New-**G**eneration System Cameras

LUMIX **G**™
MICRO SYSTEM

Camera & Lens
Range 2011

BEST AUDIO VISUAL BRAND
which?
which.co.uk
AWARDS 2010

Panasonic
ideas for life

From wide-angle to telephoto, LUMIX G lenses have it covered

Capturing vacation shots, composing a portrait, zooming in on the action ... no matter where you are or what you're shooting, there's a LUMIX G lens that lets you get the perfect shot. Combining superb image rendering with advanced features, these lenses help you unleash the LUMIX G Micro System's extraordinary potential.

The innovation of G

Big. Heavy. Complicated. Not easy for most people to use. That's a problem with many single-lens reflex cameras.

We wanted to create something different – a camera that's easy for anyone to handle and use, yet captures photos with the superior image quality of a fine SLR camera. The LUMIX G Micro System. Innovation, and more.

Using the innovative Micro Four Thirds System standard which eliminates the mirror box found in SLR cameras, the LUMIX G Micro System completely overturns conventional notions of what a camera is. Its small body is packed with more technology than you can imagine. It lets you use a wide range of interchangeable lenses. It boasts a high-resolution Live View Finder that supports creativity. And best of all, it renders images with the exquisite beauty once limited to big, heavy SLR cameras. The LUMIX G Micro System captures professional-level motion images too, while reaching new heights in shooting ease and comfort.

Small in size, light in weight, easy to handle, and high in quality. The LUMIX G Micro System is just the right size for both people and photography. Every facet of its design reflects innovation. Every aspect of its performance reflects an uncompromising pursuit of excellence.

In every way, the LUMIX G is a camera that reflects the future.

New-Generation System Cameras

LUMIX G™
MICRO SYSTEM

# 12.5mm F12 (35mm camera equivalent: 65mm***)

Images come to life with the world's first* interchangeable 3D lens

Once again, the LUMIX G Micro System dramatically changes digital SLR shooting styles.

Colourful flowers, stunning portraits and striking landscapes captured by the camera seem to be standing right in front of your eyes. They form an entirely new world of images with their highly dimensional effects and sense of depth. By changing lenses to match your intent and the shooting situation, you can add a new form of 3D expression to the joy of creating superb images.**

• Lens construction = 4 elements in 3 groups x2 • Closest focusing distance = 0.6 m / 1.97 ft. • Maximum image magnification = 0.02x (35mm equivalent: 0.1x***)
• Dimensions = 57.0 (dia.) x 20.5 mm / 2.24 (dia.) x 0.81 in. • Weight = 45 g / 1.59 oz. • Accessories = Case
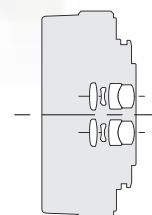
*For a digital interchangeable lens as of September 21, 2010. **Available with some Panasonic cameras only. Compatible Olympus cameras not yet determined, as of September 2010.
A 3D media player that supports the MP (Multi-Picture) format is required to view 3D images. ***When setting the aspect ratio at 16:9 with the DMC-GH2. • Micro Four Thirds™ and
the Micro Four Thirds logo mark are trademarks or registered trademarks of Olympus Imaging Corporation, in Japan, the United States, the European Union and other countries.

LUMIX G 12.5mm / F12
(35mm camera equivalent: 65mm***)

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

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

What Digital Camera GOLD AWARD
(May 2010)

With an angle of view and perspective close to those of the human eye, these lenses capture natural-looking, true-to-life images. Use them for almost any kind of shot – from landscapes to snapshots, children, pets, still-life objects and more – and enjoy the kind of beautifully rendered, breathtaking images you simply can't get with a compact camera.

Versatile, high-quality standard zoom lens – from wide angle to medium telephoto.

The standard zoom lens covers a lot of ground, extending from 28mm (35mm camera equivalent) to a zoom ratio of around 3.2x. With a total of 12 lens elements in 9 groups, including aspherical lenses, this high-quality lens delivers an excellent optical performance, correcting various aberrations and providing superb balance. The lens has all the versatility you need for both everyday shooting and artistic photography. As your shooting skills evolve, you'll find it easy to create interesting, expressive photos by varying the angle of view and focal distance, choosing different perspectives, and experimenting with varying degrees of soft focusing.

LUMIX G VARIO 14-42mm / F3.5-5.6 ASPH. / MEGA O.I.S.
- Lens construction = 12 elements in 9 groups • Closest focusing distance = 0.3 m / 1 ft.
- Maximum image magnification = 0.16x (35mm equivalent: 0.32x) • Filter size = 52 mm
- Dimensions = 60.6 (dia.) x 63.6 mm / 2.39 (dia.) x 2.50 in. • Weight = 165 g / 5.82 oz.
- Accessories = Hood, case
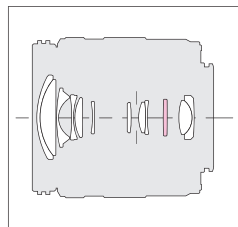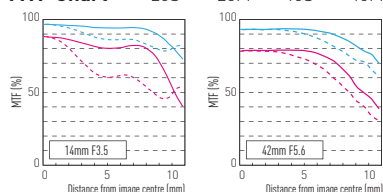
LUMIX G VARIO 14-45mm / F3.5-5.6 ASPH. / MEGA O.I.S.
- Lens construction = 12 elements in 9 groups • Closest focusing distance = 0.3 m / 1 ft.
- Maximum image magnification = 0.17x (35mm equivalent: 0.34x) • Filter size = 52 mm
- Dimensions = 60 (dia.) x 60 mm / 2.36 (dia.) x 2.36 in. • Weight = 195 g / 6.88 oz.
- Accessories = Hood, case

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

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

MTF Chart —20S - -20M —40S - -40M

14mm F3.5   42mm F5.6

MTF (%)
Distance from image centre (mm)

For the lens distortion compensation available, the horizontal axis of MTF is the distance from the centre, which is compensated accordingly.

ASPH

MTF Chart —20S - -20M —40S - -40M

14mm F3.5   45mm F5.6

MTF (%)
Distance from image centre (mm)

For the lens distortion compensation available, the horizontal axis of MTF is the distance from the centre, which is compensated accordingly.

ASPH

14-140mm F4.0-5.8 (35mm camera equivalent: 28-280mm)

HD [Movie Support]

(December 2010)

LUMIX G VARIO HD 14-140mm /
F4.0-5.8 ASPH. / MEGA O.I.S.

