used with a digital camera compatible with the lens mount standard for the "Micro Four Thirds™ System".

- It cannot be mounted on the Four Thirds™ mount specification camera.
- The appearance and specifications of products described in this manual may differ from the actual products you have purchased due to later enhancements.
- Micro Four Thirds™ and Micro Four Thirds Logo marks are trademarks or registered trademarks of Olympus Imaging Corporation, in Japan, the United States, the European Union and other countries.
- Four Thirds™ and Four Thirds Logo marks are trademarks or registered trademarks of Olympus Imaging Corporation, in Japan, the United States, the European Union and other countries.

- G MICRO SYSTEM is an interchangeable lens type digital camera system of LUMIX based on a Micro Four Thirds System standard.
- LEICA is a registered trademark of Leica Microsystems IR GmbH. SUMMILUX is a registered trademark of Leica Camera AG. The LEICA DG lenses are manufactured using measurement instruments and quality assurance systems that have been certified by Leica Camera AG based on the company's quality standards.
- Other names of systems and products mentioned in these instructions are usually the registered trademarks or trademarks of the manufacturers who developed the system or product concerned.

THE FOLLOWING APPLIES ONLY IN THE U.S.A.**FCC Note:**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:

Panasonic Corporation of North America
Two Riverfront Plaza, Newark, NJ 07102-5490

Support Contact:

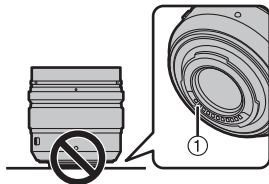
<http://shop.panasonic.com/support>

Precautions

■ Lens Care

- This lens has a dust-proof and splash-proof construction. When using it, please be careful of the following. If the lens is not working properly, consult the dealer or your nearest Service Center.
 - Please attach the lens to a dust-proof and splash-proof digital camera.
 - When detaching the lens from the digital camera, take care to ensure that sand, dust, splashes of water etc., do not get into the lens or the terminals.
 - This lens is not waterproof and cannot be used to record underwater. For splash-proofing, the lens is constructed to resist the entry of water. If splashes of water etc. do adhere to the lens, wipe after use with a soft dry cloth.
- To improve the dust-proofing and splash-proofing of this lens, a lens mount rubber is used in the mounting portion. After changing the lens a number of times, you may find that the lens mount rubber has marked the mount portion of the digital camera body, which does not affect its performance. For information on changing the lens mount rubber, contact your nearest Service Center.
- Do not press the lens with excessive force.
- To prevent dust and other particles from accumulating on or entering the lens, attach the lens rear cap when the lens is not in use.

- To protect the lens contact points ①, do not place the lens with its mount surface facing down. In addition, do not allow the lens contact points to become dirty.

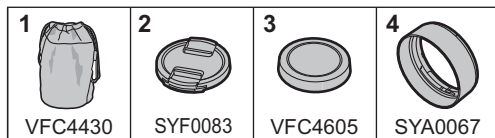


■ About Condensation (Fogging of the Lens)

- Condensation occurs when there are differences in temperature and humidity as described below. Condensation can cause the lens to become dirty and lead to mold and malfunctioning, so exercise caution in the following situations:
 - When the camera is brought indoors from outside during cold weather
 - When the camera is brought into an air-conditioned car
 - When cold air from an air conditioner is directly blown onto the lens
 - In humid places
- If condensation occurs, turn the power off and leave it for about two hours. Once the camera acclimatizes to the surrounding temperature the condensation will go away naturally.

Supplied Accessories

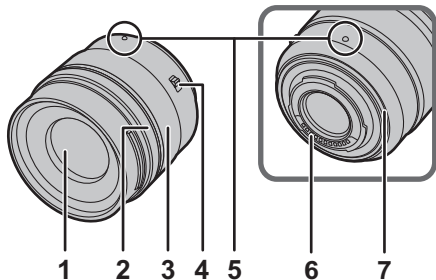
Product numbers correct as of June 2016. These may be subject to change.



- 1 Lens Pouch
- 2 Lens Cap
- 3 Lens Rear Cap
- 4 Lens Hood

- The lens rear cap and lens cap are attached to the interchangeable lens at the time of purchase.

