

Panasonic

Lenses & Accessories  
FOR LUMIX G SERIES

CHANGING PHOTOGRAPHY  
LUMIX



LUMIX

# The essence of aesthetics

Already pioneers in the field of digital single lens mirrorless cameras, LUMIX's Micro Four Thirds lenses are once again breaking new ground.

Combining state-of-the-art digital technology with cutting-edge optics, the new lenses offer uncompromising quality, exceptional image rendering, and an agility capable of capturing the most fleeting of moments, all in an amazingly compact format.

From wide-angle to telephoto, the extensive range delivers top-class performance, whether you are shooting stills or high-quality video.

Most lenses are equipped with "Mega O.I.S." or "Power O.I.S." (Optical Image Stabilizer) for more efficient hand-held shooting with a telephoto or in low-light conditions.

Of one thing we are sure, this remarkable family of lenses will take your creativity to a new dimension.

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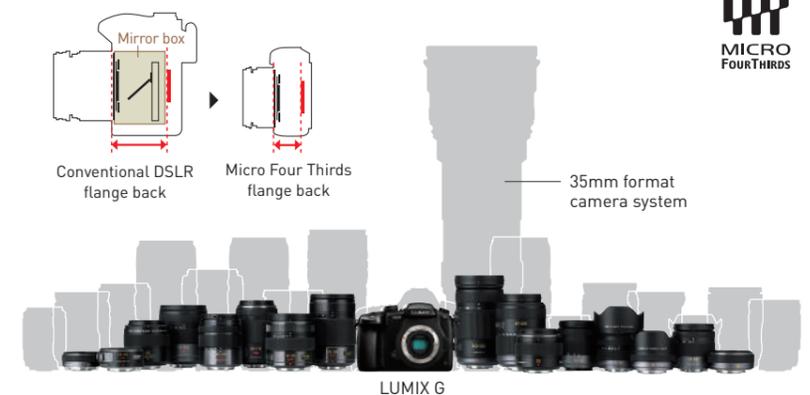
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## A Breakthrough in Size and Weight: Mirrorless Configuration

In developing LUMIX G, Panasonic set out to create a digital SLR camera system with truly superior mobility. This meant that both the camera body and all lenses had to be extremely compact and lightweight. LUMIX G's mirrorless configuration achieves exactly that, cutting the flange focal distance almost in half and reducing the body mount radius by 6 mm. With LUMIX G, you get a camera that is light in your hands, easy to maneuver, and a joy to use. And you get breathtaking pictures thanks to an image sensor that's identical in size to larger DSLR cameras.



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12mm F1.4 (35mm camera equivalent: 24mm) **LEICA DG LENS**

## LEICA DG Lens **LEICA DG LENS**

A producer of precision instruments for more than a century, Leica was among the pioneers of still photography.

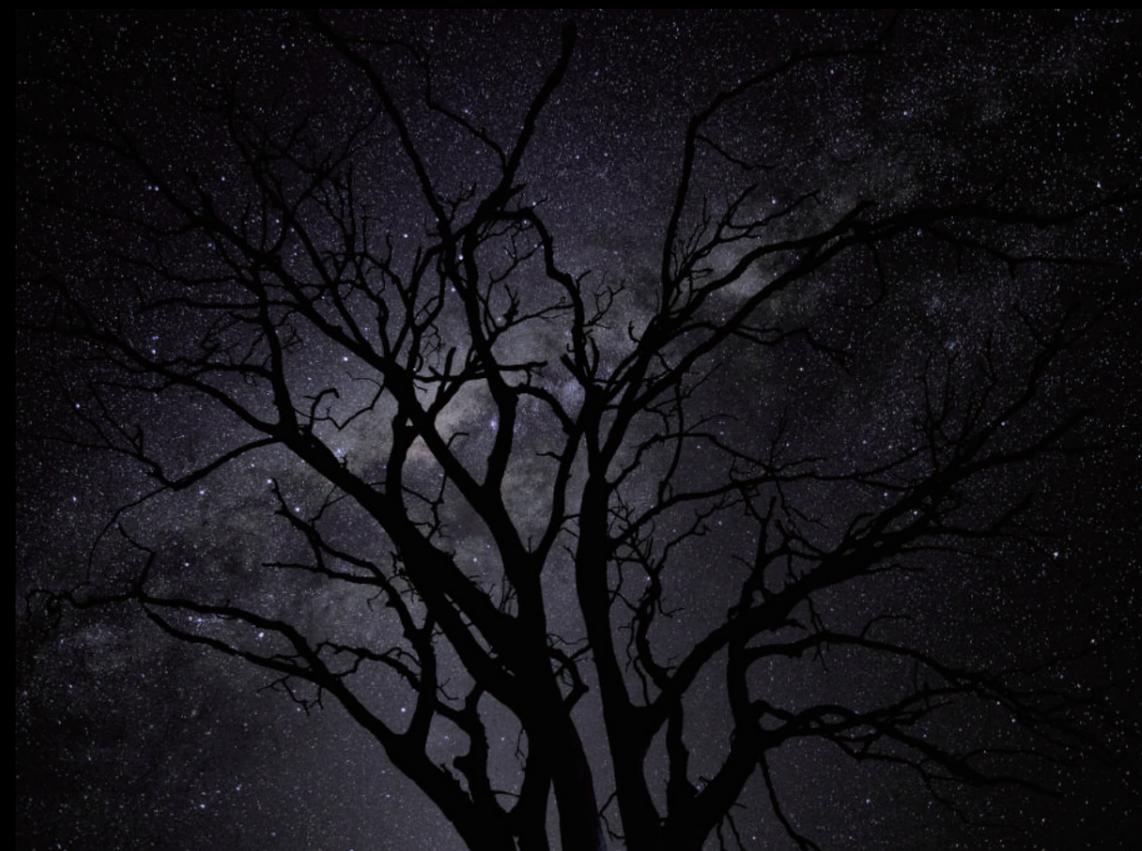
Today, Leica lenses have become a watchword for quality among professional photographers — a worldwide reputation gained thanks to the inventions and innovations Leica continues to develop across its product range.

The LEICA DG lenses, developed exclusively for the LUMIX G Series and incorporating state-of-the-art optical and mechanical components, represent another innovative step forward.

These technological advances ensure gradations remain rich and sharp across the entire frame, thereby giving an exceptionally delicate and natural rendering of reality and outstanding expressive power.

The resulting images are so life-like, they look like you could reach out and feel the texture.

• Leica is a registered trademark of Leica Microsystems IR GmbH.



©Bence Máté

15 sec, F1.4, ISO1250



This lens captures dynamic landscapes with rich perspective and high resolution. It also produces an impressive, natural defocusing effect with the F1.4 large aperture allowing handheld shots indoors in low lighting or outside at night.



### LEICA DG SUMMILUX 12mm / F1.4 ASPH.

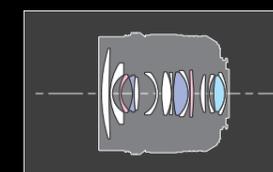
[H-X012]



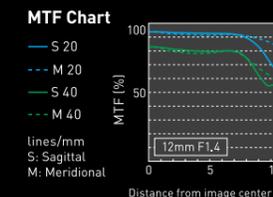
### LEICA F1.4 Large aperture and Wide-angle, Fixed Focal Length Lens – For Professional Nature Photographers Shooting Landscapes

This is one of the widest fixed focal length lenses in our Leica series. Five special internal lenses make it possible to clear the stringent Leica standard for exceptional image quality by suppressing flare and minimizing distortion all the way to the edge of the lens. With the camera's high-speed and high-precision AF with 240-fps capability, this lens becomes an ideal tool not only for photos but also for 4K video recordings where smooth, silent and precise focusing is essential. An AF/MF switch and an aperture ring in a durable metal structure, as well as a dust/splash-resistant\* design, meet the needs of a wide range of photographic situations.

\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.



ASPH ED UED



• Lens construction = 15 elements in 12 groups • Closest focusing distance = 0.2 m/0.66 ft • Maximum image magnification = Approx. 0.1x (35mm camera equivalent: 0.2x) • Filter size = 62 mm • Dimensions = 70.0 [dia.] x Approx. 70 mm/2.76 [dia.] x 2.76 in • Weight = Approx. 335 g/11.82 oz

• 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.

# 15mm F1.7 (35mm camera equivalent: 30mm) LEICA DG LENS

# 25mm F1.4 (35mm camera equivalent: 50mm) LEICA DG LENS



1/5000 sec, F1.7, ISO200



©Mina Daimon

1/160 sec, F1.4, ISO200



The LEICA DG SUMMILUX is ideal for everyday snapshots because its excellent mobility lets you carry the camera in a handbag with the lens mounted. It meets a wide range of shooting needs, such as wide-angle landscape shots and portraits with sharply focused subjects and beautifully defocused backgrounds.

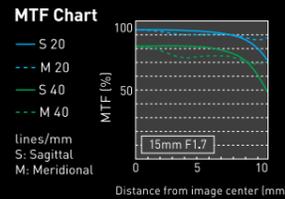
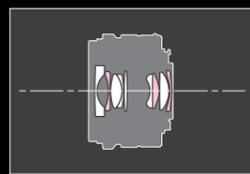


This large-aperture lens brings your creative vision to life at all times, in every location. It offers superb image quality with minimal distortion, even in low-light, while impressive bokeh effects turn ordinary scenes into stylish, evocative images.



## LEICA DG SUMMILUX 15mm / F1.7 ASPH.

[H-X015]



ASPH ■ ■ ■

For lenses that are capable of compensating distortion, the horizontal axis of the MTF shows the distance from the center of the corrected image.

- Lens construction = 9 elements in 7 groups •Closest focusing distance = 0.2 m/0.66 ft
- Maximum image magnification = Approx. 0.1x [35mm camera equivalent: 0.2x] •Filter size = 46 mm •Dimensions = 57.5 [dia.] x Approx. 36 mm/2.26 [dia.] x 1.42 in •Weight = Approx. 115 g/4.06 oz

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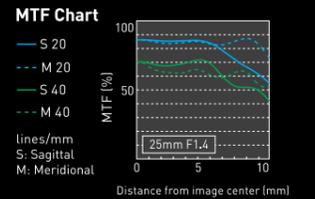
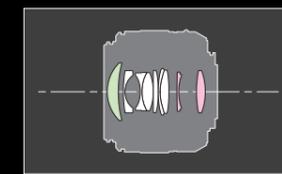
### Active Snapshot Shooting with a Compact, Lightweight, High-Quality F1.7 Lens

Naturally, this lens has passed Leica's stringent optical standards. The brightness of the F1.7 SUMMILUX enables photos with beautiful bokeh effects. The Iris Ring also lets you adjust exposure and depth of field, and the AF/MF Selector Switch makes it possible to change focus modes while aiming the camera. You get highly intuitive operation while looking through the viewfinder. This lens consists of 9 elements in 7 groups, including 3 aspherical lenses, for superbly high performance and a small size. It also offers knurled aluminum Iris/MF Rings, and various other luxurious, metallic fittings to make shooting a pleasure at all times.



## LEICA DG SUMMILUX 25mm / F1.4 II ASPH.

[H-XA025]



ASPH ■ UHR ■ ■ ■

For lenses that are capable of compensating distortion, the horizontal axis of the MTF shows the distance from the center of the corrected image.

- Lens construction = 9 elements in 7 groups •Closest focusing distance = 0.3 m/0.98 ft
- Maximum image magnification = Approx. 0.11x [35mm camera equivalent: 0.22x] •Filter size = 46 mm •Dimensions = 63 [dia.] x Approx. 54.5 mm/2.48 [dia.] x 2.14 in •Weight = Approx. 205 g/7.23 oz

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### This Rugged, Versatile, Go-anywhere 25mm F1.4 Lens is Perfect for every Shoot

As well as taking full advantage of the latest LUMIX G Series cameras, this lens delivers the exceptional image quality expected of Leica's stringent standards. The UHR index lens and glass mold aspherical lenses achieve uniformity and high descriptive performance from image center to the corners while Panasonic Nano Surface Coating minimizes ghosts and flaring. An inner focus drive and stepping motor ensure smooth, silent operation working with the camera's high-speed, high-precision contrast 240 fps AF system. Furthermore, boasting not only superior optics, this dust- and splash- resistant\* lens is built to be compact, lightweight and rugged – ideal for studio, field and aerial work.

\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.

42.5mm F1.2 (35mm camera equivalent: 85mm)

LEICA DG LENS



The LEICA DG NOCTICRON is an 85mm (35mm camera equivalent) medium-telephoto lens that uses a natural perspective to capture subjects in all their details. Stunningly beautiful shots are rendered for everything from portraits to theater stage performances and other relatively dark indoor scenes, and even nightscapes.

©William Innes 1/200 sec, F2.8, ISO1000



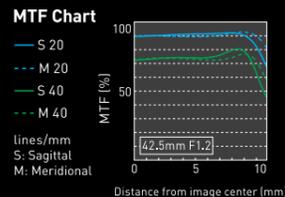
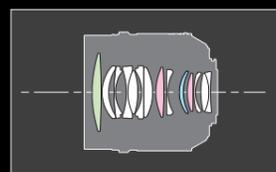
LEICA DG NOCTICRON 42.5mm / F1.2 ASPH. / POWER O.I.S.

[H-NS043]



The Fully Open F1.2 NOCTICRON Speed Enables a Soft Defocused Background, a Hallmark of Leica, in this High-speed, Medium, Telephoto Lens

NOCTICRON speed is achieved by heeding to Leica's high optical standards. It consists of 14 lens elements in 11 groups, including 2 aspherical lenses, 1 ED lens, and 1 UHR lens. The lens barrel, aperture ring equipped, enables innate exposure correction. The 240-fps drive allows rapid, high-precision AF. A round, 9-blade iris yields richly defocused images, an exclusive 85mm (35mm equivalent) portrait feature. The lens hood, which curbs sun-caused ghosts and flaring, is crafted from joint-free aluminum, in par with the elegance of the Leica lens. The hood's hairline finish interior further reduces light reflection.



ASPH UHR ED  
For lenses that are capable of compensating distortion, the horizontal axis of the MTF shows the distance from the center of the corrected image.

•Lens construction = 14 elements in 11 groups •Closest focusing distance = 0.5 m/1.64 ft •Maximum image magnification = Approx. 0.1x [35mm camera equivalent: 0.2x] •Filter size = 67 mm •Dimensions = 74 [dia.] x Approx. 76.8 mm/2.91 [dia.] x 3.02 in •Weight = Approx. 425 g/15.04 oz

\* Firmware must be updated to the latest version.  
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45mm F2.8 (35mm camera equivalent: 90mm)

LEICA DG LENS



1/200 sec, F2.8, ISO100



This macro lens does much more than make small things bigger. As well as delivering beautiful defocused bokeh, it also lets you bring the entire frame – from corner to corner – into sharp focus. That gives you the freedom to create a wide variety of compositions, from portraits to telephoto shots to landscapes, making this lens a true all-round performer.