Perfect for HD movies: a 10x optical zoom that takes you from wide-angle to telephoto

This high-powered zoom lens extends from 28mm to 280mm (35mm camera equivalent). Two ED lenses and 4 aspherical lenses correct a variety of aberrations, helping render high-contrast, high-resolution images without false colours or distortion, from corner to corner across the entire zoom range. Featuring a linear motor and Inner Focus system, the auto focus is extremely fast, accurate and virtually silent – ideal for shooting HD movies. Using a microstep system for the aperture drive further suppresses noise, making HD movies easier and more comfortable to shoot.

140mm
(35mm camera equivalent: 280mm)

14mm
(35mm camera equivalent: 28mm)

- Lens construction = 17 elements in 13 groups   • Closest focusing distance = 0.5 m / 1.64 ft.
- Maximum image magnification = 0.2x (35mm equivalent: 0.4x)   • Filter size = 62 mm
- Dimensions = 70 (dia.) x 84 mm / 2.76 (dia.) x 3.31 in.   • Weight = 460 g / 16.2 oz.   • Accessories = Hood, case
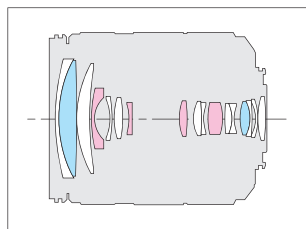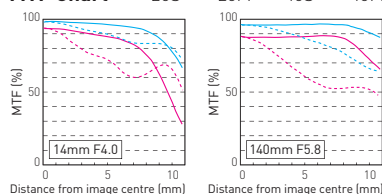
MTF Chart —— 20S – – 20M —— 40S – – 40M

MTF (%)

14mm F4.0

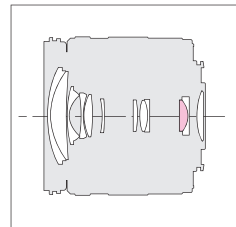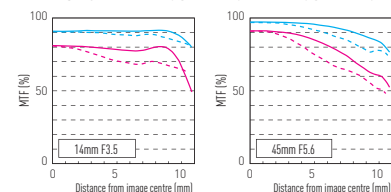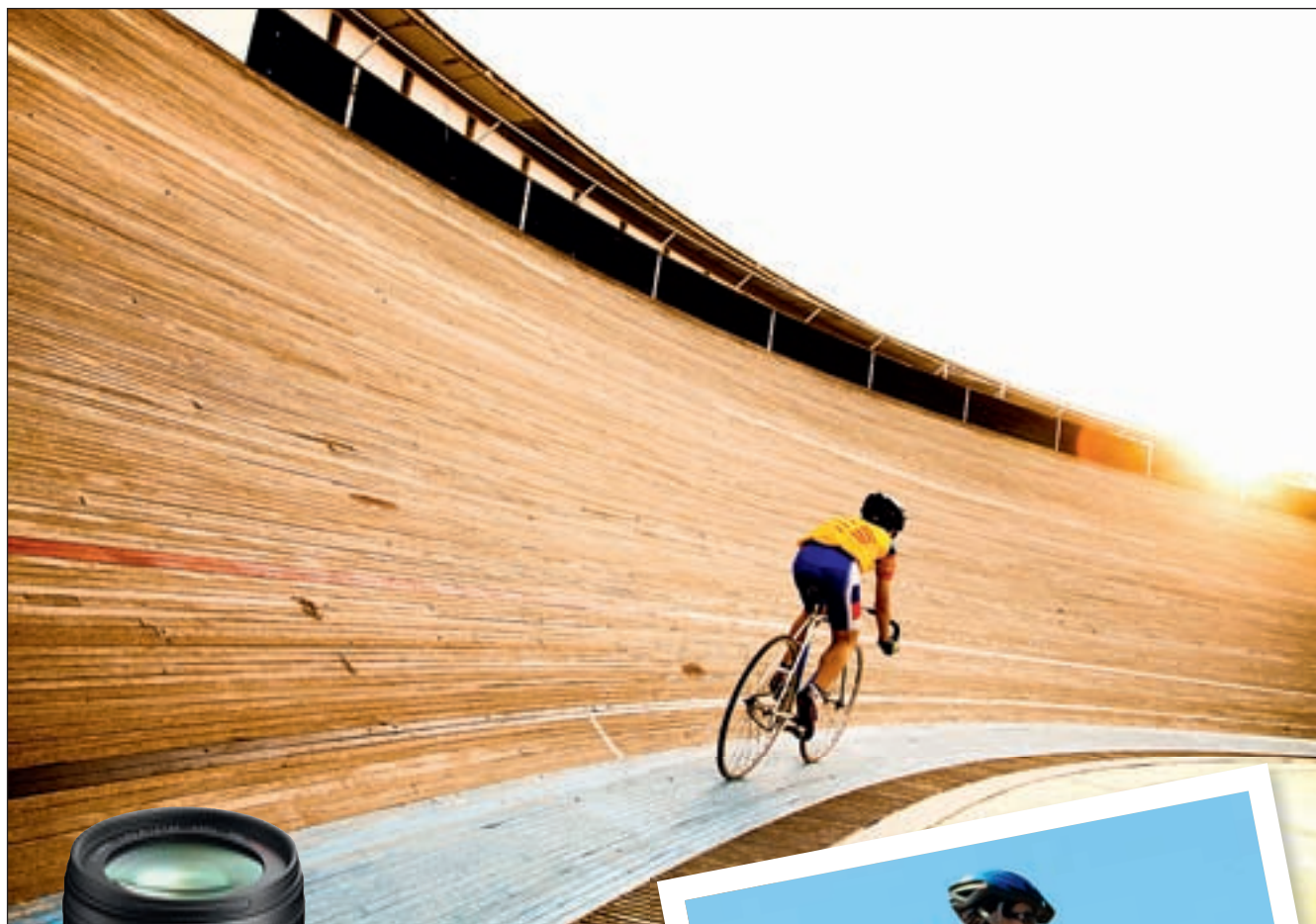Distance from image centre (mm)

140mm F5.8

Distance from image centre (mm)

For the lens distortion compensation available, the horizontal axis of MTF is the distance from the centre, which is compensated accordingly.