Names and Functions of Components



1 Lens surface

2 Aperture ring

Rotate this to adjust the aperture value.

- If you set the camera to Aperture-Priority AE Mode or Manual Exposure Mode, the aperture value of the ring will be enabled.
- If you set the position of the aperture ring to [A], the aperture value of the camera will be enabled.

3 Focus ring

Rotate to focus when taking pictures with manual focus (MF).

4 [AF/MF] switch

This allows you to switch between Auto Focus (AF) and Manual Focus (MF).

- When either the [AF/MF] switch of the lens or the setting of the camera is set to [MF], Manual Focus (MF) is enabled.

5 Lens fitting mark

6 Contact points

7 Lens mount rubber

Note

- When you take pictures with the camera's flash, the periphery of the screen may appear dark. In that case, we recommend using an external flash.
- In very quiet situations Auto Focus operating sounds may be recorded during motion picture recording. This is not a malfunction. In such situations, switching to Manual Focus will improve the situation.
- The aperture can be adjusted with the aperture ring only when a Panasonic digital camera is attached to the lens. (As of June 2016)

Attaching/Detaching the Lens

For information on how to attach and remove the lens, refer to the owner's manual for your digital camera.

- Before attaching or detaching the lens, check that the digital camera is turned off.
- Before attaching the lens to the digital camera, remove the lens rear cap by rotating it in the direction of the arrow.
- To prevent dust and other particles from accumulating on or entering the lens, be sure to attach the lens cap/ lens rear cap after detaching the lens from the digital camera.



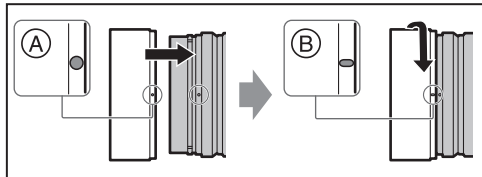
■ Attaching Filters

- Vignetting may occur if using 2 or more filters at the same time.
- It is possible to attach the lens cap with the filter already attached.
- When using the lens hood and a filter at the same time, attach the filter first.
- You cannot attach a conversion lens or adaptor to this lens. A filter may be used, but attaching any other element may cause damage to the lens.

Using the Lens Hoods

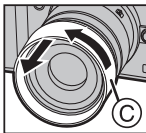
■ Attaching the Lens Hood (Supplied Accessory)

- 1 Align the mark **(A)** (●) on the lens hood with the mark on the tip of the lens.
- 2 Rotate the lens hood in the direction of the arrow until it clicks and then align the mark **(B)** (◌) on the lens hood with the mark on the tip of the lens.



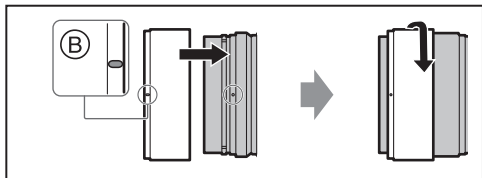
■ Temporarily Storing the Lens Hood

- 1 Rotate the lens hood **(C)** in the direction of the arrow and then remove.



- 2 Align the mark **(B)** (◌) on the lens hood with the mark on the tip of the lens.

- 3 Rotate the lens hood in the direction of the arrow until it clicks into place.



Note

- If you use a lens hood and the flash at the same time, the lens hood will block the light from the flash, causing the lower portion of the screen to darken (vignetting) and making it impossible to adjust the amount of light. We recommend not using the lens hoods and flash at the same time.

Cautions for Use

Take care not to drop or knock the lens. Also take care not to put a lot of pressure on the lens.

- Take care not to drop the bag that you inserted the lens in as it may strongly shock the lens. The camera may stop operating normally and pictures may no longer be recorded. Also, the lens may be damaged.
- When carrying the digital camera with the lens attached, hold both the digital camera and the lens.

When using pesticides and other volatile substances around the camera make sure that they do not get onto the lens.

- If such substances get onto the lens they can damage the exterior case or cause the paint to peel.