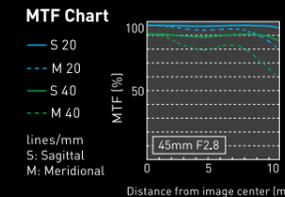
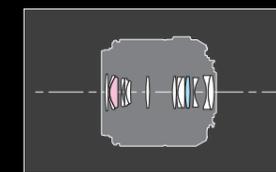
LEICA DG MACRO-ELMARIT 45mm / F2.8 ASPH. / MEGA O.I.S.

[H-ES045]



A Superior Macro Lens Brings Tiny Worlds into View

Created to meet Leica's stringent performance grade, this high-quality macro lens cuts distortion, ghosts, flaring and low peripheral resolution. With 14 elements in 10 groups, including one aspherical lens and one ED lens, it grants even contrast and high resolution all the way from 1:1 macro (35mm camera equivalent: 2x) to infinity. Utilizing an Inner Focus setup that shifts three groups of lenses, the elaborate focusing crucial to a macro lens has become both faster and quieter. Also featured is MEGA O.I.S., which fights hand-held blur, aids the capture of clear, sharp images, from macro and medium-telephoto portraits to wide landscapes and long telephoto shots.



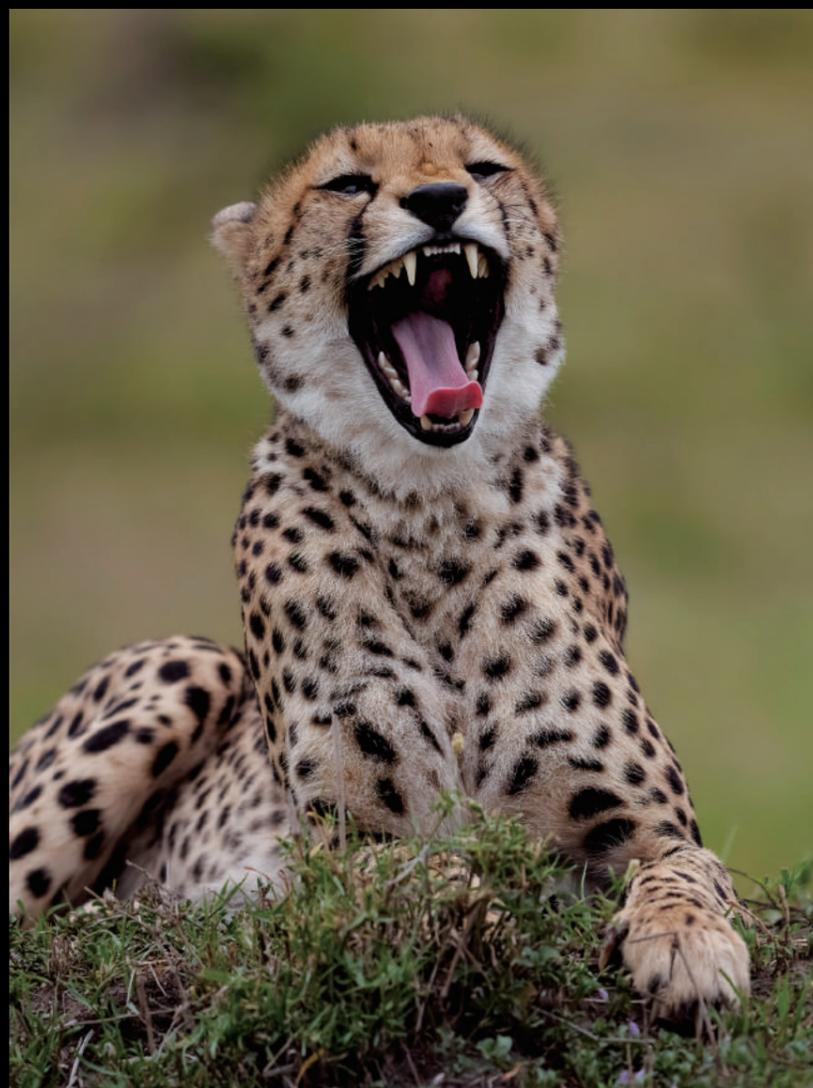
ASPH ED  
For lenses that are capable of compensating distortion, the horizontal axis of the MTF shows the distance from the center of the corrected image.

•Lens construction = 14 elements in 10 groups •Closest focusing distance = 0.15 m/0.5 ft •Maximum image magnification = Approx. 1.0x [35mm camera equivalent: 2.0x] •Filter size = 46 mm •Dimensions = 63 [dia.] x Approx. 62.5 mm/2.48 [dia.] x 2.46 in •Weight = Approx. 225 g/7.94 oz

\* Firmware must be updated to the latest version.  
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# 200mm F2.8 (35mm camera equivalent: 400mm) LEICA DG LENS

# 8-18mm F2.8-4.0 (35mm camera equivalent: 16-36mm) LEICA DG LENS



Fitted with the bundled 1.4x teleconverter this ultra-telephoto extends to an astounding 560mm (35mm camera equivalent) for greater outdoors versatility when shooting wildlife or action sports.



© Ken Duncan 1/20 sec, F7.1, ISO200



From ultra-wide shots to the focal lengths you typically want for street snaps, this compact, lightweight lens supports filters and is easy to carry, easy to use and tough enough to take to the most challenging environments.

©Bence Máté 1/640 sec, F2.8, ISO800

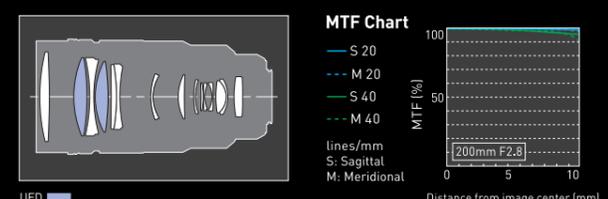


## LEICA DG ELMARIT 200mm / F2.8 / POWER O.I.S.



### Unprecedented Resolution even with Handheld Telephoto Shooting

With a fast F2.8 aperture, effective Power O.I.S. compatible with 5-axis Dual I.S.2 stabilization, and robust design, this lens is built for professional use under harsh conditions. High resolution, high contrast images are achieved from corner to corner, while distortion and chromatic aberrations are suppressed by the inclusion of Ultra Extra-Low Dispersion (UED) lenses. A three magnets linear motor and 240 fps (max.) sensor drive enables a high-speed, high-precision contrast AF system, even in 4K video. Furthermore, the micro-step aperture drive helps adjust to brightness changes when panning.



For lenses that are capable of compensating distortion, the horizontal axis of the MTF shows the distance from the center of the corrected image.

- Lens construction = 15 elements in 13 groups • Closest focusing distance = 1.15 m/3.8 ft (Full), 3.0 m/9.8 ft (3m-Limit) • Maximum image magnification = Approx. 0.2x [35 mm camera equivalent: 0.4x] • Filter size = 77 mm • Dimensions = 87.5 [dia.] x Approx. 174 mm/3.44 [dia.] x 6.85 in • Weight = Approx. 1245 g/43.92 oz
- Teleconverter (when H-ES200 is attached): • Focal length = 560mm (35mm camera equiv.) • Maximum aperture = F4.0 • Minimum aperture = F22
- LEICA is a registered trademark of Leica Microsystems IR GmbH. ELMARIT 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.

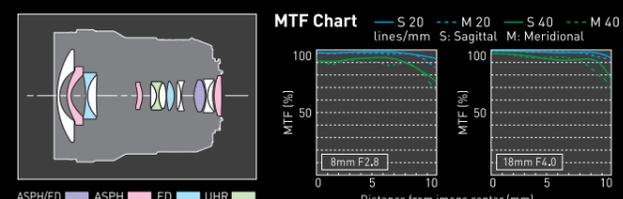


## LEICA DG VARIO-ELMARIT 8-18mm / F2.8-4.0 ASPH.



### Add Depth and Drama to Create Compelling Compositions

This compact wide-zoom is part of the new LEICA DG VARIOELMARIT F2.8-4.0 series. Spherical distortion and chromatic aberrations are effectively suppressed by the 15 lens element combination that features 1 aspherical ED lens, 3 aspherical lenses, 2 ED lenses and an UHR lens. As such, the lens achieves beautifully rendered high-quality images and the bright F2.8 aperture assures this quality even under low-light. It is also well suited to 4K video thanks to a silent inner focus drive system (240 fps max.) and precision AF tracking. The design is dust/splash/freeze-resistant\* so as to withstand the harshest environments.



For lenses that are capable of compensating distortion, the horizontal axis of the MTF shows the distance from the center of the corrected image.

- Lens construction = 15 elements in 10 groups • Closest focusing distance = 0.23 m / 0.75 ft • Maximum image magnification = Approx. 0.12x [35 mm camera equivalent: 0.24x] • Filter size = 67 mm • Dimensions = 73.4 [dia.] x Approx. 88 mm / 2.89 [dia.] x 3.46 in • Weight = Approx. 315 g / 11.1 oz
- LEICA is a registered trademark of Leica Microsystems IR GmbH. ELMARIT 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.

\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.

\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.

STANDARD ZOOM

10-25mm F1.7 (35mm camera equivalent: 20-50mm)

LEICA DG LENS



©Jonas Borg

1/8000 sec, F1.7, ISO200



AF

MF

Featuring a focus clutch mechanism, for instant MF/AF switching, this is a versatile zoom lens for both stills and video. Shoot a dynamic landscape the one moment, an intimate portrait the next, even in low light.

NEW



LEICA DG VARIO-SUMMILUX 10-25mm / F1.7 ASPH.

[H-X1025]

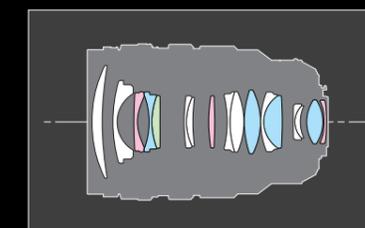


### World's First\* Standard Zoom Lens Achieving Full-range F1.7, for Stills and Video

The standard -zoom lens boasts a large aperture F1.7 across the entire zoom range of 20-50mm (35mm camera equivalent). Photographers gain a versatile companion of multiple focus options with astonishingly high resolution, as well as beautiful bokeh and high descriptive performance. Videographers appreciate the silent operation of a mechanism which also suppresses focus breathing while supporting high-speed, high-precision AF. In addition, the aperture smoothly catches up to any brightness change when zooming and panning. As well as the superior optics, the rugged dust/splash/freeze-resistant\*\* design can withstand harsh conditions in the field.

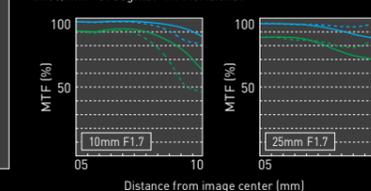
\* As a digital interchangeable lens for a mirrorless camera, as of May 31, 2019  
\*\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.

•Lens construction = 17 elements in 12 groups •Closest focusing distance = 0.28 m/0.92 ft •Maximum image magnification = Approx. 0.14x (35 mm camera equivalent: 0.28x) •Filter size = 77 mm •Dimensions = 87.6 [dia.] x Approx. 128 mm/3.45 [dia.] x 5.04 in •Weight = Approx. 690 g/24.34 oz.



MTF Chart

— S 20 — M 20 — S 40 — M 40  
lines/mm S: Sagittal M: Meridional



ASPH ED UHR  
For lenses that are capable of compensating distortion, the horizontal axis of the MTF shows the distance from the center of the corrected image.

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12-60mm F2.8-4.0 (35mm camera equivalent: 24-120mm)

LEICA DG LENS



© Daimon Xanthopoulos

1/60 sec, F4.0, ISO800

50-200mm F2.8-4.0 (35mm camera equivalent: 100-400mm)

LEICA DG LENS



©Daimon Xanthopoulos

1/5000 sec, F6.3, ISO200



This light and easy to carry mid-length Leica zoom does the work of several essential lenses. It covers daily shots, from dynamic landscapes to portraits, even in low-light, and can withstand the harshest shoot conditions.



This telephoto achieves high performance with superb photo and 4K video image quality. It also provides amazing stability, even when shooting handheld at full zoom as the sun begins to set.

©Daimon Xanthopoulos (1/320 sec, F3.9, ISO200)



LEICA DG VARIO-ELMARIT 12-60mm / F2.8-4.0 ASPH. / POWER O.I.S.

(H-ES12060)



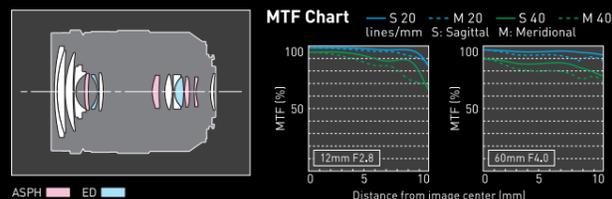
LEICA DG VARIO-ELMARIT 50-200mm / F2.8-4.0 ASPH. / POWER O.I.S.

(H-ES50200)



### From Stunning Scenery to Striking Portraits, Zoom through a Suite of Standard Primes

This standard zoom is part of the new LEICA DG VARIO-ELMARIT F2.8-4.0 series. It boasts extraordinary range across ultra wide angle to super telephoto and the 9-blade aperture enhances subjects with stylish defocus backgrounds and natural effects. The combination of POWER O.I.S. stabilization with 5-axis Dual I.S.2 compatibility ensures blur-free results, even under lowlight conditions. In addition, excellent AF tracking and an inner focus drive assure precision performance and silent operation when shooting and zooming in 4K video. This versatile lens also has a rugged dust/splash/freeze-resistant\* design.



For lenses that are capable of compensating distortion, the horizontal axis of the MTF shows the distance from the center of the corrected image.

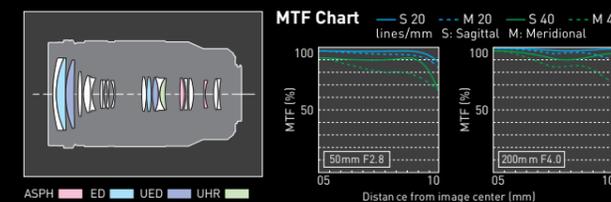
•Lens construction = 14 elements in 12 groups •Closest focusing distance = 0.2 m / 0.66 ft (Wide), 0.24 m/0.79 ft (Tele) •Maximum image magnification = Approx. 0.3x (35mm camera equivalent: 0.6x) •Filter size = 62 mm •Dimensions = 68.4 [dia.] x Approx. 86 mm/2.69 [dia.] x 3.39 in •Weight = Approx. 320 g/11.29 oz

•LEICA is a registered trademark of Leica Microsystems IR GmbH. ELMARIT 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.

\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.

### Covering Wide Angle to Ultra-Telephoto for High Quality Stills and Videos with Superb Mobility.

A compact zoom covering focal length from mid-telephoto 100mm to ultra-telephoto 400mm (35mm camera equiv.). Superior image quality based on strict LEICA quality standards. The lens system, with Nano Surface Coating, effectively suppresses spherical distortion or chromatic aberration to achieve high resolution and contrast from center to corners. Featuring POWER O.I.S (Optical image stabilizer), the lens works with Dual I.S. and Dual I.S.2 image stabilizers when mounted to compatible LUMIX DSLM cameras, thereby effectively compensating for hand-shake movement. This is a flexible zoom for portraits, sports, wildlife and macro photography. It also boasts high-quality video recording capability and 4K video compatibility - with fast, accurate focusing and silent operation. It is built for professional use under hard conditions in a rugged dust/splash-resistant\* design with freeze-resistance down to -10°C.