ASPH ▢   ED ▢

45-200mm F4.0-5.6 (35mm camera equivalent: 90-400mm)

An easy-to-use zoom that goes all the way to 400mm

Capture natural looking portraits in the medium telephoto range, or zoom all the way to 200mm (35mm camera equivalent: 400mm) to move in and grab dynamic action shots at sports events. This zoom lens covers a huge amount of ground. And with 16 elements in 13 groups, including 3 ED lenses, it corrects various aberrations with excellent balance to deliver images of stunning power and beauty. The unique Inner Focusing system allows high-speed contrast AF, and the 7-blade circular aperture renders images with a beautiful soft focus.

LUMIX G VARIO 45-200mm / F4.0-5.6 / MEGA O.I.S.

A flexible telephoto zoom lens that provides a range of options to suit a variety of shooting situations. Only 100mm long, this compact lens fits into the palm of your hand, giving you the mobility to follow the action around the pitch. At the same time you have the power of a 200mm lens (35mm camera equivalent: 400mm) to zoom in for dramatic close-ups and capture dynamic, professional-looking telephoto shots. At the other end of the scale, the 45mm setting (35mm camera equivalent: 90mm) takes impressive landscape shots.

45mm
(35mm camera equivalent: 90mm)

200mm (35mm camera equivalent: 400mm)

- Lens construction = 16 elements in 13 groups   • Closest focusing distance = 1.0 m / 3.3 ft.
- Maximum image magnification = 0.19x (35mm equivalent: 0.38x)   • Filter size = 52 mm
- Dimensions = 70 (dia.) x 100 mm / 2.76 (dia.) x 3.94 in.   • Weight = 380 g / 13.4 oz.   • Accessories = Hood, case

MTF Chart —20S – –20M —40S – –40M

45mm F4.0

200mm F5.6

MTF (%)

Distance from image centre (mm)

Distance from image centre (mm)

For the lens distortion compensation available, the horizontal axis of MTF is the distance from the centre, which is compensated accordingly.
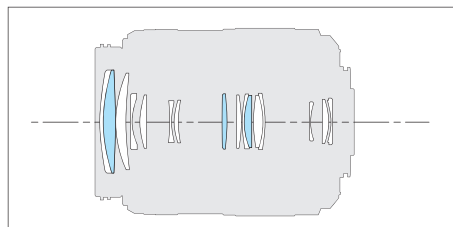
ED
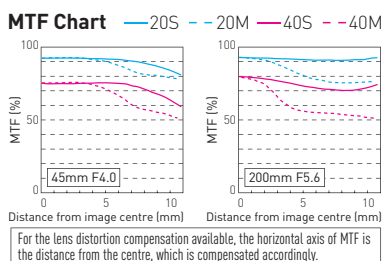
100-300mm F4.0-5.6 (35mm camera equivalent: 200 - 600mm)

(December 2010)

LUMIX G VARIO 100-300mm /
F4.0-5.6 / MEGA O.I.S.

An ultra-zoom lens that fights hand-shake

Drawing in subjects from a distance, this ultra-telephoto zoom lens is ideal for capturing intense action sports or animals you can't normally approach. To achieve consistently superb performance across the entire zoom range, an ED lens in the first lens group corrects any colour bleeding that might occur as a result of zooming. At the same time, the Inner Focus system utilises a pair of lenses to enhance focusing, allowing high-speed contrast AF and excellent rendering at all zoom levels. In addition to this, the built-in MEGA O.I.S. (optical image stabilising) corrects hand-shake, making it easy to get clear, blur-free shots – even at full zoom.

- Lens construction = 17 elements in 12 groups • Closest focusing distance = 1.5 m / 4.92 ft.
- Maximum image magnification = 0.21x (35mm equivalent: 0.42x) • Filter size = 67 mm
- Dimensions = 73.6 (dia.) x 126 mm / 2.90 (dia.) x 4.96 in. • Weight = 520 g / 18.3 oz. • Accessories = Hood, case

MTF Chart —20S – –20M —40S – –40M

MTF (%)

100mm F4.0

Distance from image centre (mm)

300mm F5.6

Distance from image centre (mm)

For the lens distortion compensation available, the horizontal axis of MTF is the distance from the centre, which is compensated accordingly.
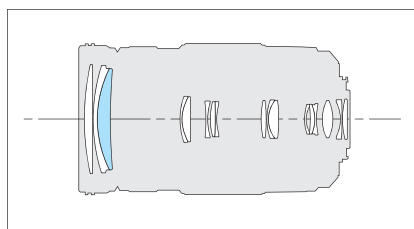
ED
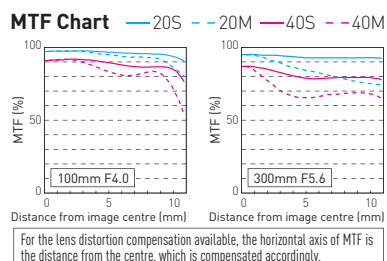
Conventional 600mm-class (35mm camera equivalent) lenses are large, heavy and tiresome to haul around. By contrast, LUMIX G lenses are small and lightweight, so you can take dynamic, professional-looking, ultra-telephoto shots of high speed action like the dirt bikes above. These lenses capture every detail, right down to individual clods of earth flying through the air – or incredibly sharp long zoom shots like the red macaw at the top of the page.

45mm F2.8 (35mm camera equivalent: 90mm)

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

This macro lens does much more than make small things bigger. Not limited to beautiful soft focusing, it lets you bring the entire frame – from corner to corner – into sharp focus, giving you the freedom to create a wide variety of compositions, from portraits and telephoto shots, to landscapes, making this lens a true all-round performer.

(December 2010)

(May 2010)

A superior macro lens brings tiny worlds into view

Designed and manufactured to meet Leica's stringent performance standards, this high-quality macro lens minimizes distortion, ghosts, flaring and decreased peripheral resolution. With 14 elements in 10 groups, including one aspherical lens and one ED lens, it provides stable contrast and high resolution all the way from 1:1 macro (35mm camera equivalent: 2x) to infinity. The floating Inner Focus system makes use of three groups of lenses, which means that the elaborate focusing, so essential to a macro lens, is both faster and quieter. MEGA O.I.S. (optical image stabilising) is provided to correct any blurring caused by hand-shake, ensuring clear, sharp images with everything from macro and medium-telephoto portraits, to wide landscapes and long telephoto shots.