Do not point the lens at the sun or other strong light sources.

- This could cause the lens to collect an excessive amount of light, resulting in fire and malfunction.
- Under no circumstances should the unit be stored in any of the following locations since doing so may cause problems in operation or malfunctioning.
 - In direct sunlight or on a beach in summer
 - In locations with high temperatures and humidity levels or where the changes in temperature and humidity are acute
 - In locations with high concentrations of sand, dust or dirt
 - Where there is fire
 - Near heaters, air conditioners or humidifiers
 - Where water may make the unit wet
 - Where there is vibration
 - Inside a vehicle

- Refer also to the owner's manual of the digital camera.
- When the unit is not going to be used for a prolonged period, we recommend storing with a desiccant (silica gel). Failure to do so may result in performance failure caused by mold, etc. It is recommended that you check the unit's operation prior to use.
- Do not leave the lens in contact with rubber or plastic products for extended periods of time.
- Do not touch the lens contact point. Doing so can cause failure of the unit.
- Do not disassemble or alter the unit.

Do not use benzine, thinner, alcohol or other similar cleaning agents to clean the lens glass or exterior cabinet.

- Using solvents can damage the lens or cause the paint to peel.
- Wipe off any dust or fingerprints with a soft, dry cloth.
- If dust or dirt accumulates on the lens mount rubber, focus ring, or aperture ring, wipe it off with a dry dust-free cloth.
- Do not use a household detergent or a chemically treated cloth.

Troubleshooting

A sound is heard when the camera is turned on or off. When I take pictures of a bright subject, such as a subject outside, or when I take pictures with a large aperture value, the lens makes a sound.

- This is the sound of lens or aperture movement and is not a malfunction.

Specifications

Specifications are subject to change without notice.

INTERCHANGEABLE LENS FOR DIGITAL CAMERA

“LEICA DG SUMMILUX 12 mm/F1.4 ASPH.”

Focal length	f=12 mm (35 mm film camera equivalent: 24 mm)
Aperture type	9 diaphragm blades/circular aperture diaphragm
Maximum aperture	F1.4
Minimum aperture value	F16
Lens construction	15 elements in 12 groups (2 aspherical lenses, 1 ED lens, 2 UED lenses)
In focus distance	0.2 m (0.66 feet) to ∞ [from the focus distance reference line]
Maximum image magnification	0.1 \times (35 mm film camera equivalent: 0.2 \times)
Optical image stabilizer	Not available
[AF/MF] switch	Available (Switching AF/MF)
Mount	“Micro Four Thirds Mount”
Angle of view	84°
Filter diameter	62 mm
Max. diameter	Approx. 70.0 mm (2.8 inch)
Overall length	Approx. 70.0 mm (2.8 inch) (from the tip of the lens to the base side of the lens mount)
Mass (Weight)	Approx. 335 g (0.74lb)
Dust-proof and splash-proof	Available

Limited Warranty

ONLY FOR U.S.A.

Panasonic Products Limited Warranty

Limited Warranty Coverage (For USA Only)

If your product does not work properly because of a defect in materials or workmanship, Panasonic Corporation of North America (referred to as “the warrantor”) will, for the length of the period indicated on the chart below, which starts with the date of original purchase (“warranty period”), at its option either (a) repair your product with new or refurbished parts, (b) replace it with a new or a refurbished equivalent value product, or (c) refund your purchase price. The decision to repair, replace or refund will be made by the warrantor.

Product or part name	Parts	Labor
Interchangeable Lens for Digital Camera	1 Year	1 Year
All included Accessories (Except Non-Rechargeable Batteries)	90 Days	Not Applicable
Only Non-Rechargeable Batteries	10 Days	Not Applicable

During the “Labor” warranty period there will be no charge for labor. During the “Parts” warranty period, there will be no charge for parts. This Limited Warranty excludes both parts and labor for non-rechargeable batteries, antennas, and cosmetic parts (cabinet). This warranty only applies to products purchased and serviced in the United States. This warranty is extended only to the original purchaser of a new product which was not sold “as is”.