For lenses that are capable of compensating distortion, the horizontal axis of the MTF shows the distance from the center of the corrected image.

•Lens construction = 21 elements in 15 groups •Closest focusing distance = 0.75 m/2.46 ft •Maximum image magnification = Approx. 0.25x (35 mm camera equivalent: 0.5x) •Filter size = 67 mm •Dimensions = 76 [dia.] x Approx. 132 mm/2.99 [dia.] x 5.20 in •Weight = Approx. 655 g/23.10 oz

•LEICA is a registered trademark of Leica Microsystems IR GmbH. ELMARIT 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.

\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.

# 100-400mm F4.0-6.3 (35mm camera equivalent: 200-800mm) LEICA DG LENS



©Bence Máté

1/500 sec, F6.3, ISO 400



Drawing subjects in from a distance, this ultra-telephoto zoom lens is ideal for capturing intense action sports or animals and birds you can't usually approach. Great for shooting distance stills or video requiring a compression effect. The unit also includes a rotating tripod mount for quick switching between landscape and portrait orientations. Macro function enables close-ups of plant life, etc., (max. 0.5x magnification [35mm camera equivalent]).



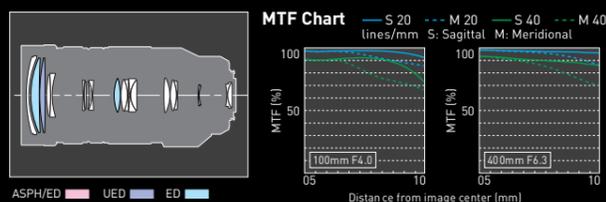
## LEICA DG VARIO-ELMAR 100-400mm / F4.0-6.3 ASPH. / POWER O.I.S. (H-RS100400)



### Zooms up to 800mm\* Yet Compact – An Ultra-Zoom Lens with LEICA Quality

Enjoy superb results in the medium telephoto range with this 200mm-800mm\* ultra-zoom lens which achieves much-awaited reductions in weight and size. Thanks to POWER O.I.S. it also allows blur-free hand-held shots even at full zoom. With strong dust/splash-resistance\*\* this is a reliable companion for outdoor photography and always delivers high-quality images in every situation. The unit comprises aspherical and Extra-Low Dispersion (ED) lenses (1 UED and 2 ED lenses) that clear the stringent optical standards of Leica. The Inner Focus linear motor drive enables high-speed and high precision AF with 240-fps capability. All in all, superior imaging performance with high resolution and high contrast throughout the entire zoom range.

\* 35mm camera equivalent. \*\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water. \*\*\* Firmware must be updated to the latest version.



For lenses that are capable of compensating distortion, the horizontal axis of the MTF shows the distance from the center of the corrected image.

- Lens construction = 20 elements in 13 groups
- Closest focusing distance = 1.3 m/4.27 ft
- Maximum image magnification = Approx. 0.25x (35mm camera equivalent: 0.5x)
- Filter size = 72 mm
- Dimensions = 83 [dia.] x Approx. 171.5 mm/3.3 [dia.] x Approx. 6.75 in
- Weight = Approx. 985 g/34.74 oz

• LEICA is a registered trademark of Leica Microsystems IR GmbH. ELMAR 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.

## LUMIX G Lens and X Lens

The G Lens and X Lens are the results of an uncompromising quest for the best-possible image quality.

As well as being compact, very light and exceptionally mobile, the precise and high-speed Contrast AF of the G Lens ensures outstanding image rendering performance.

The X Lens, while producing crisp textures and incredible transparency, delivers sharp, corner-to-corner contrast thanks to a special coating that minimizes ghosts and flaring.

These lenses cover a versatile range of focal lengths, from wide-angle to telephoto, for handling every shooting situation.



8mm F3.5 (35mm camera equivalent: 16mm)



1/400 sec, F8.0, ISO100



With a fisheye lens, familiar everyday scenes become surreal, imaginative images. Even with the same subject, changing the lens angle creates a curving effect that gives the scene an entirely different look. Whether you're shooting photos or videos, the fisheye lens lets you create truly distinctive eye-catching images.



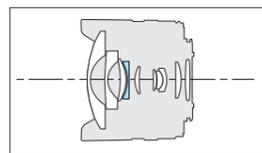
Depression angle Horizontal angle Elevation angle

### Fisheye Lens for Unique Images with Intriguing Deformation Effects

This fisheye lens with equisolid angle projection lets you create fascinating images with a 180° diagonal angle of view and intriguing deformation effects. Featuring 10 elements in 9 groups, including 1 ED lens, this lens system corrects chromatic aberration from magnification and other sources, to assure superb image rendering. The fisheye lens also features the Inner Focus system, as well as a virtually silent single-lens drive system that won't interfere with the sound you're recording when using the LUMIX G to shoot HD videos.



LUMIX G FISHEYE 8mm / F3.5 (H-F008)



ED

- Lens construction = 10 elements in 9 groups
- Closest focusing distance = 0.1 m/0.33 ft
- Maximum image magnification = Approx. 0.2x [35mm camera equivalent: 0.4x]
- Filter size = Front: Mounting not possible/Rear: Sheet filter holder 22 mm x 22 mm
- Dimensions = 60.7 [dia.] x Approx. 51.7 mm/2.39 [dia.] x 2.04 in
- Weight = Approx. 165 g/5.82 oz

14mm F2.5 (35mm camera equivalent: 28mm)



1/5 sec, F8.0, ISO200



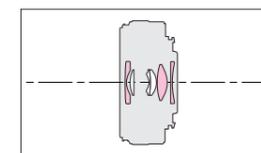
With its fully open aperture, this lens is ideal for nightscapes. It lets in a large amount of light, so you can raise the shutter speed without increasing the ISO sensitivity. This wide-angle lens also suppresses hand-shake and noise, so all your shots are crisp, clear and beautiful.

### Fixed Focal Length Lens for Wide-Angle Shooting

A wide angle of view and outstanding depth of field make this pancake type wide-angle lens a good choice for both snapshots and landscapes. Rendering high-contrast images across the entire frame and correcting distortion, this super-thin lens is especially ideal for capturing subjects that are primarily linear, such as buildings with a number of straight lines. Its simple lens construction – 6 elements in 5 groups, including 3 glass aspherical lenses – allows both high performance and an astonishingly compact size.



LUMIX G 14mm / F2.5 II ASPH. (H-H014A)



ASPH

- Lens construction = 6 elements in 5 groups
- Closest focusing distance = 0.18 m/0.59 ft
- Maximum image magnification = Approx. 0.1x [35mm camera equivalent: 0.2x]
- Filter size = 46 mm
- Dimensions = 55.5 [dia.] x Approx. 20.5 mm/2.19 [dia.] x 0.81 in
- Weight = Approx. 55 g/1.94 oz

20mm / 25mm F1.7 (35mm camera equivalent: 40mm / 50mm)



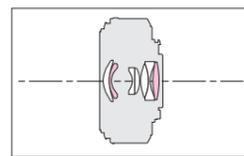
LUMIX G 25mm / F1.7 ASPH., 1/1600 sec, F1.7, ISO2000

### A Bright F1.7 Aperture Lens – For Casual Snapshots or Artistic Portraits

A high-speed F1.7 aperture defines this fixed focal length lens, delivering images with a delicate bokeh effect and high contrast. Even under dim lighting you can shoot at a high shutter speed – no need to increase ISO sensitivity – and still capture beautifully expressive images with minimal noise. The aspherical lenses within are optimally configured to deliver consistently sharp images from corner to corner – achieving enhanced performance in a compact system. Always at your side, it is ready to artistically render everyday scenes and beautiful portraits.



LUMIX G 20mm / F1.7 II ASPH.  
(H-H020A)

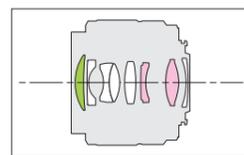


ASPH

- Lens construction = 7 elements in 5 groups
- Closest focusing distance = 0.2 m / 0.66 ft
- Maximum image magnification = Approx. 0.13x [35mm camera equivalent: 0.25x] • Filter size = 46 mm
- Dimensions = 63 [dia.] x Approx. 25.5 mm / 2.48 [dia.] x 1.00 in • Weight = Approx. 87 g / 3.07 oz



LUMIX G 25mm / F1.7 ASPH.  
(H-H025)



ASPH UHR

- Lens construction = 8 elements in 7 groups
- Closest focusing distance = 0.25 m / 0.82 ft
- Maximum image magnification = Approx. 0.14x [35mm camera equivalent: 0.28x] • Filter size = 46 mm
- Dimensions = 60.8 [dia.] x Approx. 52 mm / 2.4 [dia.] x 2.05 in
- Weight = Approx. 125 g / 4.41 oz

30mm F2.8 (35mm camera equivalent: 60mm)



1/60 sec, F4.0, ISO5000



The most prominent feature of this lens is its ability to give you true-to-life macro shots by bringing the lens as close as 0.105-m and enlarging your subject up to 100%. It allows you to get up close to your subject, capturing fine details in items such as flowers, food, and tiny accessories. Also, in addition to macro shooting, this single lens gives you a wide range of images, from portraits with attractive bokeh effects to landscapes.

### Multifunctional Lens – From Macros to Portraits

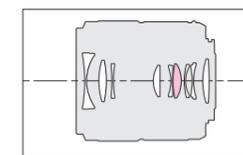
With 9 elements in 9 groups, including one aspherical lens, this lens delivers high performance in a compact size. Its Inner Focus system provides high resolution and contrast across the entire focusing range, from 1:1 macro to infinity. A stepping motor drives the lens for 240-fps AF. You get quick, smooth, and quiet focusing for both still and video images. When shooting portraits and other subjects with a shallow depth of field, the 7-blade circular aperture renders stunning bokeh effects. Multi-coating minimizes ghosts and flaring to produce rich expressiveness with crisp clarity and beautiful depth from corner to corner. This lens gives you the images that you envision.



LUMIX G MACRO 30mm / F2.8 ASPH. / MEGA O.I.S.  
(H-HS030)



\* Firmware must be updated to the latest version.



ASPH

- Lens construction = 9 elements in 9 groups
- Closest focusing distance = 0.105 m / 0.345 ft
- Maximum image magnification = Approx. 1.0x [35mm camera equivalent: 2.0x] • Filter size = 46 mm
- Dimensions = 58.8 [dia.] x Approx. 63.5 mm / 2.3 [dia.] x 2.5 in • Weight = Approx. 180 g / 6.35 oz

42.5mm F1.7 (35mm camera equivalent: 85mm)



1/800 sec, F1.7, ISO200



F1.7 brightness and the background compression effect of this medium telephoto lens render highly attractive portraits with captivating bokeh effects and natural depth. You can also come as close as 31 cm\* to your subject, to capture truly impressive shots.  
\*The distance between the sensor and the focal position.

7-14mm F4.0 (35mm camera equivalent: 14-28mm)



1/200 sec, F8.0, ISO100



7mm (35mm camera equivalent: 14mm) 14mm (35mm camera equivalent: 28mm)

The 14mm setting (35mm camera equivalent: 28mm) makes it easy to fit the whole subject in the image, even the parts a standard lens cuts off. The 7mm setting (35mm camera equivalent: 14mm) goes even further, providing a wide, sweeping view that gathers in more than the human eye can see at once. This is especially useful for shooting expansive landscapes on trips, or for fitting more into an indoor shot.

### Stunning Bokeh Effects from a Bright F1.7 Medium Telephoto Lens

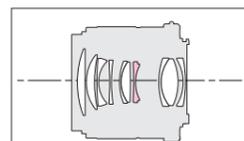
This new lens system features 10 elements in 8 groups, including one aspherical lens, to minimize aberration and distortion. Its 7-blade circular aperture produces stunning bokeh effects. Multi-coating reduces ghosts and flaring to render images with crisp clarity and beautiful depth from corner to corner. Power O.I.S. effectively suppresses hand-shake. You get sharp, clear images even in nightscapes and indoor shots. The Inner Focus system provides high resolution across the entire focusing range. And a new stepping motor drives the lens at 240 fps, for smooth, vibration-free focusing of both still and video images.



LUMIX G 42.5mm / F1.7 ASPH. / POWER O.I.S. (H-HS043)



\* Firmware must be updated to the latest version.



ASPH

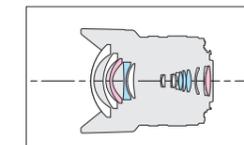
- Lens construction = 10 elements in 8 groups
- Closest focusing distance = 0.31 m/1.02 ft
- Maximum image magnification = Approx. 0.2x [35mm camera equivalent: 0.4x] • Filter size = 37 mm
- Dimensions = 55 [dia.] x Approx. 50 mm / 2.2 [dia.] x 1.97 in • Weight = Approx. 130 g/4.59 oz

### A Super-Small, Lightweight, Ultra-Wide-Angle Zoom Lens

This lens – the world's smallest of its kind\* – gives you an extraordinary perspective with its 114° diagonal angle of view. Small and light enough to take anywhere you go, this ultra-wide-angle lens lets you capture the vastness and majesty of sweeping landscapes with true-to-life ambience and perspective while traveling. In addition to two aspherical lenses for correcting a variety of aberrations, the lens is generously equipped with four Extra-Low Dispersion (ED) lenses to eliminate chromatic aberration from magnification. It renders sharp, crisp images across the entire zoom range. \*As of March 25, 2009, for wide-angle zoom lenses for digital SLR cameras



LUMIX G VARIO 7-14mm / F4.0 ASPH. (H-F007014)



ASPH ED

- Lens construction = 16 elements in 12 groups
- Closest focusing distance = 0.25 m/0.8 ft
- Maximum image magnification = Approx. 0.08x [35mm camera equivalent: 0.15x]
- Dimensions = 75 [dia.] x Approx. 83.1 mm/2.95 [dia.] x 3.27 in • Weight = Approx. 300 g/10.58 oz

# 12-32mm F3.5-5.6 / 12-35mm F2.8

(35mm camera equivalent: 24-64mm/24-70mm)



LUMIX G X VARIO 12-35mm / F2.8 II ASPH. / POWER O.I.S., 1/125 sec, F8.0, ISO200

## A Standard Zoom Lens with Full-Range, High Performance and Excellent Portability

This nimble, lightweight, compact zoom covers an impressive range of scenic possibilities – from wide-angle 24mm to 64mm/70mm [35mm camera equivalent]. Ideal for portraits or capturing landscapes and snapshots. With a 2-stage retractable mechanism the 12-32mm zoom is as easy to carry as a pancake lens and the 12-35mm is compatible with 5-axis Dual I.S.2 – advanced stabilization synchronized in both lens and camera. So, while making full-use of the wide aperture, you can take shake-free pictures in low-light without flash. A dust/splash/freeze-resistant\* design ensures reliable outdoor use.

\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.