- Lens construction = 14 elements in 10 groups • Closest focusing distance = FULL: 0.15 m / 0.50 ft. LIMIT: 0.5 m / 1.64 ft.
- Maximum image magnification = 1.0x (35mm equivalent: 2.0x) • Filter size = 46 mm
- Dimensions = 63 (dia.) x 62.5 mm / 2.48 (dia.) x 2.46 in. • Weight = 225 g / 7.94 oz. • Accessories = Hood, case
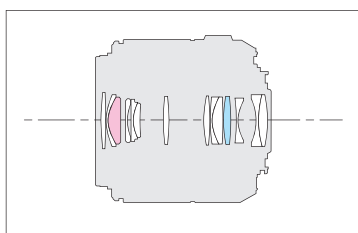
ASPH ▢ ED ▢

MTF Chart —20S - -20M —40S - -40M
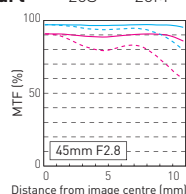
MTF (%)

45mm F2.8

Distance from image centre (mm)

For the lens distortion compensation available, the horizontal axis of MTF is the distance from the centre, which is compensated accordingly.

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.

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

LUMIX G 14mm / F2.5 ASPH.

Single 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.
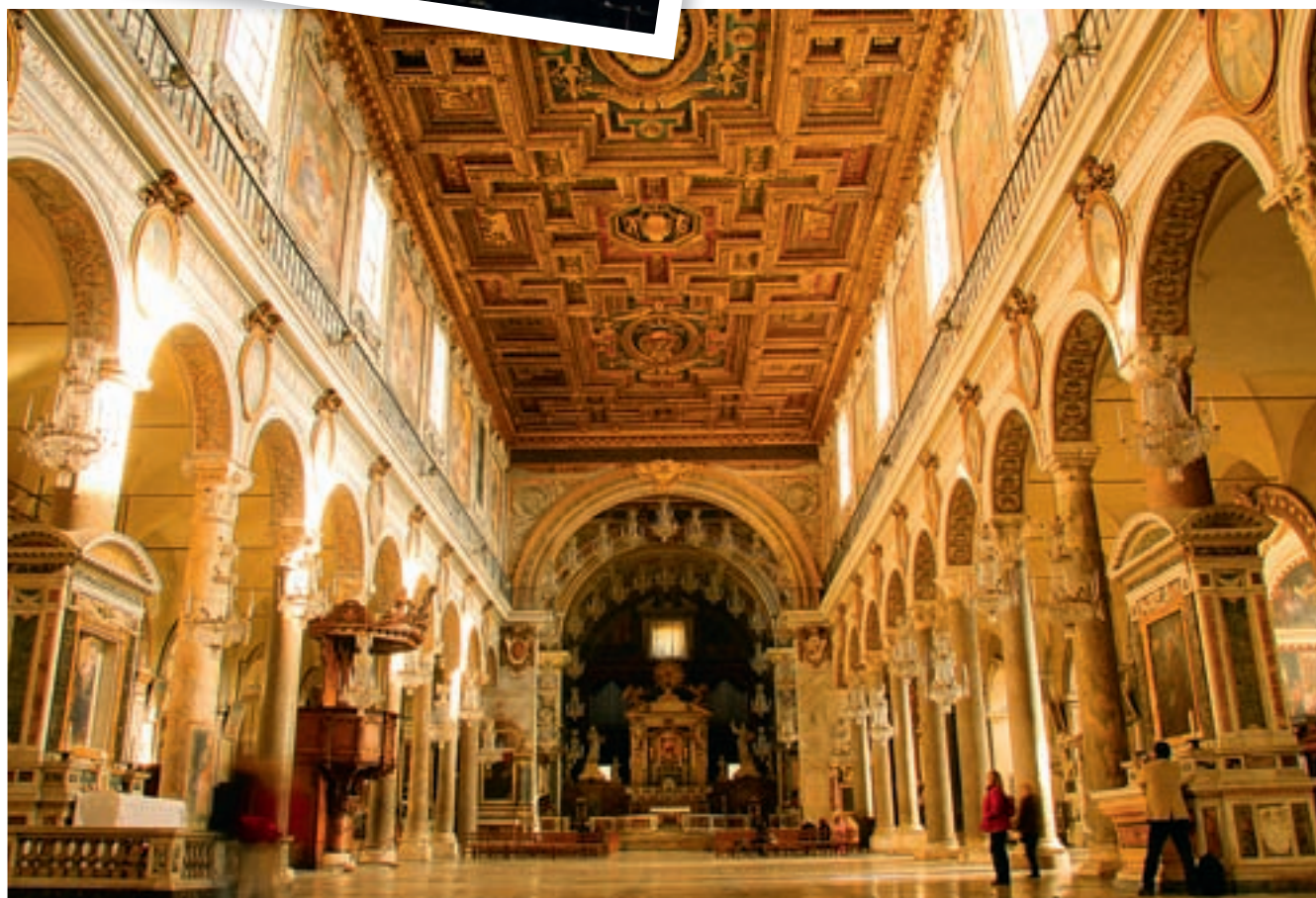
• Lens construction = 6 elements in 5 groups • Closest focusing distance = 0.18 m / 0.59 ft.
• Maximum image magnification = 0.10x (35mm equivalent: 0.20x) • Filter size = 46 mm
• Dimensions = 55.5 (dia.) x 20.5 mm / 2.19 (dia.) x 0.81 in. • Weight = 55 g / 1.9 oz. • Accessories = Case
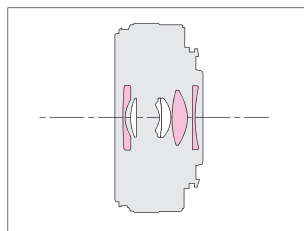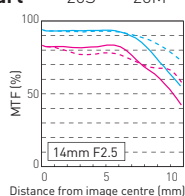
With its fully open brightness, this slim, wide-angle 14mm pancake lens (35mm camera equivalent: 28mm) is ideal for nightscapes (top). It lets in a large amount of light, so you can raise the shutter speed without increasing the ISO sensitivity. It copes equally well in the vast interior of the church above – seeing everything from the Ionic detail and textural grain on the pillars, to the intricate gilt ceiling, all in a single frame. The lens also suppresses hand-shake and noise, so all your shots are crisp, clear and beautiful.

MTF Chart —— 20S – – 20M —— 40S – – 40M

14mm F2.5

MTF [%]

Distance from image centre (mm)

For the lens distortion compensation available, the horizontal axis of MTF is the distance from the centre, which is compensated accordingly.

ASPH

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

Compact lens with large F1.7 aperture – perfect for everyday shooting

(May 2010)

LUMIX G 20mm / F1.7 ASPH.