Mail-In Service--Online Repair Request

Online Repair Request

To submit a new repair request and for quick repair status visit our Web Site at <http://shop.panasonic.com/support>.

When shipping the unit, carefully pack, include all supplied accessories listed in the Owner's Manual, and send it prepaid, adequately insured and packed well in a carton box. When shipping Lithium Ion batteries please visit our Web Site at <http://shop.panasonic.com/support> as Panasonic is committed to providing the most up to date information. Include a letter detailing the complaint, a return address and provide a daytime phone number where you can be reached. A valid registered receipt is required under the Limited Warranty.

IF REPAIR IS NEEDED DURING THE WARRANTY PERIOD, THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/PROOF OF PURCHASE INDICATING DATE OF PURCHASE, AMOUNT PAID AND PLACE OF PURCHASE. CUSTOMER WILL BE CHARGED FOR THE REPAIR OF ANY UNIT RECEIVED WITHOUT SUCH PROOF OF PURCHASE.

Limited Warranty Limits and Exclusions

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a Factory Service Center or other Authorized Servicer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY.

(As examples, this excludes damages for lost time, travel to and from the servicer, loss of or damage to media or images, data or other memory or recorded content. The items listed are not exclusive, but for illustration only.)

ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Service Center. If the problem is not handled to your satisfaction, then write to:

Consumer Affairs Department
Panasonic Corporation of North America
661 Independence Pkwy
Chesapeake, VA 23320

PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.

Shop Accessories!

for all your Panasonic gear

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<http://shop.panasonic.com/support>

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Accessories & Parts for your Camera, Phone, A/V
products, TV, Computers & Networking, Personal
Care, Home Appliances, Headphones, Batteries,
Backup Chargers & more...

Customer Services Directory

For Product Information, Operating Assistance,
Parts, Owner's Manuals, Dealer and Service info

go to <http://shop.panasonic.com/support>

For the hearing or speech impaired TTY: 1- 877-833-8855

As of July 2015

ONLY FOR CANADA

Panasonic Canada Inc.

5770 Ambler Drive, Mississauga, Ontario L4W 2T3

PANASONIC PRODUCT – LIMITED WARRANTY

Panasonic Canada Inc. warrants this product to be free from defects in material and workmanship under normal use and for a period as stated below from the date of original purchase agrees to, at its option either (a) repair your product with new or refurbished parts, (b) replace it with a new or a refurbished equivalent value product, or (c) refund your purchase price. The decision to repair, replace or refund will be made by Panasonic Canada Inc.

Interchangeable Lens for Digital Camera	One (1) year, parts and labour
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This warranty is given only to the original purchaser, or the person for whom it was purchased as a gift, of a Panasonic brand product mentioned above sold by an authorized Panasonic dealer in Canada and purchased and used in Canada, which product was not sold "as is", and which product was delivered to you in new condition in the original packaging.

IN ORDER TO BE ELIGIBLE TO RECEIVE WARRANTY SERVICE HEREUNDER, A PURCHASE RECEIPT OR OTHER PROOF OF DATE OF ORIGINAL PURCHASE, SHOWING AMOUNT PAID AND PLACE OF PURCHASE IS REQUIRED

LIMITATIONS AND EXCLUSIONS

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by Panasonic Canada Inc., or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer

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controls, improper maintenance, improper batteries, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a Authorized Servicer, or damage that is attributable to acts of God.

Dry cell batteries, printer ink cartridge and paper are also excluded from coverage under this warranty.

Rechargeable batteries are warranted for ninety (90) days from date of original purchase.

THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL PANASONIC CANADA INC. BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT OR ARISING OUT OF ANY BREACH OF ANY EXPRESS OR IMPLIED WARRANTY.

(As examples, this warranty excludes damages for lost time, travel to and from the Authorized Servicer, loss of or damage to media or images, data or other memory or recorded content. This list of items is not exhaustive, but for illustration only.)

In certain instances, some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or the exclusion of implied warranties, so the above limitations and exclusions may not be applicable. This warranty gives you specific legal rights and you may have other rights which vary depending on your province or territory.