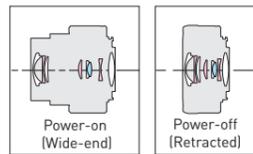


### LUMIX G VARIO 12-32mm / F3.5-5.6 ASPH. / MEGA O.I.S.

(H-FS12032)



\*\* Firmware must be updated to the latest version.



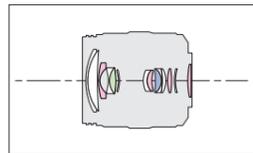
- Lens construction = 8 elements in 7 groups
- Closest focusing distance = 0.2 m/0.66 ft (Wide), 0.3 m/0.98 ft (Tele)
- Maximum image magnification = Approx. 0.13x [35mm camera equivalent: 0.26x]
- Filter size = 37 mm
- Dimensions = 55.5 [dia.] x Approx. 24 mm/2.2 [dia.] x 0.94 in
- Weight = Approx. 70 g/2.47 oz

ASPH ED



### LUMIX G X VARIO 12-35mm / F2.8 II ASPH. / POWER O.I.S.

(H-HSA12035)



- Lens construction = 14 elements in 9 groups
- Closest focusing distance = 0.25 m/0.82 ft
- Maximum image magnification = Approx. 0.17x [35mm camera equivalent: 0.34x]
- Filter size = 58 mm
- Dimensions = 67.6 [dia.] x Approx. 73.8 mm/2.66 [dia.] x 2.91 in
- Weight = Approx. 305 g/10.76 oz

ASPH UED UHR

# 12-60mm F3.5-5.6 (35mm camera equivalent: 24-120mm)



1/400 sec, F14.0, ISO200



This versatile lens opens up for wide-angle landscapes or zooms tight for portraits with artistic background blur, as well as offering macro capability (max. 0.5x magnification [35mm camera equivalent]). Built also with a dust/splash-resistant\* design for confident outdoors shooting, this is a lens to comfortably cover any occasion you attend or chance upon.

\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.

## A 5x Zoom that Takes You to the Next Level

This 5x optical standard zoom lens effortlessly slides from 24mm wide-angle through to 120mm [35mm camera equivalent] medium telephoto. High performance is delivered by 11 elements in 9 groups with 3 aspherical lenses and 1 Extra-Low Dispersion (ED) lens. These deliver consistent image quality throughout the entire zoom range. The inner focus drive provides light-speed auto focusing, with a smooth and silent mechanism that improves severe focus situations, 4K video shooting in particular. Other features include POWER O.I.S and Dual I.S. compatibility.

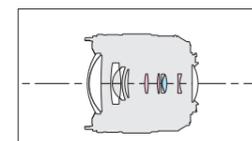


### LUMIX G VARIO 12-60mm / F3.5-5.6 ASPH. / POWER O.I.S.

(H-FS12060)



\*\* Firmware must be updated to the latest version.



- Lens construction = 11 elements in 9 groups
- Closest focusing distance = 0.2 m/0.66 ft (Wide), 0.25 m/0.82 ft (Tele)
- Maximum image magnification = Approx. 0.27x [35mm camera equivalent: 0.54x]
- Filter size = 58 mm
- Dimensions = 66 [dia.] x Approx. 71 mm/2.6 [dia.] x 2.80 in
- Weight = Approx. 210 g/7.41 oz

ASPH ED

# 14-42mm / 14-45mm F3.5-5.6

(35mm camera equivalent: 28-84mm/28-90mm)



LUMIX G X VARIO PZ 14-42mm / F3.5-5.6 ASPH. / POWER O.I.S., 1/2000 sec, F7.1, ISO160

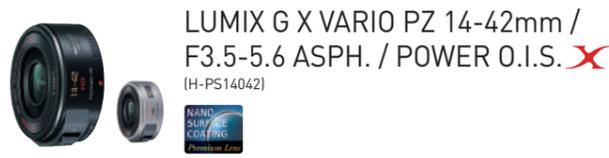
# 14-140mm F3.5-5.6 (35mm camera equivalent: 28-280mm)



1/60 sec, F7.1, ISO160

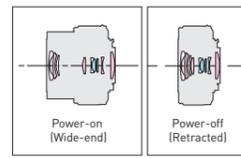
## A Standard Zoom to Perfectly Capture Everyday Moments and Travel Memories

This lens has a wide focal length range up to 3x zoom (approx.) – or 3.2x with the 14-45mm option. As such it suits multiple situations from landscapes to travel snapshots. The G X VARIO PZ 14-42mm has an ultra-compact retractable design and boasts superior POWER OIS stabilization with a silent zoom for clean audio when shooting video. The two aspherical lenses of the G VARIO 14-42mm make it small and lightweight while the G VARIO 14-45mm has 12 lens elements in 9 groups, incl. a glass-molded aspherical lens, correcting for aberrations to deliver superb optical performance.



LUMIX G X VARIO PZ 14-42mm / F3.5-5.6 ASPH. / POWER O.I.S. X

(H-PS14042)



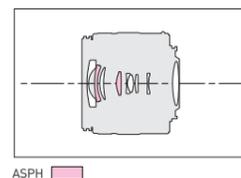
ASPH ASPH ED ED

- Lens construction = 9 elements in 8 groups
- Closest focusing distance = 0.2 m/0.66 ft [Wide], 0.3 m/0.98 ft [Tele] • Maximum image magnification = Approx. 0.17x [35 mm camera equivalent: 0.34x]
- Filter size = 37 mm • Dimensions = 61 [dia.] x Approx. 26.8 mm/2.4 [dia.] x 1.1 in [When the lens is retracted] • Weight = Approx. 95 g/3.4 oz



LUMIX G VARIO 14-42mm / F3.5-5.6 II ASPH. / MEGA O.I.S.

(H-FS1442A)



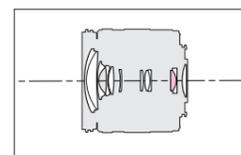
ASPH

- Lens construction = 9 elements in 8 groups
- Closest focusing distance = 0.2 m/0.66 ft [Wide], 0.3 m/0.98 ft [Tele] • Maximum image magnification = Approx. 0.17x [35 mm camera equivalent: 0.34x]
- Filter size = 46 mm • Dimensions = 56 [dia.] x Approx. 49 mm/2.2 [dia.] x 1.9 in • Weight = Approx. 110 g/3.88 oz



LUMIX G VARIO 14-45mm / F3.5-5.6 ASPH. / MEGA O.I.S.

(H-FS014045)



ASPH

- Lens construction = 12 elements in 9 groups
- Closest focusing distance = 0.3 m/0.98 ft
- Maximum image magnification = Approx. 0.17x [35 mm camera equivalent: 0.34x] • Filter size = 52 mm • Dimensions = 60 [dia.] x Approx. 60 mm/2.36 [dia.] x 2.36 in • Weight = Approx. 195 g/6.88 oz



This lens covers a wide range of shooting situations, from dynamic wide-angle shots of vast landscapes while traveling, to impressive medium telephoto portraits with natural depth, and telephoto shots that pull in distant subjects powerfully and clearly. This single lens is all you need to bring home naturally beautiful memories of your trip.

## A 10x Optical Zoom Lens with a Compact, Lightweight, Elegant Design

This 10x optical zoom lens is lightweight (approximately 265 g) and features an elegant, dust/splash-resistant\* design in a compact size of total length 75mm. Focal length covers the range from 28mm to 280mm (both 35mm camera equivalent) which provides high image quality throughout thanks to 2 ED lenses and 3 aspherical lenses. It also enables close-up shooting (down to 30 cm) at wide-angle, and macro shots (max. shooting magnification of 0.25x) at telephoto. A newly developed stepping motor delivers high-speed AF with 240-fps lens drive. This high-speed, high-precision zoom lens also handles HD video shooting.

\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.

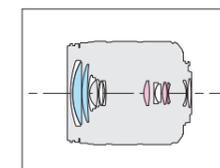


LUMIX G VARIO 14-140mm / F3.5-5.6 II ASPH. / POWER O.I.S.

(H-FSA14140)



\*\* Firmware must be updated to the latest version.



ASPH ASPH ED ED

- Lens construction = 14 elements in 12 groups
- Closest focusing distance = 0.3 m/0.98 ft [Wide], 0.5 m / 1.64 ft [Tele] • Maximum image magnification = Approx. 0.25x [35mm camera equivalent: 0.5x]
- Filter size = 58 mm • Dimensions = 67 [dia.] x Approx. 75 mm/2.64 [dia.] x 2.95 in • Weight = Approx. 265 g/9.35 oz

35-100mm F2.8/F4.0-5.6 (35mm camera equivalent: 70-200mm)



©Bence Máté LUMIX G X VARIO 35-100mm / F2.8 II / POWER O.I.S., 1/500 sec, F2.8, ISO640

45-150mm / -175mm / -200mm F4.0-5.6 (35mm camera equivalent: 90-300mm / 90-350mm / 90-400mm)



©Bence Máté LUMIX G VARIO 45-200mm / F4.0-5.6 II / POWER O.I.S., 1/60 sec, F6.3, ISO400

**A High-Performance Telephoto Zoom – Easy to Carry, Great for Stylish Effects**

This lens covers the 70-200mm range (35mm camera equivalent), in a compact size and lightweight for easy portability bringing exquisite bokeh expression to both telephoto and portrait shots. With the dust/splash/freeze-resistant\* design of the high-speed F2.8 X Lens you can take it almost anywhere, using high shutter speeds to capture even fast-moving subjects without worrying about shooting circumstances. The lens is compatible with 5-axis Dual I.S.2 stabilization which works with in-camera shake compensation so that, even for hand-held shots in low light you secure blur-free images.

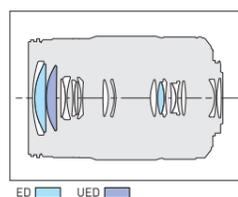
\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.

**Zooming from Medium through Standard, All the Way to Super Telephoto**

This is a lens for dynamic action shots at soccer matches or wildlife in the field. The 45-200mm is a super telephoto, zooming as close as 400mm (35mm camera equivalent) and achieving high speed, high precision AF with 240fps drive compatibility. It also works for 5-axis Dual I.S.2 stability together with in-camera shake correction while the dust/splash-resistant\* design lets you use it anywhere. The 45-150mm has an Inner Focus system for high-speed Contrast AF and the 45-175mm is easy to use thanks to a silent power zoom which moves while actual lens-length stays fixed.

\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.

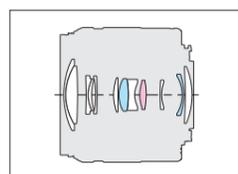
**LUMIX G X VARIO 35-100mm / F2.8 II / POWER O.I.S. X**  
(H-HSA35100)



- Lens construction = 18 elements in 13 groups
- Closest focusing distance = 0.85 m/3.0 ft
- Maximum image magnification = Approx. 0.1x (35mm camera equivalent: 0.2x)
- Filter size = 58 mm
- Dimensions = 67.4 [dia.] x Approx. 99.9 mm/2.65 [dia.] x 3.93 in
- Weight = Approx. 357 g/12.59 oz

ED UED

**LUMIX G VARIO 35-100mm / F4.0-5.6 ASPH. / MEGA O.I.S.**  
(H-FS35100)

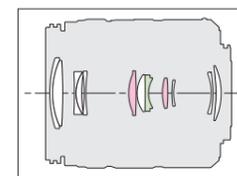


- Lens construction = 12 elements in 9 groups
- Closest focusing distance = 0.9 m/3.0 ft
- Maximum image magnification = Approx. 0.11x (35mm camera equivalent: 0.22x)
- Filter size = 46 mm
- Dimensions = 55.5 [dia.] x Approx. 50 mm/2.2 [dia.] x 1.97 in
- Weight = Approx. 135 g/4.76 oz

ASPH ED

\* Firmware must be updated to the latest version.

**LUMIX G VARIO 45-150mm / F4.0-5.6 ASPH. / MEGA O.I.S.**  
(H-FS45150)

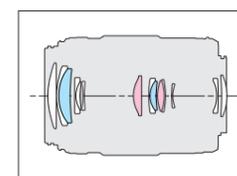


- Lens construction = 12 elements in 9 groups
- Closest focusing distance = 0.9 m/3.0 ft
- Maximum image magnification = Approx. 0.17x (35mm camera equivalent: 0.35x)
- Filter size = 52 mm
- Dimensions = 62 [dia.] x Approx. 73 mm/2.44 [dia.] x 2.9 in
- Weight = Approx. 200 g/7.1 oz

ASPH UHR

\* Firmware must be updated to the latest version.

**LUMIX G X VARIO PZ 45-175mm / F4.0-5.6 ASPH. / POWER O.I.S. X**  
(H-PS45175)

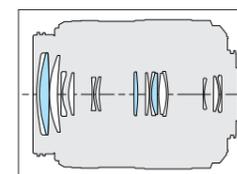


- Lens construction = 14 elements in 10 groups
- Closest focusing distance = 0.9 m/3.0 ft
- Maximum image magnification = Approx. 0.2x (35mm camera equivalent: 0.4x)
- Filter size = 46 mm
- Dimensions = 61.6 [dia.] x Approx. 90.0 mm/2.4 [dia.] x 3.5 in
- Weight = Approx. 210 g/7.4 oz

ASPH ED

\* Firmware must be updated to the latest version.

**LUMIX G VARIO 45-200mm / F4.0-5.6 II / POWER O.I.S.**  
(H-FSA45200)



- Lens construction = 16 elements in 13 groups
- Closest focusing distance = 1.0 m/3.28 ft
- Maximum image magnification = Approx. 0.19x (35mm camera equivalent: 0.38x)
- Filter size = 52 mm
- Dimensions = 70 [dia.] x Approx. 100 mm/2.76 [dia.] x 3.94 in
- Weight = Approx. 370 g/13.05 oz

ED

TELEPHOTO ZOOM

100-300mm F4.0-5.6 (35mm camera equivalent: 200-600mm)



©Bence Máté

1/250 sec, F7.1, ISO200



1/2000 sec, F5.6, ISO200

Conventional 600mm-class (35mm camera equivalent) lenses are big, heavy and tiresome to haul around. LUMIX G lenses are small, lightweight and fit perfectly in the palm of the hand. Now, holding the camera in one hand, you can take dynamic, professional-looking ultra-telephoto shots of a swimmer – and capture even individual drops of water flying through the air.

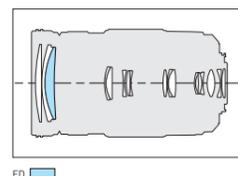
### A 5-axis Dual I.S.2 Compatible Lens for Shake-free Ultra-Telephoto Shooting

As well as correcting camera shake with POWER O.I.S. this lens is compatible with 5-axis Dual I.S.2 stabilization, working together with in-camera shake suppression (B.I.S) so you can take blur-free handheld shots even at super telephoto range. An ED lens mounted in the first lens group corrects the color bleed aberrations from zooming and an Inner Focus system enhances focusing to enable high-speed Contrast AF with 240fps drive compatibility. The lens is also compact and lightweight to carry anywhere and, thanks to a dust/splash-resistant\* design, is well-suited to field use.