Featuring the brightness of an F1.7 aperture, this single-focal-length lens lets you capture beautiful, expressive images with a delicate soft focus and high contrast. Two aspherical lenses are perfectly configured to deliver enhanced performance in a compact system. With this thin, pancake lens mounted, the LUMIX G Micro System is easy to carry anywhere. You're always ready for whatever inspires the photographer inside you – everyday scenes, passing landscapes, indoor shots in dim lighting, casual snapshots, or artistic shots with soft focusing.

F1.7

F16

The smaller the F-number, the shallower the depth of field (the range in which things are in focus); the larger the F-number, the greater the depth of field. This lens, with its bright, fully open F1.7 aperture, lets you capture the desired parts of an image in sharp focus, while giving other parts a soft focus. This makes the subject really stand out, adding a rich expressiveness to the photo.

• Lens construction = 7 elements in 5 groups • Closest focusing distance = 0.2 m / 0.66 ft. • Maximum image magnification = 0.13x (35mm equivalent: 0.25x)
• Filter size = 46 mm • Dimensions = 63 (dia.) x 25.5 mm / 2.48 (dia.) x 1.00 in. • Weight = 100 g / 3.53 oz. • Accessories = Case

ASPH

MTF Chart —20S – –20M —40S – –40M

MTF (%)
100
50
0
0   5   10
Distance from image centre (mm)

20mm F1.7

For the lens distortion compensation available, the horizontal axis of MTF is the distance from the centre, which is compensated accordingly.

11

FISHEYE 8mm F3.5

(35mm camera equivalent: 16mm)

Fisheye lens for unique images with intriguing deformation effects

LUMIX G FISHEYE
8mm / F3.5

(December 2010)

This fisheye lens with equisolid angle projection lets you create fascinating images with a 180º 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 Micro System to shoot HD movies.

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 movies, the fisheye lens lets you create truly distinctive eye-catching images.

Depression angle
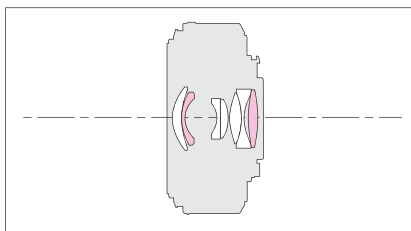
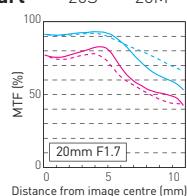**Horizontal angle**

Elevation angle

3.2 sec, F10

• Lens construction = 10 elements in 9 groups • Closest focusing distance = 0.1 m / 0.33 ft.
• Maximum image magnification = 0.20x (35mm equivalent: 0.40x) • Filter size = Front: Mounting not possible / Rear: Sheet filter holder 22 mm / 0.86 in x 22 mm / 0.86 in. • Dimensions = 60.7 (dia.) x 51.7 mm / 2.39 (dia.) x 2.04 in. • Weight = 165 g / 5.82 oz. • Accessories = Case
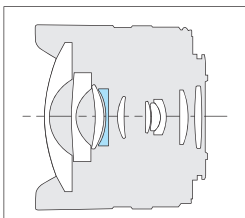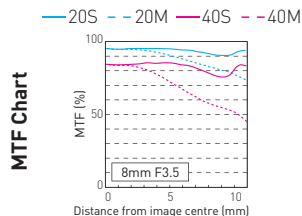
MTF Chart

— 20S - - 20M — 40S - - 40M

MTF (%)

8mm F3.5

Distance from image centre (mm)

ED

For the lens distortion compensation available, the horizontal axis of MTF is the distance from the centre, which is compensated accordingly.

7-14mm F4.0

(35mm camera equivalent: 14-28mm)

(December 2010)

(May 2010)

A super small, lightweight ultra wide-angle zoom lens

LUMIX G VARIO
7-14mm / F4.0 ASPH.

This lens – the world's smallest of its kind* – gives you an extraordinary perspective with its 114º 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. Equipped with two aspherical lenses for correcting a variety of aberrations, the lens also uses four extra-low dispersion (ED) lenses to eliminate chromatic aberration from magnification, rendering sharp, crisp images across the entire zoom range.
*As of March 25, 2009, for wide-angle zoom lenses for digital SLR cameras

1/200 sec, F8.0
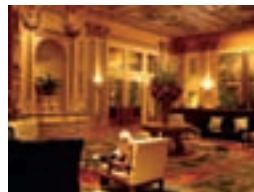
Standard
(35mm camera equivalent: 40mm)
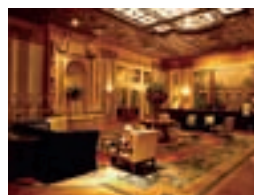
14mm
(35mm camera equivalent: 28mm)

This setting makes it easy to fit the whole subject in the image, even the parts a standard lens cuts off.

7mm
(35mm camera equivalent: 14mm)

This setting goes even further, providing a wide, sweeping view that gathers in more than the human eye can see. This is especially useful for shooting expansive landscapes, or for fitting more into an indoor shot.

• Lens construction = 16 elements in 12 groups • Closest focusing distance = 0.25 m / 0.8 ft.
• Maximum image magnification = 0.08x (35mm equivalent: 0.15x) • Dimensions = 70 (dia.) x 83.1 mm / 2.76 (dia.) x 3.27 in. • Weight = 300 g / 10.58 oz. • Accessories = Hood (built-in), case

MTF Chart   — 20S - - 20M — 40S - - 40M

MTF (%)

7mm F4.0

Distance from image centre (mm)

MTF (%)

14mm F4.0

Distance from image centre (mm)

ASPH   ED

For the lens distortion compensation available, the horizontal axis of MTF is the distance from the centre, which is compensated accordingly.
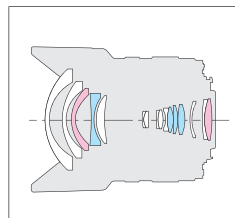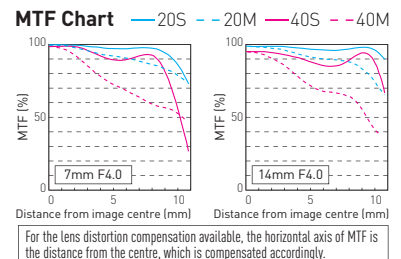
LUMIX GH2

(December 2010)   (September 2010)

- New 16.05 Megapixel Live MOS Sensor

- New Venus Engine VI FHD for Superb Image Processing
  Speed and Noise Reduction

- 0.099 second AF Speed with Light Speed
  AF* (*with H-VS014140)