WARRANTY SERVICE

For product operation, repairs and information assistance, please visit our Support page:

www.panasonic.ca/english/support

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LO SIGUIENTE SÓLO INTERESA A CANADÁ.

CAN ICES-3(B)/NMB-3(B)

Información para su seguridad

Mantenga la unidad lo más lejos que sea posible de equipos electromagnéticos (como hornos de microondas, televisores, video juegos, trasmisores radio, líneas de alto voltaje, etc.).

- No utilice la cámara cerca de teléfonos móviles, ya que lo de hacerlo puede producir ruido que afectará negativamente a las imágenes y el sonido.
- Si la cámara queda afectada negativamente por un equipo electromagnético y deja de funcionar correctamente, apague la cámara y quite la batería y/o el adaptador de CA conectado. Luego vuelva a insertar la batería y/o vuelva a conectar el adaptador de CA y encienda la cámara.

El objetivo puede usarse con una cámara digital compatible con el estándar de montaje de objetivos del "Micro Four Thirds™ System".

- No se puede montar en una cámara con estándar de soporte Four Thirds™.
- E aspecto y las especificaciones de los productos descritos en este manual pueden diferir de los productos reales que usted ha comprado debido a aumentos sucesivos.

- El logotipo Micro Four Thirds™ y Micro Four Thirds son marcas comerciales o marcas comerciales registradas de Olympus Imaging Corporation, en Japón, Estados Unidos, la Unión Europea y otros países.
- El logotipo Four Thirds™ y Four Thirds son marcas comerciales o marcas comerciales registradas de Olympus Imaging Corporation, en Japón, Estados Unidos, la Unión Europea y otros países.
- G MICRO SYSTEM es un sistema de cámara digital con objetivo intercambiable de LUMIX basado en el estándar Micro Four Thirds System.
- LEICA es una marca registrada de Leica Microsystems IR GmbH. SUMMILUX es una marca registrada de Leica Camera AG. Los objetivos LEICA DG se fabrican usando instrumentos de medida y sistemas de garantía de calidad certificados por Leica Camera AG en base a los estándares de calidad de la compañía.
- Los nombres de los sistemas y productos que se mencionan en estas instrucciones generalmente son marcas comerciales registradas o marcas comerciales de los fabricantes que desarrollaron el sistema o producto en cuestión.

LO SIGUIENTE SÓLO SE APLICA EN LOS EE. UU.

Notas FCC:

Se ensayó este equipo y se comprobó que está de conformidad con los límites de un dispositivo digital de la clase B, de acuerdo con la Parte 15 de las Reglas FCC.

Estos límites se han ideado para proporcionar una razonable protección contra las interferencias dañinas en una instalación residencial. Este equipo genera, utiliza y puede radiar energía de frecuencia radio y, por si no se instala y se utiliza de acuerdo con las instrucciones, puede ocasionar interferencia dañina a las comunicaciones radio. Aunque no hay garantía de que no pueda tener lugar interferencia en especiales instalaciones. Si este equipo causa interferencia a la recepción de radio o televisión que pueden determinarse apagando y encendiendo el equipo, se anima al usuario intentar corregir la interferencia tomando una de las medidas a continuación:

- Vuelva a orientar o a colocar la antena receptora.
- Aumente la separación entre el equipo y el receptor.
- Conecte el equipo a una toma de un circuito diferente del que está conectado el receptor.
- Llame al concesionario o un técnico experto de radio y televisión para ayuda.

Todo cambio o modificación a este equipo sin autorizar invalidará el título del usuario para hacer funcionar este dispositivo.

Este dispositivo cumple con la Parte 15 de las Reglas FCC. El funcionamiento está sujeto a las dos condiciones a continuación: (1) Este dispositivo podría no causar interferencia dañina y (2) este dispositivo tiene que aceptar toda la interferencia recibida, incluyendo la que puede causar un funcionamiento no deseado.