\* Dust and Splash Resistant does not guarantee that damage will not occur if this lens is subjected to direct contact with dust and water.



LUMIX G VARIO 100-300mm / F4.0-5.6 II / POWER O.I.S. (H-FSA100300)



- Lens construction = 17 elements in 12 groups
- Closest focusing distance = 1.5 m/4.92 ft
- Maximum image magnification = Approx. 0.21x (35mm camera equivalent: 0.42x)
- Filter size = 67 mm
- Dimensions = 73.6 [dia.] x Approx. 126 mm/2.90 [dia.] x 4.96 in
- Weight = Approx. 520 g/18.34 oz

## Teleconverters

These high-performance converters give your main lens that extra telephoto reach by multiplying its focal length.



**Teleconverter**  
DMW-TC14\*



**Teleconverter**  
DMW-TC20\*

\* **Attachable Lenses** : LEICA DG ELMARIT 200mm / F2.8 / POWER O.I.S. (H-ES200)

LEICA DG VARIO-ELMARIT 50-200mm / F2.8-4.0 ASPH. / POWER O.I.S. (H-ES50200)

## Conversion Lenses



### Wide Conversion Lens

DMW-GWC1 Attachable Lenses\* 1-2  
Create more dynamic expressions with a wider perspective.



### Tele Conversion Lens

DMW-GTC1 Attachable Lenses\* 1  
Pull in faraway subjects so they appear to be almost within reach.



### Macro Conversion Lens

DMW-GMC1 Attachable Lenses\* 1-2  
The macro lens lets you get right up close, and creates beautiful background bokeh effects.



### Fisheye Conversion Lens

DMW-GFC1 Attachable Lenses\* 1-2  
The fisheye lens gives a unique expression to everyday scenes.

\* **Attachable Lenses** 1: LUMIX G X VARIO PZ 14-42mm / F3.5-5.6 ASPH. / POWER O.I.S. (H-PS14042) 2: LUMIX G 14mm / F2.5 ASPH. (H-H014) As of Jan 9, 2012.

## Mount Adaptors

Enables the use of lenses other than those of the Micro Four Thirds System standard.



**DMW-MA1**  
for the Four Thirds System standard

Allows Four Thirds standard lenses to be mounted onto a Micro Four Thirds camera.



**DMW-MA2M**  
for M mount lenses from Leica Camera AG

Allows Leica M mount lenses to be mounted onto a Micro Four Thirds camera.



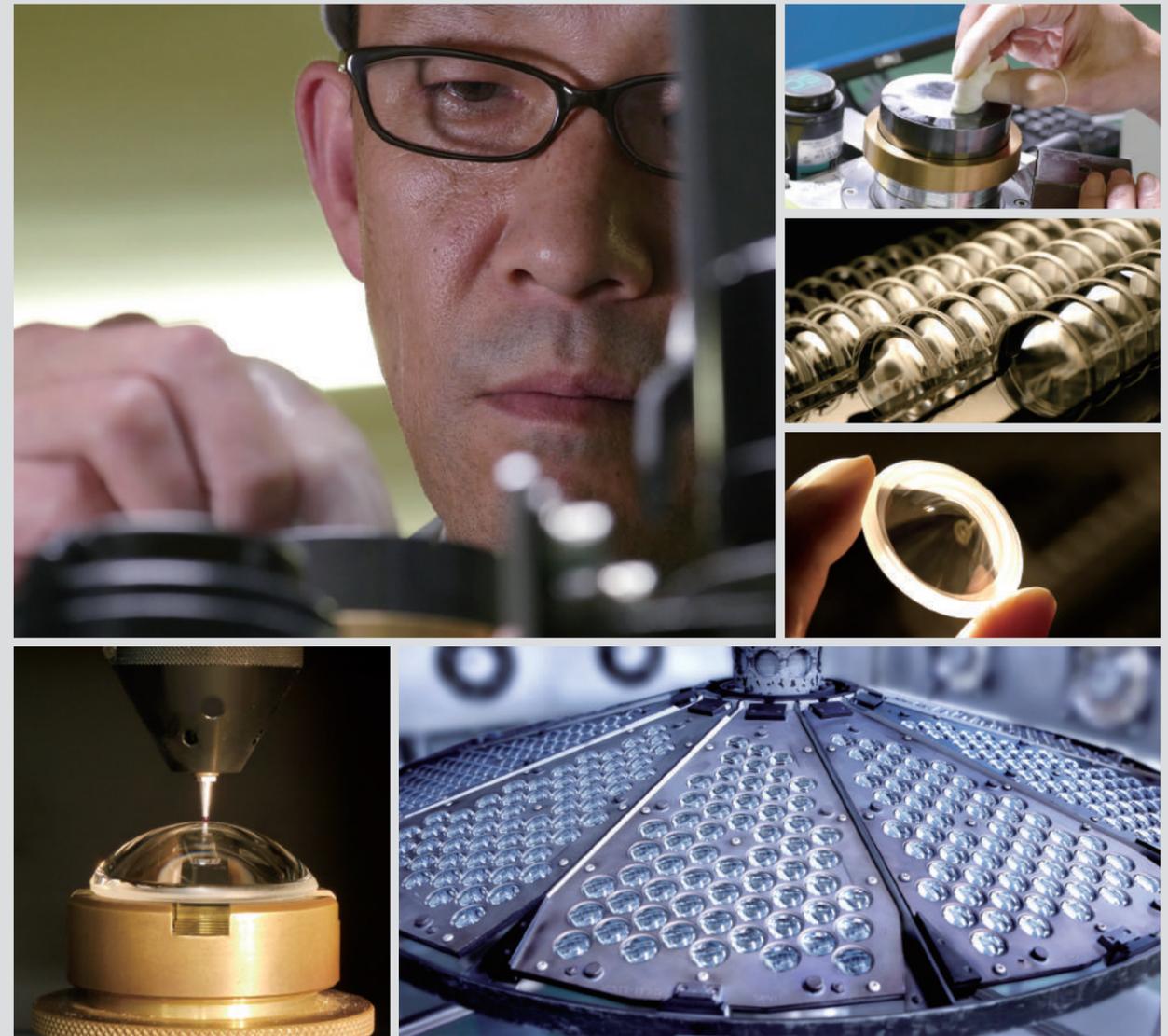
**DMW-MA3R**  
for R mount lenses from Leica Camera AG

Allows Leica R mount lenses to be mounted onto a Micro Four Thirds camera.

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# Lens Technology

These cutting-edge technologies support the compact size, light weight, and high-quality images of LUMIX G.



## Lenses Manufactured with Uncompromising Devotion to High Image Quality

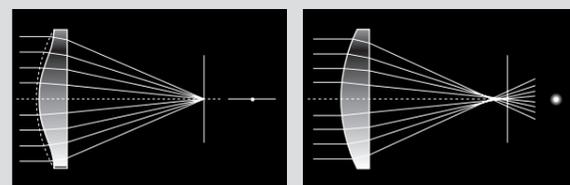
At the Yamagata Plant, lenses are processed, assembled, inspected, and individually packaged, all in a Clean Room environment. This stringent level of quality control is unique to LUMIX lenses. For example, to inspect aspherical lenses, we use an instrument called the UA3P Ultra-Accurate 3D Profilometer, which was originally developed by Panasonic and now plays an essential role in the development and manufacturing activities of many optical device manufacturers. Using this instrument, with

its measurement accuracy of 1/10,000 mm, we conduct objective, numerical evaluations. These criteria are then used to determine the presence of ghosts and flaring, the color of coatings, and the degree of defocus, in addition to checking the operating feel of the focus ring and aperture ring, and the sound quality of various motors, in order to ensure high-quality production control. As a result, the quality of Panasonic lenses has gained high worldwide acclaim for accuracy and image quality.

## Aspherical Lenses\*

LUMIX G Series lenses feature a number of aspherical lenses that effectively prevent lens spherical and distortion aberrations, etc. Each aspherical lens has the effect of several spherical lenses, thereby making a smaller overall size and weight possible. However, because such lenses demand high dimensional accuracy, this usually limits lens shapes and materials. So, our Yamagata Plant began developing cutting-edge technologies for molded lenses from the outset. Today, in addition to ordinary glass materials, the plant produces technically challenging ED materials. In order to further enhance defocusing – one of the most attractive features of interchangeable lenses – the Yamagata Plant has developed new molding technology to dramatically reduce the problematic ‘onion-ring bokeh’ concentric rings that usually result from the precision glass molding of aspherical lenses. Now, the ‘onion-ring’ aberrations are minimal. With the wider usage of aspherical lenses with outstanding image rendering capabilities, this advance makes defocused bokeh effects even more beautiful.

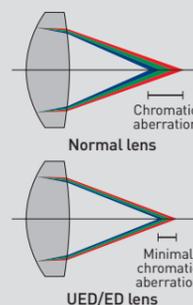
\* Aspherical lenses are not used in some lens units.



Aspherical lens Spherical lens

## Ultra Extra-Low Dispersion (UED) Lenses

In a conventional lens made only of optical glass, correcting chromatic aberration becomes difficult when the focal length is long or angle of view wide, an inadequacy resulting in contrast degradation or color bleeding. Panasonic's Ultra Extra-Low Dispersion (UED/ED) lens suppresses the prism's color separation effect to correct longitudinal chromatic aberration at the telephoto zoom setting and chromatic differences of magnification at the wide-angle setting to render sharp, high-contrast images with clear colors from corner to corner.



## Ultra-High Refractive Index (UHR) Lens

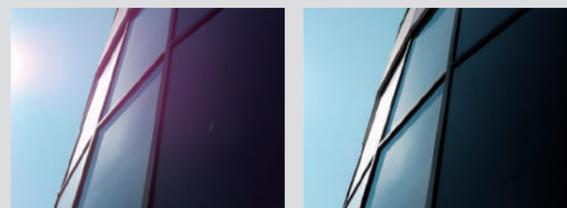
The use of the newly developed ultra-high refractive index (UHR) lens has improved optical performance, reduced size and weight, and achieved uniform image quality from the center to the edges of the image.

## Multicoating Process



Utmost caution is exercised in coating the LUMIX Series lenses to suppress ghosts and flaring, increase durability, and enhance image beauty while ensuring optimum color balance. In addition to finely regulating the reflectance for the main wavelengths, LUMIX G Series lenses feature a coating that reduces the reflectance of light that enters at an angle. This multicoating process is widely used on lenses with a small radius of curvature, such as those in ultra-wide-angle lenses and fisheye lenses. It greatly improves the image rendering performance when shooting against a light source. Moreover, the bonded surfaces of cemented lenses are also given an original multicoating process to further reduce reflection. This results in high-quality images with superb clarity.

\* Aspherical lenses are not used in some lens units.

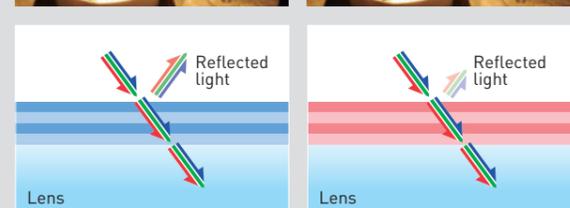


Without multicoating With multicoating

## Nano Surface Coating



The Nano Surface Coating that is used in LUMIX G X lenses and some Leica DG lenses was developed originally by Panasonic. By forming a thin film with an ultra-fine nano-level structure and a super-low refractive index on the lens surface, Panasonic has achieved a dramatic reduction in the amounts of light reflection over the entire visible light range (from 380 to 780 nm). This significantly decreases ghosts and flaring and renders pure and clear images. This advanced coating technology is highly acclaimed by the camera and lens industries.

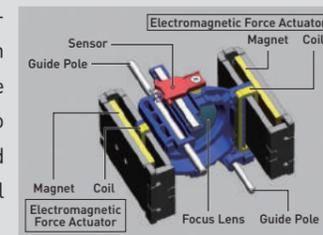


## POWER O.I.S. / MEGA O.I.S. (Optical Image Stabilizer)

LUMIX G Series lenses feature two image stabilizing functions. With MEGA O.I.S., an internal LSI processes the output of the system's gyro sensors approximately 4,000 times a second to provide accurate compensation for even tiny amounts of handshake. This highly accurate function also lets you check the compensation effect directly through the Live View Finder or on the LCD. It is especially effective for handheld shooting with a zoom lens. POWER O.I.S. offers an even more advanced handshake compensation effect. It not only compensates tiny amounts of fine, fast handshake but also suppresses large, slow movements with twice the effectiveness (according to a Panasonic measurement method).

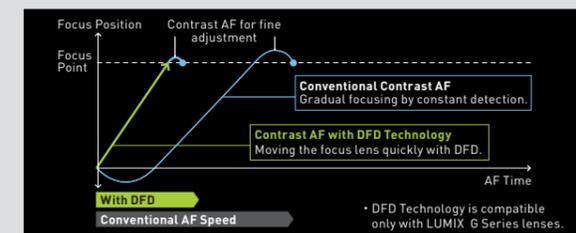
## Linear Motor

Panasonic's linear motor is an electromagnetic force actuator that drives the focus lens without physical contact. As such it is utterly silent, while also achieving both high-speed and high-precision auto focus. The motor also supports shooting high-quality 4K videos even in lenses with large apertures thanks to unique feedback and hybrid controls, as well as feed forward control.



## Contrast AF with DFD (Depth From Defocus) Technology

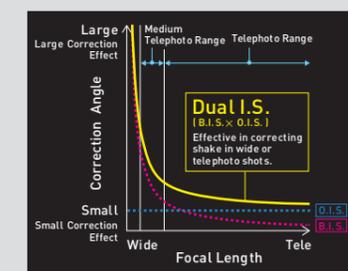
Panasonic's originally developed DFD technology enables ultra-high-speed distance measurement. A simple focusing operation immediately shows the distance information of all of the subjects displayed on the monitor, so you can instantly focus on the desired subject. Combining this with Panasonic's accumulation of Contrast AF technology has made it possible to achieve faster, more precise auto-focusing to avoid missing those fleeting shutter opportunities. Also, because the distance information is constantly acquired and refreshed, subjects that have been



## Dual I.S.

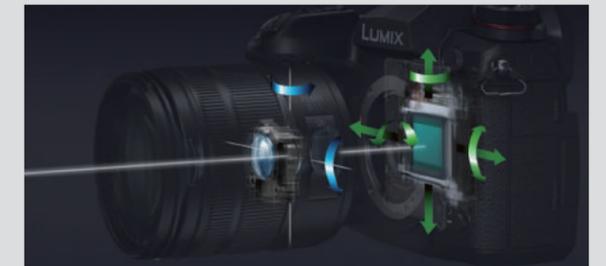


With Panasonic's new stabilization technology, larger camera movements – previously always difficult to control without a tripod or rig – are now compensated for. Information on camera shake at the moment of shooting is transmitted at high-speed and simultaneously drives anti-shake image stabilization within both camera lens and body. This new and more advanced technology produces crystal clear images and applies not only to hand-held stills shooting but also to video recording (including 4K video). The blur of camera shake is removed through the entire shooting range from wide-angle to telephoto, offering users

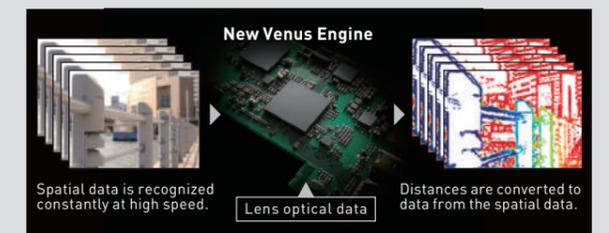


greater confidence and assurance when shooting challenging subjects.