- Full HD AVCHD Movie Recording, 24p or 50i
  with built in Dolby Digital stereo sound

- Full Time Live View
  (with HDMI out compatibility)

- High sensitivity ISO range 160 - 12800

- 3.0" Free Angle LCD Touch Screen

- Large Multi Wide Live Viewfinder (1.53m dot equivalent)

- Available; Body only (DMC-GH2EB-K)
  14-42mm Lens (DMC-GH2KEB-K) or a
  14-140mm Lens (DMC-GH2HEB-K)

LUMIX GF2

- DSLR quality in a Compact

- Ultra Compact Aluminium Body with Built-in Flash

- Venus Engine VI FHD for Superb Image Processing Speed and Noise Reduction

- Fast and Precise 3" Touch Screen with New Graphic User Interface

- Full HD Movie Recording with Motion Picture Program Mode (AVCHD 1920x1080, 50i)

- Intelligent Auto and Full Manual Controls

- Available Zoom Kit only (with 14-42mm lens), Pancake Kit (with 14mm lens) or Twin Kit (with 14-42mm & 14mm lens)

(November 2010)

(January 2011)

(January 2011)

Available colours:

LUMIX G10

(September 2010)

- Compact and lightweight DSLR style camera

- Capture Magnificent Shots with a Single Press of the iA Button

- Preview your shots on screen using full time Live View

- HD Movie Recording (Motion JPEG: 1280 x 720p at 30 fps)

- Compact 3x Zoom 14-42mm Lens

- My Colour Art Filters for creative pictures

12.1 MEGAPIXEL ULTRA-COMPACT TOUCH-CONTROL SYSTEM CAMERA

LUMIX G2

- World's first System Camera with Touch Control System

- Large and Bright 3.0 Inch dynamic Free-Angle Touch Screen LCD

- Bright 1.4 Million Dot Equivalent Live Viewfinder

- HD Movie Recording with Motion Picture Program Mode (AVCHD Lite: 1280 x 720p at 25 fps)

- Available: Body only, Single Lens Kit (Lumix G Vario 14-42mm) or Twin Lens Kit (Lumix G Vario 14-42mm and 45-200mm lenses)
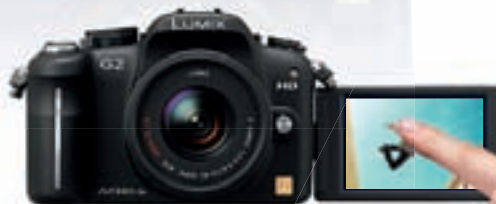
Available colours:

The World's First* Touch-Operation System Camera

(September 2010)

(September 2010)

(September 2010)

(April 2010)

*As of March 7, 2010.

15

Tips on selecting the most suitable lens for your subject and shooting situation.

for Landscapes

- The 7-14mm or 14mm pancake lens lets you emphasize the perspective and express how vast a particular landscape is.
- The 14-42mm or 14-45mm lens lets you capture medium telephoto shots that draw in distant landscapes.
- The 45mm macro lens maintains image sharpness all the way to the edges, even when shooting at infinity.

LUMIX G VARIO 7-14mm / F4.0 ASPH.

LUMIX G 14mm / F2.5 ASPH.

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

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

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

for Travelling and Casual Snapshots

- The 20mm pancake lens is always ready to grab photos on the fly.
- The 14mm wide-angle pancake lens or 7-14mm ultra-wide-angle lens lets you fit more into the photo when shooting in tight spaces, such as at an indoor party or inside a car.
- The 14-42mm or 14-45mm standard zoom lens covers a wide range of uses, such as photographing landscapes and people during your travels.

LUMIX G 20mm / F1.7 ASPH.

LUMIX G 14mm / F2.5 ASPH.

LUMIX G VARIO 7-14mm / F4.0 ASPH.

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

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

for Portraits

- The 14-42mm, 14-45mm, and 14-140mm lenses let you capture natural-looking portraits from a medium distance while talking to your subject.
- The large-aperture 45mm or 20mm pancake lens lets you capture the subject in clear focus while softly blurring the background.

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

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

LUMIX G VARIO HD 14-140mm / F4.0-5.8 ASPH. / MEGA O.I.S.

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

LUMIX G 20mm / F1.7 ASPH.

LENS KNOWLEDGE

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

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 Micro System, 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 47º, which is the same as the angle of view for a 50mm lens on a 35mm camera.

●Micro Four Thirds™ and the Micro Four Thirds logo mark are trademarks or registered trademarks of Olympus Imaging Corporation, in Japan, the United States, the European Union and other countries.

*Figures in parentheses are 35mm camera equivalent values.

180° FISHEYE 8mm (16mm)

114° 7mm (14mm)

100°
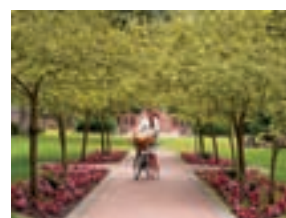
34° 35mm (70mm)
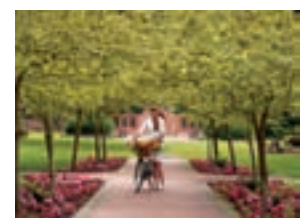
29° 42mm (84mm)

27°

for Sports and Speed

- Use the 45-200mm or 100-300mm telephoto zoom lens to capture dynamic action shots from the stands at a sports event or racetrack.

LUMIX G VARIO
45-200mm /
F4.0-5.6 /
MEGA O.I.S.

LUMIX G VARIO
100-300mm /
F4.0-5.6 /
MEGA O.I.S.

for Events

- The 14-140mm 10x optical zoom lens has the versatility to handle a wide range of shots. And you can use it not only to capture stunning photos, but when shooting HD movies too.

LUMIX G VARIO HD
14-140mm /
F4.0-5.8
ASPH. / MEGA
O.I.S.

for Close-up Shots

- The 45mm macro can render superb close-ups of small, detailed objects, such as flowers, insects or jewellery.
- To capture detailed views of faraway objects – for example, the engravings on a distant building - use the 45-200mm or 100-300mm lens.

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

LUMIX G VARIO
45-200mm /
F4.0-5.6 /
MEGA O.I.S.

LUMIX G VARIO
100-300mm /
F4.0-5.6 /
MEGA O.I.S.

for Unique Shots

- The 8mm fisheye and 7-14mm ultra-wide-angle lens let you capture distinctive, intriguing shots with unusual deformation effects. You can use them for both photos and movies.