Parte responsable:

Panasonic Corporation of North America
Two Riverfront Plaza, Newark, NJ 07102-5490

Contacto para atención:

<http://shop.panasonic.com/support>

Prevención contra las averías

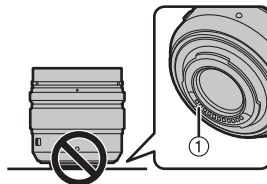
■ Atención del objetivo

- Esta lente tiene una construcción con resistencia al polvo y las salpicaduras. Al usarla, tenga cuidado con lo siguiente.

Si la lente no está funcionando correctamente, consulte a su distribuidor o a su centro de servicio más cercano.

- Coloque la lente en una cámara digital con resistencia al polvo y las salpicaduras.
 - Al retirar la lente de la cámara digital, tenga cuidado y asegúrese de que la arena, polvo, salpicaduras de agua, etc. no entren en la lente o los terminales.
 - Esta lente no es impermeable y no se puede usar para grabar abajo del agua. Para la resistencia a salpicaduras, la lente está construida para resistir la entrada de agua. Si las salpicaduras de agua, etc. no se adhieren a la lente, límpiela después de usarla con un paño suave y seco.
- Para mejorar la función de resistencia al polvo y la salpicadura de esta lente, se usa una goma de montaje de la lente en la parte de montaje. Luego de cambiar la lente varias veces, puede encontrar que la goma de montaje de la lente haya marcado la parte de montaje del cuerpo de la cámara digital, lo que no afecta su rendimiento. Para obtener información sobre cómo cambiar la goma de montaje de la lente, comuníquese con el centro de servicio más cercano.
 - No ejerce demasiada presión en el objetivo.

- Para evitar que se introduzcan o acumulen polvo y otras partículas en la lente, instale la tapa trasera de esta cuando no la utilice.
- Para proteger los puntos de contacto de la lente ①, no la coloque con la superficie de montaje orientada hacia abajo. Evite además que los puntos de contacto de la lente se ensucien.







■ Acerca de la condensación (Empañamiento del objetivo)

- La condensación ocurre cuando se encuentra una diferencia en la temperatura y humedad como se describe abajo. La condensación puede hacer ensuciar el objetivo y producir hongos y un funcionamiento defectuoso, por lo tanto ponga cuidado en las situaciones a continuación:
 - Cuando lleva la cámara en casa desde el aire libre durante un tiempo frío
 - Cuando lleva la cámara dentro de un coche con aire acondicionado
 - Cuando sopla en el objetivo aire frío desde un acondicionador de aire
 - En lugares húmedos
- Si ocurre condensación, apague la alimentación y la deje así durante dos horas. Una vez de que la cámara se haya aclimatado a la temperatura ambiente en empañamiento desaparece naturalmente.

Accesorios suministrados

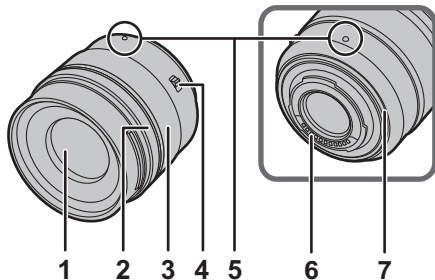
Números de productos correctos a partir de junio de 2016. Pueden estar sujetos a cambio.

1  VFC4430	2  SYF0083	3  VFC4605	4  SYA0067
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- 1 Estuche de la lente
- 2 Tapa del objetivo
- 3 Tapa trasera del objetivo
- 4 Visera del objetivo

- La tapa trasera del objetivo y la tapa del objetivo intercambiable al momento de la compra.

Nombres y funciones de los componentes



1 Superficie del objetivo

2 Anillo de apertura

Gire el anillo para ajustar el valor de apertura.

- Si ajusta la cámara al modo AE con prioridad a la abertura o al modo de exposición manual, se habilitará el valor de apertura del anillo.
- Si ajusta la posición del anillo de apertura a [A], se habilitará el valor de apertura de la cámara.

3 Anillo del enfoque

Gire para enfocar cuando tome fotografías con el enfoque manual (MF).

4 Interruptor [AF/MF]

Esto le permite cambiar entre el enfoque automático (AF) y el enfoque manual (MF).

- Cuando el interruptor [AF/MF] del objetivo o de la configuración de la cámara se establece a [MF], se habilita el enfoque manual (MF).