\* Correction range indicated is an example and varies according to lens used. (GX80 / 85, 14-140mm lens when mounted, compared with wide end)



measured once are not lost, even when shooting videos, so you enjoy smooth AF tracking without background or foreground defocusing. Achieving this technology requires high-speed, high-precision lens drive control, and the ability to accurately grasp the focusing data of each lens. By storing this data in the camera's image processing LSI, Panasonic has attained the world's first application of this technology to a digital camera AF system. By combining ultra-high-speed DFD technology with conventional, high-precision Contrast AF, we have optimized Contrast AF performance.



# Lens Knowledge

Things you should know about lenses to maximize your photographic enjoyment.



\*Figures in parentheses are 35mm camera equivalent values.

## What are angle of view and focal length?

The angle of view is the area of the image captured by the image sensor, expressed as an angle. The larger the angle of view, the shorter the focal length. The smaller the angle of view, the longer the focal length. A lens with a short focal length and a large angle of view is called a wide-angle lens. A lens with a long focal length and a small angle of view is called a telephoto lens. In the LUMIX G, the diagonal dimension of the image sensor has been downsized to half that of a 35mm film frame, so the focal length is twice as long when converted to that of a 35mm camera. For example, the angle of view for a LUMIX G 25mm lens is 47°, which is the same as the angle of view for a 50mm lens on a 35mm camera.

## What's the F-number?

Lens brightness is determined by the focal length and effective lens diameter. If you divide the focal length by the effective lens diameter, you get a value called the F-number. The lower the F-number, the larger the aperture and the more light that passes through the lens. A lens with a lower F-number has several key advantages. For example, lenses with a lower F-number let you use a faster shutter speed, so you can get clear, blur-free shots even in dim lighting. They also let you give the background a defocus.

## What's depth of field?

Depth of field is the range of object distances (in the depth direction) within which objects have acceptable sharpness. A long focal length (telephoto lens) or small F-number makes the depth of field shallower. A short focal length (wide-angle lens) or large F-number makes the depth of field greater. With a shallow depth of field, it's easier to take pictures in which the background is intentionally given a defocus, thus emphasizing the sharp subject focus. With a large depth of field, you can keep objects in both the foreground and background all in focus (for a pan-focus effect).



## What's perspective?

Perspective refers to the relationship between nearby and distant objects. A wide-angle lens makes objects close to the lens appear larger and faraway objects smaller. This emphasizes the distance (depth) between nearby and distant objects, making the background appear farther away and expansive. A telephoto lens, on the other hand, compresses the perspective, thus deemphasizing the distance between objects in the foreground and objects in the background.



\*Figures in parentheses are 35mm camera equivalent values.

## What's the magnification ratio?

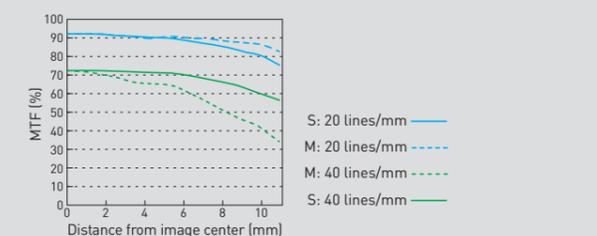
The magnification ratio is a numerical value that indicates the size difference between the actual size of an object and the size of that object captured on the image sensor. For example, if a 10-mm object is captured in a 5-mm size on the image sensor through a lens, that lens has a magnification ratio of 0.5x. If the object is captured in a 10-mm size, the lens has a magnification ratio of 1.0x, which is also referred to as "1:1."

\*The maximum image magnification of a Micro Four Thirds System lens can be converted into the maximum image magnification of a 35mm camera lens by multiplying "the indicated maximum image magnification x 2".



## What's MTF?

MTF stands for Modulation Transfer Function. It's one of the indexes used to describe lens performance. The MTF is a numerical value that indicates how accurately a lens can reproduce the contrast of an object. The vertical axis of the graph shows contrast reproducibility (%), while the horizontal axis indicates the distance (mm) from the image center. The image quality is evaluated in the sagittal direction "S" (parallel to the radius of the image circle) and in the meridional direction "M" (radial direction) using two frequencies (high frequency: 40 lines/mm, low frequency: 20 lines/mm). The solid lines represent sagittal measurements, and the dotted lines indicate meridional measurements. The higher up (100%) the graph, the better the image rendering capability of the lens. The higher the measurements with the low frequency, the higher the contrast reproduction capability. The higher the measurements with the high frequency, the higher the resolving power.



## Lens Designation

LUMIX G X VARIO

**PZ 45-175mm /**

① ②

**F4.0-5.6 ASPH. /**

③ ④

**POWER O.I.S.**

⑤

### ① Power Zoom

This indicates that the lens is equipped with the electric-power zoom function for easy zooming operation.

### ② Focal length

The smaller the focal length, the wider the angle of view (wide angle). The larger the focal length, the smaller the angle of view (telephoto). The number on the left is the focal length at the wide-angle setting, and the number on the right is the focal length at the telephoto setting.

### ③ F-number

The smaller the F-number, the brighter the lens. The number on the left is the

F-number for the fully opened aperture at the wide-angle setting, and the number on the right is the F-number for the fully opened aperture at the telephoto setting. (The F-number takes an intermediate value while zooming.)

### ④ Aspherical lens

"ASPH." means that the lens includes one or more aspherical lenses.

### ⑤ Hand-shake compensation

"POWER O.I.S." (or "MEGA O.I.S.") indicates that the lens is equipped with an optical image stabilizer for hand-shake compensation.

# Specifications

## Micro Four Thirds System Standard



LEICA DG Lens 	35mm Camera Equivalent Focal Length	AF Actuator	O.I.S.	Dual I.S.	Coating	Lens Construction Elements-Groups	Angle of View	Number of Blades	Minimum Aperture	Closest Focusing Distance (m/ft)	Maximum Image Magnification (35mm camera equivalent)	Filter Size (mm)	Diameter (φ) x Length (mm/in)	Weight (g/oz)	Supplied Accessories
LEICA DG SUMMILUX 12mm / F1.4 ASPH.	24mm	Stepping Motor	-	-	Multi Coating	15-12	84°	9 (Circular aperture diaphragm)	16	0.2 / 0.66	0.1x (0.2x)	62	φ 70 x 70 / φ 2.76 x 2.76	335 / 11.82	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LEICA DG SUMMILUX 15mm / F1.7 ASPH.	30mm	Stepping Motor	-	-	Nano Surface Coating	9-7	72°	7 (Circular aperture diaphragm)	16	0.2 / 0.66	0.1x (0.2x)	46	φ 57.5 x 36 / φ 2.26 x 1.42	115 / 4.06	Lens cap, Lens hood, Lens rear cap, Lens hood cap, Decoration ring, Lens storage bag
LEICA DG SUMMILUX 25mm / F1.4 II ASPH.	50mm	Stepping Motor	-	-	Nano Surface Coating	9-7	47°	7 (Circular aperture diaphragm)	16	0.3 / 0.98	0.11x (0.22x)	46	φ 63 x 54.5 / φ 2.48 x 2.14	205 / 7.23	Lens cap, Lens rear cap, Lens storage bag
LEICA DG NOCTICRON 42.5mm / F1.2 ASPH. / POWER O.I.S.	85mm	Stepping Motor	POWER O.I.S.	Dual I.S.2*	Nano Surface Coating	14-11	29°	9 (Circular aperture diaphragm)	16	0.5 / 1.64	0.1x (0.2x)	67	φ 74 x 76.8 / φ 2.91 x 3.02	425 / 15.04	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LEICA DG MACRO-ELMARIT 45mm / F2.8 ASPH. / MEGA O.I.S.	90mm	Stepping Motor	MEGA O.I.S.	Dual I.S.*	Multi Coating	14-10	27°	7 (Circular aperture diaphragm)	22	0.15 / 0.5	1.0x (2.0x)	46	φ 63 x 62.5 / φ 2.48 x 2.46	225 / 7.94	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LEICA DG ELMARIT 200mm / F2.8 / POWER O.I.S.	400mm	Linear Motor	POWER O.I.S.	Dual I.S.2	Nano Surface Coating	15-13	6.2°	9 (Circular aperture diaphragm)	22	1.15 / 3.8 (Full), 3.0 / 9.8 (3m-Limit)	0.2x (0.4x)	77	φ 87.5 x 174 / φ 3.44 x 6.85	1245 / 43.92	DMW-TC14 (1.4x Teleconverter), External tripod mount, Lens cap, Lens rear cap, Lens hood, Lens storage bag
LEICA DG VARIO-ELMARIT 8-18mm / F2.8-4.0 ASPH.	16-36mm	Stepping Motor	-	-	Nano Surface Coating	15-10	107 - 62°	7 (Circular aperture diaphragm)	22	0.23 / 0.75	0.12x (0.24x)	67	φ 73.4 x 88 / φ 2.89 x 3.46	315 / 11.1	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LEICA DG VARIO-SUMMILUX 10-25mm / F1.7 ASPH.	20-50mm	Stepping Motor	-	-	Multi Coating	17-12	94 - 47°	9 (Circular aperture diaphragm)**	16	0.28 / 0.92	0.14x (0.28x)	77	φ 87.6 x 128 / φ 3.45 x 5.04	690 / 24.34	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LEICA DG VARIO-ELMARIT 12-60mm / F2.8-4.0 ASPH. / POWER O.I.S.	24-120mm	Linear Motor	POWER O.I.S.	Dual I.S.2	Nano Surface Coating	14-12	84 - 20°	9 (Circular aperture diaphragm)	22	0.2 / 0.66 (Wide), 0.24 / 0.79 (Tele)	0.3x (0.6x)	62	φ 68.4 x 86 / φ 2.69 x 3.39	320 / 11.29	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LEICA DG VARIO-ELMARIT 50-200mm / F2.8-4.0 ASPH. / POWER O.I.S.	100-400mm	Linear Motor	POWER O.I.S.	Dual I.S.2	Nano Surface Coating	21-15	24 - 6.2°	9 (Circular aperture diaphragm)	22	0.75 / 2.46	0.25x (0.5x)	67	φ 76 x 132 / φ 2.99 x 5.20	655 / 23.10	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LEICA DG VARIO-ELMAR 100-400mm / F4.0-6.3 ASPH. / POWER O.I.S.	200-800mm	Linear Motor	POWER O.I.S.	Dual I.S.2*	Multi Coating	20-13	12 - 3.1°	9 (Circular aperture diaphragm)	22	1.3 / 4.27	0.25x (0.5x)	72	φ 83 x 171.5 / φ 3.3 x 6.75	985 / 34.74	Lens cap, Lens hood, Lens rear cap, Lens storage bag, External tripod mount

\*We recommend that you update the firmware to enjoy a more comfortable shooting experience. For further details, visit <http://panasonic.jp/support/global/cs/dsc/index.html>.

\*\*The compression level of product photographs shown in this catalog varies. Check the above table for actual sizes.

\* Firmware must be updated to the latest version.

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•LEICA is a registered trademark of Leica Microsystems IR GmbH. 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.