LUMIX G VARIO
7-14mm /
F4.0 ASPH.

LUMIX G FISHEYE
8mm /
F3.5

9mm (18mm)

84°   12mm (24mm)

75°   14mm (28mm)

57°   20mm (40mm)

47°   25mm (50mm)

45mm (90mm)
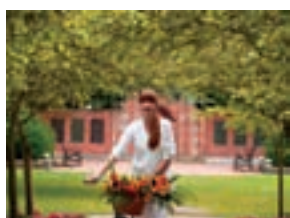
12°   100mm (200mm)

8.8°   140mm (280mm)

6.2°   200mm (400mm)

4.1°   300mm (600mm)

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 smaller the F-number, the brighter the lens (the larger the aperture). A bright lens has several key advantages. For example, a brighter lens lets you use a faster shutter speed, so you can get clear, blur-free shots even in dim lighting. It also lets you give the background a soft focus.

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 emphasises 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 deemphasising the distance between objects in the foreground and objects in the background.

14mm (28mm)

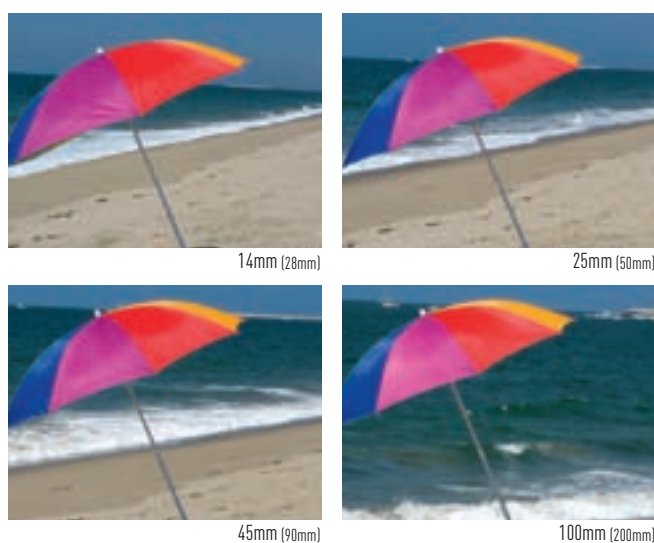25mm (50mm)

45mm (90mm)

100mm (200mm)

*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".

0.25x

0.5x

1.0x

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 (bright lens) makes the depth of field shallower. A short focal length (wide-angle lens) or large F-number (dark lens) 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 soft focus, thus emphasising the sharp subject focus. With a large depth of field, you can keep objects in the foreground and objects in the background all in focus (for a pan-focus effect).

F2.8

F22

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 centre. 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.

S: 20 lines/mm   M: 20 lines/mm
S: 40 lines/mm   M: 40 lines/mm
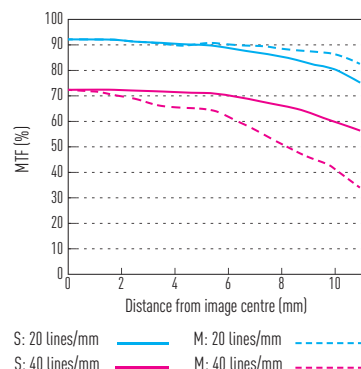
Lens Designation
LUMIX G VARIO
14-45mm / F3.5-5.6 ASPH./ MEGA O.I.S.
❶   ❷   ❸   ❹

❶ 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.

❷ 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).

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

❹ Hand-shake compensation
"MEGA O.I.S." indicates that the lens is equipped with an optical image stabiliser for hand-shake compensation.

These cutting-edge technologies support the compact size, light weight, and high-quality images of the LUMIX G Micro System.
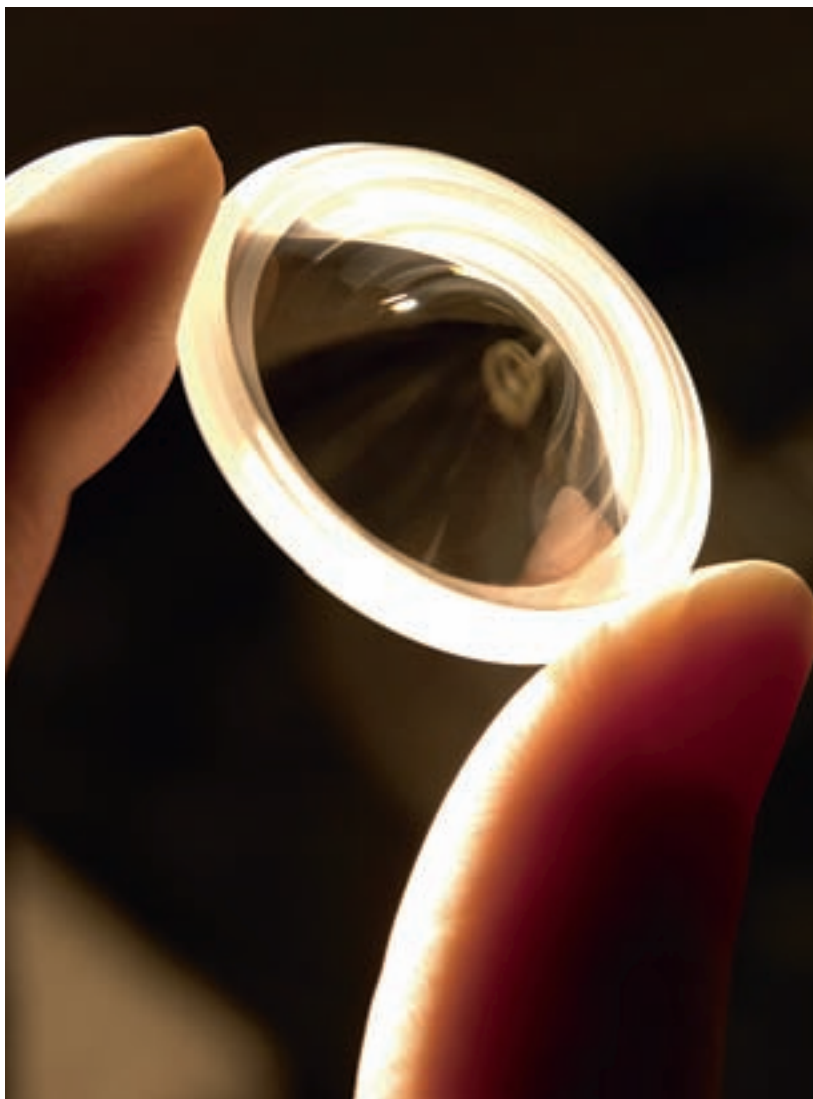
Lenses Manufactured with Uncompromising Devotion to High Image Quality