5 Marca para ajustar el objetivo

6 Punto de contacto

7 Goma de montaje de la lente

Nota

- Si toma imágenes con el flash de la cámara, puede que la periferia de la pantalla se oscurezca. En tal caso, le recomendamos que utilice un flash externo.
- En situaciones muy tranquilas es posible que se grabe el sonido de funcionamiento del enfoque automático durante la grabación de una película. Esto no significa un mal funcionamiento. En tales situaciones, si cambia a enfoque manual mejorará la situación.
- La abertura se puede ajustar con el anillo de apertura sólo cuando se une al objetivo una cámara digital Panasonic. (A partir de junio de 2016)

Unir y quitar el objetivo

Para obtener información sobre cómo colocar y retirar la lente, consulte las instrucciones de funcionamiento de su cámara digital.

- Antes de colocar o quitar la lente, compruebe que la cámara digital está apagada.
- Antes de colocar la lente en la cámara digital, quite la tapa trasera de la lente girándola en el sentido de la flecha.
- Para evitar que se introduzcan o acumulen polvo y otras partículas en la lente, no olvide instalar la tapa trasera de la lente una vez que la haya retirado de la cámara digital.



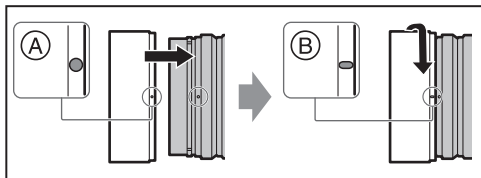
■ Unión de los filtros

- Se podrían generar viñetas si se usan 2 o más filtros a la vez.
- Se puede colocar la tapa del objetivo con el filtro ya colocado.
- Si utiliza la visera de la lente y un filtro al mismo tiempo, instale el filtro en primer lugar.
- No consigue acoplar un objetivo de conversión o adaptador a este objetivo. Puede usarse un filtro, pero acoplar cualquier otro elemento puede dañar el objetivo.

Cómo usar las viseras de la lente

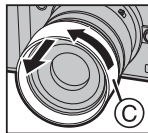
■ Unión de la visera del objetivo (Accesorio suministrado)

- 1 Alinee la marca **A** (●) en la visera de la lente con la marca en el extremo de la lente.
- 2 Gire la visera de la lente en la dirección de la flecha hasta que haga clic y después alinee la marca **B** (◻) en la visera de la lente con la marca en el extremo de la lente.



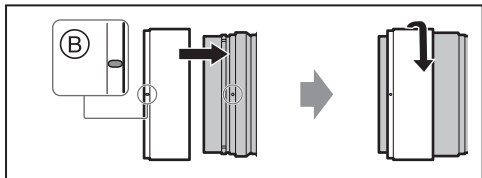
■ Almacenamiento temporal de la visera del objetivo

- 1 Gire la visera de la lente **C** en la dirección de la flecha y después retírela.



2 Alinee la marca (B) () en la visera de la lente con la marca en el extremo de la lente.

3 Gire la visera de la lente en la dirección de la flecha hasta que se encaje en su posición.



Nota

- Si utiliza una visera de la lente y el flash a la vez, la visera de la lente bloqueará la luz del flash provocando que la parte inferior de la pantalla se oscurezca (viñetas) y sea imposible ajustar la cantidad de luz. Recomendamos que no utilice viseras de la lente y el flash al mismo tiempo.

Precauciones para el uso

Tenga cuidado de no hacer caer el objetivo ni le choque contra. Asimismo tenga cuidado de no presionarlo demasiado.

- Tenga cuidado de no hacer caer la bolsa en la que cabe el objetivo. Éste podría dañarse, la cámara podría dejar de funcionar normalmente y las imágenes ya podrían no grabarse.

- Cuando lleve la cámara digital con el objetivo montado, sostenga la cámara digital y la lente a la vez.

Cuando usa pesticidas y otras sustancias volátiles alrededor de la cámara tenga cuidado de que no entre en el objetivo.