# Specifications

## Micro Four Thirds System Standard

LUMIX G Lens & X Lens	35mm Camera Equivalent Focal Length	AF Actuator	O.I.S.	Dual I.S.	Coating	Lens Construction Elements-Groups	Angle of View	Number of Blades	Minimum Aperture	Closest Focusing Distance (m/ft)	Maximum Image Magnification (35mm camera equivalent)	Filter Size (mm)	Diameter (φ) x Length (mm/in)	Weight (g/oz)	Supplied Accessories
LUMIX G FISHEYE 8mm / F3.5	16mm	Stepping Motor	-	-	Multi Coating	10-9	180°	7 (Circular aperture diaphragm)	22	0.1 / 0.33	0.2x (0.4x)	*2	φ 60.7 x 51.7 / φ 2.39 x 2.04	165 / 5.82	Lens cap, Lens rear cap, Lens storage bag
LUMIX G 14mm / F2.5 II ASPH.	28mm	Stepping Motor	-	-	Multi Coating	6-5	75°	7 (Circular aperture diaphragm)	22	0.18 / 0.59	0.1x (0.2x)	46	φ 55.5 x 20.5 / φ 2.19 x 0.81	55 / 1.94	Lens cap, Lens rear cap
LUMIX G 20mm / F1.7 II ASPH.	40mm	Stepping Motor	-	-	Multi Coating	7-5	57°	7 (Circular aperture diaphragm)	16	0.2 / 0.66	0.13x (0.25x)	46	φ 63 x 25.5 / φ 2.48 x 1.00	87 / 3.07	Lens cap, Lens rear cap, Lens storage bag
LUMIX G 25mm / F1.7 ASPH.	50mm	Stepping Motor	-	-	Multi Coating	8-7	47°	7 (Circular aperture diaphragm)	22	0.25 / 0.82	0.14x (0.28x)	46	φ 60.8 x 52 / φ 2.4 x 2.05	125 / 4.41	Lens cap, Lens hood, Lens rear cap, Decoration ring
LUMIX G MACRO 30mm / F2.8 ASPH. / MEGA O.I.S.	60mm	Stepping Motor	MEGA O.I.S.	Dual I.S.*3	Multi Coating	9-9	40°	7 (Circular aperture diaphragm)	22	0.105 / 0.345	1.0x (2.0x)	46	φ 58.8 x 63.5 / φ 2.3 x 2.5	180 / 6.35	Lens cap, Lens rear cap, Lens storage bag
LUMIX G 42.5mm / F1.7 ASPH. / POWER O.I.S.	85mm	Stepping Motor	POWER O.I.S.	Dual I.S.*3	Multi Coating	10-8	29°	7 (Circular aperture diaphragm)	22	0.31 / 1.02	0.2x (0.4x)	37	φ 55 x 50 / φ 2.2 x 1.97	130 / 4.59	Lens cap, Lens hood, Lens rear cap, Decoration ring, Lens storage bag
LUMIX G VARIO 7-14mm / F4.0 ASPH.	14-28mm	Stepping Motor	-	-	Multi Coating	16-12	114 - 75°	7 (Circular aperture diaphragm)	22	0.25 / 0.8	0.08x (0.15x)	-	φ 75 x 83.1 / φ 2.95 x 3.27	300 / 10.58	Lens cap, Lens rear cap, Lens storage bag
LUMIX G VARIO 12-32mm / F3.5-5.6 ASPH. / MEGA O.I.S.	24-64mm	Stepping Motor	MEGA O.I.S.	Dual I.S.*3	Multi Coating	8-7	84 - 37°	7 (Circular aperture diaphragm)	22	0.2 / 0.66 (Wide), 0.3 / 0.98 (Tele)	0.13x (0.26x)	37	φ 55.5 x 24 / φ 2.2 x 0.94	70 / 2.47	Lens cap, Lens rear cap
LUMIX G X VARIO 12-35mm / F2.8 II ASPH. / POWER O.I.S. ✗	24-70mm	Stepping Motor	POWER O.I.S.	Dual I.S.2	Nano Surface Coating	14-9	84 - 34°	7 (Circular aperture diaphragm)	22	0.25 / 0.82	0.17x (0.34x)	58	φ 67.6 x 73.8 / φ 2.66 x 2.91	305 / 10.76	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LUMIX G VARIO 12-60mm / F3.5-5.6 ASPH. / POWER O.I.S.	24-120mm	Stepping Motor	POWER O.I.S.	Dual I.S.*3	Multi Coating	11-9	84 - 20°	7 (Circular aperture diaphragm)	22	0.2 / 0.66 (Wide), 0.25 / 0.82 (Tele)	0.27x (0.54x)	58	φ 66 x 71 / φ 2.6 x 2.80	210 / 7.41	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LUMIX G X VARIO PZ 14-42mm / F3.5-5.6 ASPH. / POWER O.I.S. ✗	28-84mm	Stepping Motor	POWER O.I.S.	-	Nano Surface Coating	9-8	75 - 29°	7 (Circular aperture diaphragm)	22	0.2 / 0.66 (Wide), 0.3 / 0.98 (Tele)	0.17x (0.34x)	37	φ 61 x 26.8*1 / φ 2.4 x 1.1*1	95 / 3.4	Lens cap, Lens rear cap, Lens storage bag
LUMIX G VARIO 14-42mm / F3.5-5.6 II ASPH. / MEGA O.I.S.	28-84mm	Stepping Motor	MEGA O.I.S.	Dual I.S.*3	Multi Coating	9-8	75 - 29°	7 (Circular aperture diaphragm)	22	0.2 / 0.66 (Wide), 0.3 / 0.98 (Tele)	0.17x (0.34x)	46	φ 56 x 49 / φ 2.2 x 1.9	110 / 3.88	Lens cap, Lens hood, Lens rear cap
LUMIX G VARIO 14-45mm / F3.5-5.6 ASPH. / MEGA O.I.S.	28-90mm	Stepping Motor	MEGA O.I.S.	-	Multi Coating	12-9	75 - 27°	7 (Circular aperture diaphragm)	22	0.3 / 0.98	0.17x (0.34x)	52	φ 60 x 60 / φ 2.36 x 2.36	195 / 6.88	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LUMIX G VARIO 14-140mm / F3.5-5.6 II ASPH. / POWER O.I.S.	28-280mm	Stepping Motor	POWER O.I.S.	Dual I.S.*3	Multi Coating	14-12	75 - 8.8°	7 (Circular aperture diaphragm)	22	0.3 / 0.98 (Wide), 0.5 / 1.64 (Tele)	0.25x (0.5x)	58	φ 67 x 75 / φ 2.64 x 2.95	265 / 9.35	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LUMIX G X VARIO 35-100mm / F2.8 II / POWER O.I.S. ✗	70-200mm	Stepping Motor	POWER O.I.S.	Dual I.S.2	Nano Surface Coating	18-13	34 - 13°	7 (Circular aperture diaphragm)	22	0.85 / 2.8	0.1x (0.2x)	58	φ 67.4 x 99.9 / φ 2.65 x 3.93	357 / 12.59	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LUMIX G VARIO 35-100mm / F4.0-5.6 ASPH. / MEGA O.I.S.	70-200mm	Stepping Motor	MEGA O.I.S.	Dual I.S.*3	Multi Coating	12-9	34 - 12°	7 (Circular aperture diaphragm)	22	0.9 / 3.0	0.11x (0.22x)	46	φ 55.5 x 50 / φ 2.2 x 1.97	135 / 4.76	Lens cap, Lens hood, Lens rear cap
LUMIX G VARIO 45-150mm / F4.0-5.6 ASPH. / MEGA O.I.S.	90-300mm	Stepping Motor	MEGA O.I.S.	Dual I.S.*3	Multi Coating	12-9	27 - 8.2°	7 (Circular aperture diaphragm)	22	0.9 / 3.0	0.17x (0.35x)	52	φ 62 x 73 / φ 2.44 x 2.9	200 / 7.1	Lens cap, Lens hood, Lens rear cap
LUMIX G X VARIO PZ 45-175mm / F4.0-5.6 ASPH. / POWER O.I.S. ✗	90-350mm	Stepping Motor	POWER O.I.S.	Dual I.S.*3	Nano Surface Coating	14-10	27 - 7.1°	7 (Circular aperture diaphragm)	22	0.9 / 3.0	0.2x (0.4x)	46	φ 61.6 x 90.0 / φ 2.4 x 3.5	210 / 7.4	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LUMIX G VARIO 45-200mm / F4.0-5.6 II / POWER O.I.S.	90-400mm	Stepping Motor	POWER O.I.S.	Dual I.S.2	Multi Coating	16-13	27 - 6.2°	7 (Circular aperture diaphragm)	22	1.0 / 3.28	0.19x (0.38x)	52	φ 70 x 100 / φ 2.76 x 3.94	370 / 13.05	Lens cap, Lens hood, Lens rear cap, Lens storage bag
LUMIX G VARIO 100-300mm / F4.0-5.6 II / POWER O.I.S.	200-600mm	Stepping Motor	POWER O.I.S.	Dual I.S.2	Multi Coating	17-12	12 - 4.1°	7 (Circular aperture diaphragm)	22	1.5 / 4.92	0.21x (0.42x)	67	φ 73.6 x 126 / φ 2.90 x 4.96	520 / 18.34	Lens cap, Lens hood, Lens rear cap, Lens storage bag

Teleconverters & Mount Adaptors	35mm Camera Equivalent Focal Length	AF Actuator	O.I.S.	Dual I.S.	Coating	Lens Construction Elements-Groups	Angle of View	Number of Blades	Minimum Aperture	Closest Focusing Distance (m/ft)	Maximum Image Magnification (35mm camera equivalent)	Filter Size (mm)	Diameter (φ) x Length (mm/in)	Weight (g/oz)	Supplied Accessories
Tele Converter DMW-TC14	1.4x that of the attached lens	-	-	-	-	6-4	-	-	-	-	-	-	φ 58 x 22 / φ 2.28 x 0.87	120 / 4.23	Lens cap, Lens rear cap, Lens storage bag
Tele Converter DMW-TC20	2x that of the attached lens	-	-	-	-	8-5	-	-	-	-	-	-	φ 58 x 34 / φ 2.28 x 1.34	160 / 5.64	Lens cap, Lens rear cap, Lens storage bag
Mount Adaptor DMW-MA1	-	-	-	-	-	-	-	-	-	-	-	-	φ 71 x 24 / [ φ 2.80 x 0.94 ]	87 / 3.07	-
M Mount Adaptor DMW-MA2M	-	-	-	-	-	-	-	-	-	-	-	-	φ 61 x 13 / [ φ 2.40 x 0.51 ]	60 / 2.12	-
R Mount Adaptor DMW-MA3R	-	-	-	-	-	-	-	-	-	-	-	-	φ 67 x 33 / [ φ 2.64 x 1.30 ]	90 / 3.17	-

\*We recommend that you update the firmware to enjoy a more comfortable shooting experience. For further details, visit <http://panasonic.jp/support/global/cs/dsc/index.html>.

\*The compression level of product photographs shown in this catalog varies. Check the above table for actual sizes.

\*1 When the lens is retracted. \*2 Front: Mounting not possible, Rear: Sheet filter holder 22 mm/0.86 in x 22 mm/0.86 in

\*3 Firmware must be updated to the latest version.

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# 35mm Camera Equivalent Focal Length

Product Number	Lens	10	20	30	40	50	60	70	80	90	100	200	300	400	500	600	700	800	mm
H-F007014	LUMIX G VARIO 7-14mm / F4.0 ASPH.		14	28															
H-E08018	LEICA DG VARIO-ELMARIT 8-18mm / F2.8-4.0 ASPH.		16	36															
H-X1025	LEICA DG VARIO-SUMMILUX 10-25mm / F1.7 ASPH.		20	50															
H-FS12032	LUMIX G VARIO 12-32mm / F3.5-5.6 ASPH. / MEGA O.I.S.		24	64															
H-HSA12035	LUMIX G X VARIO 12-35mm / F2.8 II ASPH. / POWER O.I.S.		24	70															
H-ES12060	LEICA DG VARIO-ELMARIT 12-60mm / F2.8-4.0 ASPH. / POWER O.I.S.		24	120															
H-FS12060	LUMIX G VARIO 12-60mm / F3.5-5.6 ASPH. / POWER O.I.S.		24	120															
H-PS14042	LUMIX G X VARIO PZ 14-42mm / F3.5-5.6 ASPH. / POWER O.I.S.		28	84															
H-FS1442A	LUMIX G VARIO 14-42mm / F3.5-5.6 II ASPH. / MEGA O.I.S.		28	84															
H-FS014045	LUMIX G VARIO 14-45mm / F3.5-5.6 ASPH. / MEGA O.I.S.		28	90															
H-FSA14140	LUMIX G VARIO 14-140mm / F3.5-5.6 II ASPH. / POWER O.I.S.		28	280															
H-HSA35100	LUMIX G X VARIO 35-100mm / F2.8 II / POWER O.I.S.							70											
H-FS35100	LUMIX G VARIO 35-100mm / F4.0-5.6 ASPH. / MEGA O.I.S.							70											
H-FS45150	LUMIX G VARIO 45-150mm / F4.0-5.6 ASPH. / MEGA O.I.S.									90									
H-PS45175	LUMIX G X VARIO PZ 45-175mm / F4.0-5.6 ASPH. / POWER O.I.S.									90									
H-FSA45200	LUMIX G VARIO 45-200mm / F4.0-5.6 II / POWER O.I.S.									90									
H-ES50200	LEICA DG VARIO-ELMARIT 50-200mm / F2.8-4.0 ASPH. / POWER O.I.S.										100								
H-FSA100300	LUMIX G VARIO 100-300mm / F4.0-5.6 II / POWER O.I.S.											200							
H-RS100400	LEICA DG VARIO-ELMAR 100-400mm / F4.0-6.3 ASPH. / POWER O.I.S.												200						
H-F008	LUMIX G FISHEYE 8mm / F3.5	16																	
H-X012	LEICA DG SUMMILUX 12mm / F1.4 ASPH.		24																
H-H014	LUMIX G 14mm / F2.5 II ASPH.			28															
H-X015	LEICA DG SUMMILUX 15mm / F1.7 ASPH.			30															
H-H020A	LUMIX G 20mm / F1.7 II ASPH.				40														
H-XA025	LEICA DG SUMMILUX 25mm / F1.4 II ASPH.					50													
H-H025	LUMIX G 25mm / F1.7 ASPH.					50													
H-HS030	LUMIX G MACRO 30mm / F2.8 ASPH. / MEGA O.I.S.						60												
H-NS043	LEICA DG NOCTICRON 42.5mm / F1.2 ASPH. / POWER O.I.S.										85								
H-HS043	LUMIX G 42.5mm / F1.7 ASPH. / POWER O.I.S.										85								
H-ES045	LEICA DG MACRO-ELMARIT 45mm / F2.8 ASPH. / MEGA O.I.S.											90							
H-ES200	LEICA DG ELMARIT 200mm / F2.8 / POWER O.I.S.													400					

# Accessories

Expanding the LUMIX shooting experience. A wide range of accessories, such as flashes, with features that have advanced along with the camera.

## External Flashes: Wireless Compatible

A wireless compatible external flashes with LED lighting for both photos and video recording

DMW-FL580L  
(GN58)



Large, maximum lighting capacity of GN58. The wide panel covers a wide-angle 14mm (35mm camera equivalent) lens. The light-emitting section can be rotated 97 degrees vertically and 360 degrees horizontally for bounce shooting. Also takes quickly paced portrait shots, and features the industry's fastest battery charging time. Capable of modeling flash and multi flash use, for a variety of shooting applications. A filter (visible light blocking filter, for electric lamp use) and diffuser come as accessories.

DMW-FL360L  
(GN36)



Maximum lighting of GN36. Featuring LED lighting for greater convenience in video shooting. The wide panel covers a wide-angle 16mm (35mm camera equivalent) lens. The light-emitting section can be rotated 97 degrees vertically and 360 degrees horizontally for bounce shooting.

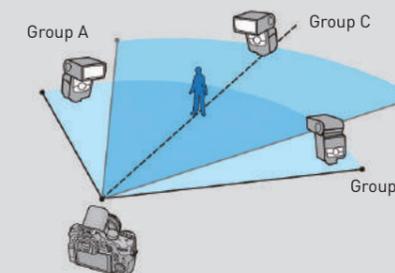
DMW-FL200L  
(GN20)



A compact external flash with a wide panel able to cover a wide-angle 14mm (35mm camera equivalent) lens. The low-seated, well-balanced design sits neatly on either camera body or external stand. With full-features, it includes wireless connectivity for remote triggering of up to 3 groups to allow creative lighting set-ups. The head can also be rotated 90 degrees vertically for bounce shooting. Emits maximum lighting of GN20 for still photography, and a powerful LED light (200 lux) for video shooting in low-light conditions.

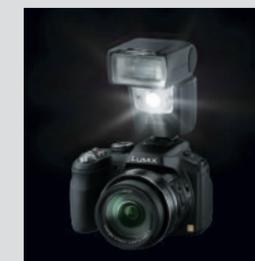
### Wireless Control

LUMIX external flashes incorporate wireless control functions that enable powerful multiple flash lighting with up to three flash groups. Settings such as firing, dimming and exposure compensation can be configured via the camera menu. The units may also be used as slave flashes.



### LED Lighting in Video Shooting

LUMIX external flashes also feature LED lights that are especially useful for shooting videos under backlit or low-light conditions.



## Specifications: External Flashes

	DMW-FL580L	DMW-FL360L	DMW-FL200L	
Power Requirement	DC 6.0 V	DC 6.0 V	DC 3.0 V	
Battery Recommended	AA Alkaline dry batteries (LR6) x 4 / AA Rechargeable nickel metal hydride batteries (Ni-MH) x 4	LR6/AA Alkaline dry batteries x 4 / HR6/AA Rechargeable nickel metal hydride batteries (Ni-MH) x 4	LR6/AA Alkaline dry batteries x 2 / HR6/AA Rechargeable nickel metal hydride batteries (Ni-MH) x 2	
Charging Time (from full flash until the [TEST/CHARGE] lamp lights)	Approx. 2.7 sec: AA Alkaline dry batteries Approx. 1.7 sec: AA Rechargeable nickel metal hydride batteries	Approx. 2.0 sec: LR6/AA Alkaline dry batteries Approx. 1.5 sec: HR6/AA Rechargeable nickel metal hydride batteries	Approx. 4.0 sec: LR6/AA Alkaline dry batteries Approx. 3.0 sec: HR6/AA Rechargeable nickel metal hydride	
Firing Period	Approx. 1/20,000 - 1/250 sec (varies depending on the flash intensity; FP firing excluded.)	Approx. 1/20,000 - 1/500 sec (varies depending on the flash intensity; FP firing excluded.)	Approx. 1/50,000 - 1/250 sec (varies depending on the flash intensity)	
Number of Flashes (Approx.) (with full flash)	125 flashes or more: AA Alkaline dry batteries 175 flashes or more: AA Rechargeable nickel metal hydride batteries (min. 1,900 mAh type) (differs depending on the photo taking conditions)	250 flashes or more: LR6/AA Alkaline dry batteries 350 flashes or more: HR6/AA Rechargeable nickel metal hydride batteries (min. 1,900 mAh type) (differs depending on the photo taking conditions)	120 flashes or more: LR6/AA Alkaline dry batteries 200 flashes or more: HR6/AA Rechargeable nickel metal hydride batteries (min. 2,400 mAh type) (differs depending on the photo taking condition)	
AF Assist Lamp	Effective distance: Approx. 1 - 5 m/3.28 - 16.4 ft (differs depending on the digital camera and type of lens used)	Effective distance: Approx. 1 - 5 m/3.28 - 16.4 ft (differs depending on the digital camera and type of lens used)	Effective distance: Approx. 1 - 5 m/3.28 - 16.4 ft (differs depending on the digital camera and type of lens used)	
Flash Mode	TTL AUTO / AUTO / MANUAL / FP TTL AUTO / FP MANUAL	TTL AUTO / AUTO / MANUAL / FP TTL AUTO / FP MANUAL / SL AUTO / SL MANUAL / RC	TTL AUTO / MANUAL / SL MANUAL / RC	
Guide Number	58 (ISO100-m), 26 (ISO100-m, when the wide panel is used)	36 (ISO100-m), 12 (ISO100-m when the wide panel is used)	20 (ISO100-m), 14 (ISO100-m when the wide panel is used)	
Lighting Angle	Covers the angle of view of 12 - 100mm lenses (35mm camera equivalent: 24 - 200mm) (with wide panel: 7mm lens, 35mm camera equivalent: 14mm)	Covers the angle of view of 12 - 42mm lenses (35mm camera equivalent: 24 - 85mm) (With wide panel: 8mm lens, 35mm camera equivalent: 16mm)	Covers the angle of view of 12mm and longer (35mm camera equivalent: 24mm and longer) (with wide panel: 7mm and longer, 35mm camera equivalent: 14mm and longer)	
LED	Illuminance	Approx. 100 lux at 1 m	Approx. 100 lux at 1 m	Approx. 200 lux at 1 m
	Lighting Angle	Compatible with lenses having a focal length of more than 12mm/24mm* *35mm camera equivalent	Compatible with lenses having a focal length of more than 12mm/24mm* *35mm camera equivalent	Compatible with lenses having a focal length of more than 12mm/24mm* *35mm camera equivalent
	Control Mode	AUTO / MANUAL	AUTO / MANUAL	MANUAL
Wireless (RC) Function	Flash Mode	SL AUTO / SL MANUAL / RC / MULTI	RC / SL AUTO / SL MANUAL	RC / SL MANUAL
	Channel	4 channels	4 channels	4 channels
Bounce Angle	Group	3 groups control	3 groups control	3 groups control
	Up / Down	Upward: 0 - 90 degrees / Downward: 0 - 7 degrees	Upward: 0 - 90 degrees / Downward: 0 - 7 degrees	0 - 90 degrees
Dimensions (W x H x D)	Right / Left	Toward the right: 0 - 180 degrees / Toward the left: 0 - 180 degrees	Toward the right: 0 - 180 degrees / Toward the left: 0 - 180 degrees	-
	Weight	Approx. 435 g/15.34 oz (including alkaline dry batteries) Approx. 340 g/11.99 oz (main unit)	Approx. 376 g/13.3 oz (including batteries) Approx. 257 g/9.07 oz (main unit)	Approx. 230 g / 8.11 oz (including batteries) Approx. 180 g / 6.35 oz (main unit)
Operating Temperature	0 - 40 °C/32 - 104 °F	0 - 40 °C/32 ° - 104 °F	0 - 40 °C/32 ° - 104 °F	
Operating Humidity	10 - 80 %RH (no condensation)	10 - 80 %RH (no condensation)	10 - 80 %RH (no condensation)	

## Flash Knowledge

LUMIX's external flash adds to the expressive capabilities made possible by light control. Shots that cannot be taken with the camera's internal flash alone, such as those in dark places or when directly facing the light source, come out clear and sharp with the external flash. It is ideal for a number of advanced lighting techniques, such as smoothing shadows with bounce lighting for a more natural effect, wireless shooting from a place some distance from the camera, and defocusing the background or using a high shutter speed.

### GN (Guide Number) and Shooting Distance

How far can the light from a flash reach? To find this out, you need to look at the GN (Guide Number)\* and its value. The larger the value, the further away your subject can be captured with the proper exposure.

\*The flash GN indicates the aperture value that provides proper exposure for a subject that is 1m from the camera when using ISO100.

Based on the GN, you can calculate how far the flash's light will reach.  
**Shooting Distance with Proper Exposure (m) = GN / F Value**

Also, when you divide the GN by the distance between the camera and the subject, you get the aperture value that is necessary during maximum light emission.

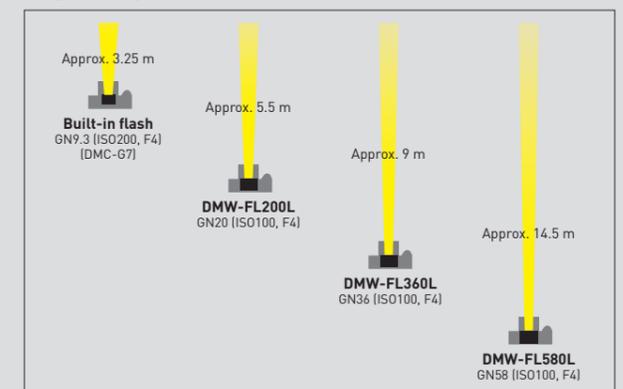
When the light from the internal flash isn't able to reach parts of a large room, or when you're shooting with a telephoto lens, a powerful external flash gives you bright, clear shots. The distance over which subjects can be brightened with the flash varies depending on the light intensity (Guide Number) of the flash. The higher the Guide Number, the greater the exposure distance.



Built-in Flash

External Flash

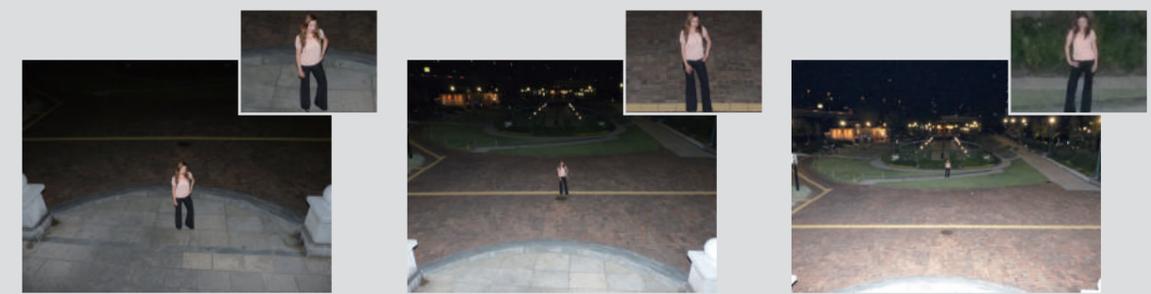
### Image showing flash throw distance



When the ISO sensitivity is increased, subjects at a farther distance can be captured with the proper exposure. For example, when shooting at ISO400, the distance is approximately twice as great as when shooting with ISO100. This lets you extend the shooting distance.

### Shooting Distances with the ISO 100 Set to 1

Sensitivity	ISO100	ISO200	ISO400	ISO800	ISO1600
Shooting Distances	1x	Approx. 1.4x	Approx. 2x	Approx. 2.8x	Approx. 4x



ISO100\*

ISO400\*

ISO1600\*

\* When shooting with F2.8, 24mm wide-angle (35mm camera equivalent) settings.



## Bounce Lighting

This is a shooting method in which the light source is rotated to bounce the light off of the ceiling or a wall to attain a diffused light source. It softens shadows that are generated by the flash, and produces a natural lighting that enhances facial expressions and the mood of the room. It also prevents the light from shining directly onto a sleeping child's face.



Direct lighting

Bounce Lighting

## Using a Board Reflector

A board reflector lets you brighten your subject by reflecting light onto it from a white or silver reflector. You can also use it as indirect lighting by reflecting the flash or sunlight onto parts with shadows. It gives you control over the shading of your subject.

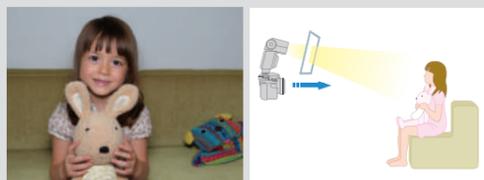


Direct lighting

With Board Reflector

## Using a Diffuser

In contrast to a board reflector, which reflects light, a diffuser is used to diffuse light. It provides soft lighting with suppressed shading. Thin white cloth or tracing paper can be effectively used as a diffuser.



With Diffuser

### Check These Too!

- Use a white, non-colored surface to bounce the light. If the ceiling or wall is colored, the reflected light will take on the same coloring.
- When there is too much distance between the bouncing surface and the subject, it becomes harder for the reflected light to reach the subject. Be careful because the effect weakens in large rooms.

## FP Emission

A flash is convenient for shooting against the light source. FP emission lets you shoot at faster shutter speeds. You can also use a fully open aperture even for bright scenes.



Flash OFF

Blocked shadows result from shooting against the lighting source.

TTL AUTO

Brightly corrects the image. Shows the water flow.

FP Emission

The fast shutter speed freezes the water spray.

## Using Flash Models

### Slow Sync. Flash

With an ordinary auto flash, even if the subject is properly exposed, the background may be underexposed. Using the Slow Sync. flash function slows down the shutter speed and continues to capture background light even after the flash is finished.



Normal Auto Flash, 1/60 sec

Slow Sync. Flash, 1/1.6 sec

### 2nd Curtain Sync.

With 1st Curtain Sync., the flash is emitted as the shutter opens. However, with 2nd Curtain Sync., the flash is emitted just before the shutter closes. This lets you naturally display attractive light traces.



1st Curtain Sync.

2nd Curtain Sync.

# For Video Shooting

## Stereo Shotgun Microphone DMW-MS2



## Stereo Microphone

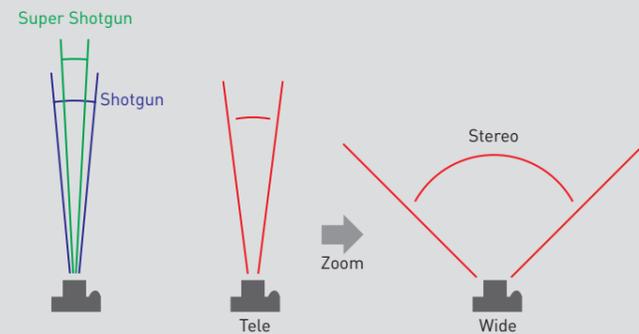
DMW-MS1



VW-VMS10



The Stereo Shotgun Microphone collects the sound from around your subject. The Super Shotgun function further concentrates the range of collected sounds compared with previous gun microphones. The Zoom Mic function has added a Manual mode, with which you can manually set the collection range, to the Lens Link function that links the sound collection to the zoom range. This lets you adjust the sound collection as you shoot.



## XLR Microphone Adaptor DMW-XLR1\*



With a 2-channel XLR microphone attached the DMW-XLR1 enables high-grade stereo surround sound recording for professional video production. The adaptor supports 96kHz/24bit hi-res sound recording and is ideal for lip-sync projects. It is designed to be easy to use with physical switches and dials for immediate setting and checking. DC power is supplied via the shoe connector.

\*Microphones not included with the DMW-XLR1.  
\*\*Compatible with GH5

## Expansion Interface Unit DMW-YAGH\*/AG-YAGHG\*\*



The new Expansion Interface Unit features SDI video output and XLR audio input. It lets you connect to a 4K-compatible recorder or monitor for editing, or record high-quality sound from an external mic. The 12V DC IN terminal complies with many large-capacity industrial batteries to continuously supply the DMC-GH4 with power. These and other system-expanding features let you draw the full potential of the DMC-GH4 for a wide range of professional applications.

\*For US and Europe. \*\*For other regions.

## LED Video Light VW-LED1



The LED Video Light comprises 36 high-intensity white LEDs. It attains a brightness of about 1,500 lux at a distance of 50 cm from the subject. Natural lighting is cast not only in the center of the frame, but all the way to the corners. The brightness is also adjustable, so you can select the level that matches your shooting intent. The light is powered by four AA batteries, and the low power consumption of LEDs enables approximately 240 minutes of continuous lighting (using Nickel-Metal Hydride batteries).

# Filters

## PL Filter (Circular Type)

Helps eliminate reflections while preserving the naturally vivid colors of the subject.

- 67mm DMW-LPL67
- 62mm DMW-LPL62
- 58mm DMW-LPL58
- 52mm DMW-LPL52
- 46mm DMW-LPL46
- 37mm DMW-LPL37
- 37mm DMW-LPLA37



Without PL Filter



With PL Filter

## ND (Neutral Density) Filter (ND8)

Lets you use slower shutter speeds even in the bright outdoors, and reduces light intensity by three aperture stops.

- 62mm DMW-LND62
- 58mm DMW-LND58
- 52mm DMW-LND52
- 46mm DMW-LND46
- 37mm DMW-LND37



Without ND Filter



With ND Filter

# Others

## MC Protector

Protects the camera lens from scratches and other damage.

- 67mm DMW-LMCH67
- 62mm DMW-LMCH62
- 58mm DMW-LMCH58
- 52mm DMW-LMC52
- 46mm DMW-LMC46
- 37mm DMW-LMCH37



## Tripod Adaptor

When a large-diameter lens is mounted, this adaptor prevents the lens from contacting the tripod base.

DMW-TA1



## Battery Grip

For extended shooting enjoyment. The design makes holding the camera for vertical shooting as easy as for horizontal, and the construction is dust/splash-resistant\*.



DMW-BGG9  
DMW-BGGH5  
DMW-BGG1

## Eyecup

The Eyecups provide cushioning around the camera's viewfinder for added comfort and most importantly to reduce glare by cutting out extra light between view finder and eye.



DMW-EC3  
(for GX8)

DMW-EC4  
(for G9)

DMW-EC5  
(for GX9)

## Remote Shutter

Allows remote operation, and comes with a shutter lock for bulb exposures.



DMW-RSL1

\* Dust and Splash Resistant does not guarantee that damage will not occur if this accessory is subjected to direct contact with dust and water. •LUMIX G system cameras come with a function to check whether the battery and unit can be safely used together. •Batteries made by other companies which have been certified by Panasonic may be used with these units, but we offer no guarantee as to the quality, performance or safety of such batteries. •Exercise care when purchasing batteries. Many fake or imitation batteries have been found among those sold at unusually low prices and those which customers cannot check for themselves before purchasing.