- Si dichas sustancias caen en el objetivo, éstas pueden dañarlo o hacer desconchar su barniz.

No apunte con el objetivo al sol u otras fuentes de luz intensa.

- Esto podría hacer que el objetivo recogiera demasiada luz, lo que podría provocar un incendio y una avería.
- De ninguna manera la unidad debe ser usada o almacenada en uno de los siguientes lugares ya que lo de hacerlo podría perjudicarla o producir un funcionamiento defectuoso.
 - Bajo la luz directa del sol o bien a lo largo de la costa durante el verano
 - En lugares donde haya altas temperaturas o altos niveles de humedad o bien donde sean repentinos los cambios de temperatura y humedad
 - En lugares donde haya altas concentraciones de arena, polvo o suciedad
 - Donde haya llamas
 - Cerca de calefactores, acondicionadores de aire o humedecedores
 - Donde el agua puede hacer mojar la unidad
 - Donde haya vibraciones
 - Dentro de un vehículo
- Se refiera también a las instrucciones de funcionamiento de la cámara digital.

- Cuando no ha de ser usada la unidad por un período prolongado, le recomendamos guardar con un desecante (silicagel). El hecho de no hacerlo podría ocasionar una avería causada por el moho etc. Se recomienda que compruebe el funcionamiento de la unidad antes de usarla.
- No deje el objetivo en contacto con productos de plástico durante largos períodos de tiempo.
- No toque los contactos eléctricos de la unidad. Lo de hacerlo puede causar avería en la unidad.
- No desmonte ni modifique la unidad.

No utilice gasolina, diluyente, alcohol u otros agentes de limpieza parecidos para limpiar la unidad.

- El hecho de usar disolventes puede dañar el objetivo y hacer desconchar su barniz.
- Quite cualquier indicio de polvo o huellas dactilares con un paño blando y seco.
- Si se acumula polvo o suciedad en la goma de montaje de la lente, el anillo de enfoque o el anillo de apertura, elimínela con un paño limpio y seco.
- No use detergentes para cocina o un paño tratado químicamente.

Búsqueda de averías

Se oye un sonido cuando se enciende o se apaga la cámara.

Cuando tomo fotografías de un objeto brillante, como un objeto en el exterior, o cuando tomo fotografías con un valor de apertura grande, el objetivo hace ruido.

- Éste es el sonido del objetivo o el movimiento de apertura y no es un funcionamiento defectuoso.

Especificaciones

Las especificaciones están sujetas a cambio sin previo aviso.

ÓPTICA INTERCAMBIABLE PARA CÁMARA DIGITAL

“LEICA DG SUMMILUX 12 mm/F1.4 ASPH.”

Longitud focal	f=12 mm (Igual a una cámara de película de 35 mm: 24 mm)
Tipo de abertura	9 aspas de diafragma/Diafragma de apertura circular
Apertura máxima	F1.4
Valor de abertura mínimo	F16
Estructura del objetivo	15 elementos en 12 grupos (2 lentes esféricas, 1 lente ED, 2 lentes UED)
En la distancia del enfoque	0,2 m (0,66 pies) a ∞ [desde la línea de referencia de la distancia de enfoque]
Máxima ampliación de la imagen	0,1 \times (Igual a una cámara de película de 35 mm: 0,2 \times)
Estabilizador óptico de la imagen	No disponible
Interruptor [AF/MF]	Disponible (Cambie AF/MF)
Soporte	“Micro Four Thirds Mount”
Ángulo visual	84°
Diámetro del filtro	62 mm
Diámetro máx.	Aprox. 70,0 mm (2,8 pulgadas)
Longitud total	Aprox. 70,0 mm (2,8 pulgadas) (desde la punta del objetivo hasta la base lateral de la montura del objetivo)
Peso	Aprox. 335 g (0,74 lb)
Resistencia al polvo y a las salpicaduras	Sí

Panasonic Corporation of North America

Two Riverfront Plaza, Newark, NJ 07102-5490

<http://shop.panasonic.com>

Panasonic Canada Inc.

5770 Ambler Drive, Mississauga, Ontario, L4W 2T3

www.panasonic.com

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