The LUMIX G/LEICA DG lenses are manufactured by an integrated production system in the Panasonic Yamagata Plant in Japan. From lens processing to assembly, inspection, and individual packaging, all processes are conducted in Clean Rooms according to rigorous environmental standards. 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 flaring, the color of coatings, the operating feel of the focus ring, etc., 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.
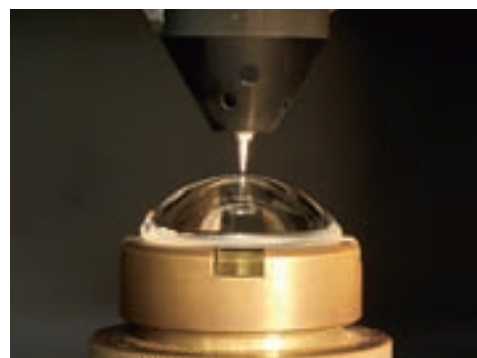
An Original Lens Drive Motor for High-Precision, High-Speed Contrast AF

In conventional digital SLR cameras, contrast AF is more accurate than phase difference AF, but it has a slower focus speed. LUMIX G/LEICA DG lenses overcome this problem by incorporating a unique stepping motor in the drive system. A screw unit integrated with the motor shaft moves the focus lens directly, without relay gears or cams. Auto focusing is swift and accurate. Some lens models are equipped with a linear motor to further reduce drive noise – ideal when recording movies with sound. The number of mount signal contacts has been increased from the 9 used in conventional Four Thirds System cameras to 11, so information transfer between lens and camera is faster. This has also helped achieve a contrast AF system that excels in both speed and accuracy.

Rack
Guide pole
Stepping motor in drive system
Focus lens unit
Guide pole

MEGA O.I.S. (Optical Image Stabiliser)

The smaller and lighter the camera body, the greater the hand-shake effect during shooting. LUMIX G/LEICA DG lenses feature MEGA O.I.S., an image stabilising function that has been highly evaluated by compact camera users. 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 hand-shake. Unlike image stabilising functions that are built into the camera body, this highly accurate function also lets you check the compensation effect directly through the Live View Finder or on the LCD. The images that you capture have the same shake-free beauty as what you see on the Live View Finder or the LCD. The compensation effect is also carefully matched to each lens. MEGA O.I.S. is especially effective for hand-held shooting with a zoom lens.

Multicoating Process

Utmost caution is exercised in coating the LUMIX G/LEICA DG lenses to suppress ghosts and flaring, while ensuring optimum color balance. In addition to a standard broadband anti-reflection coating, LUMIX G/LEICA DG 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.

Without multicoating

With multicoating

LENS SPECIFICATIONS

Micro Four Thirds System Standard

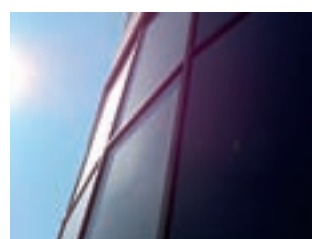|	Lens	35mm Equivalent Focal Length	AF Actuator	MEGA O.I.S.	Lens Construction Elements-Groups	Angle of View	Number of Blades
Wide Zoom	LUMIX G VARIO 7-14mm / F4.0 ASPH.	14-28mm	Stepping Motor	-	16-12	114°- 75°	7 (Circular aperture diaphragm)
Standard Zoom	LUMIX G VARIO 14-42mm / F3.5-5.6 ASPH. / MEGA O.I.S.	28-84mm	Stepping Motor	●	12-9	75°- 29°	7 (Circular aperture diaphragm)
	LUMIX G VARIO 14-45mm / F3.5-5.6 ASPH. / MEGA O.I.S.	28-90mm	Stepping Motor	●	12-9	75°- 27°	7 (Circular aperture diaphragm)
	LUMIX G VARIO HD 14-140mm / F4.0-5.8 ASPH. / MEGA O.I.S.	28-280mm	Linear Motor	●	17-13	75°- 8.8°	7 (Circular aperture diaphragm)
Telephoto Zoom	LUMIX G VARIO 45-200mm / F4.0-5.6 / MEGA O.I.S.	90-400mm	Stepping Motor	●	16-13	27°- 6.2°	7 (Circular aperture diaphragm)
	LUMIX G VARIO 100-300mm / F4.0-5.6 / MEGA O.I.S.	200-600mm	Stepping Motor	●	17-12	12°- 4.1°	7 (Circular aperture diaphragm)
Macro	LEICA DG MACRO-ELMARIT 45mm / F2.8 ASPH. / MEGA O.I.S.	90mm	Stepping Motor	●	14-10	27°	7 (Circular aperture diaphragm)
Single Focal Length	LUMIX G 14mm / F2.5 ASPH.	28mm	Stepping Motor	-	6-5	75°	7 (Circular aperture diaphragm)
	LUMIX G 20mm / F1.7 ASPH.	40mm	Stepping Motor	-	7-5	57°	7 (Circular aperture diaphragm)
	LUMIX G FISHEYE 8mm / F3.5	16mm	Stepping Motor	-	10-9	180°	7 (Circular aperture diaphragm)
Adaptor	Mount Adaptor DMW-MA1	-	-	-	-	-	-
	M Mount Adaptor DMW-MA2M	-	-	-	-	-	-
	R Mount Adaptor DMW-MA3R	-	-	-	-	-	-
3D	LUMIX G 12.5mm / F12	65mm*2	-	-	4-3 x2	37°*2	-

Four Thirds System Standard

	Lens	35mm Equivalent Focal Length	AF Actuator	MEGA O.I.S.	Lens Construction Elements-Groups	Angle of View	Number of Blades
Standard Zoom	LEICA D VARIO-ELMARIT 14-50mm / F2.8-3.5 ASPH. / MEGA O.I.S.	28-100mm	DC Motor	●	16-12	75°- 24°	7 (Iris diaphragm)
	LEICA D VARIO-ELMAR 14-50mm / F3.8-5.6 ASPH. / MEGA O.I.S.	28-100mm	DC Motor	●	15-11	75°- 24°	7 (Circular aperture diaphragm)
	LEICA D VARIO-ELMAR 14-150mm / F3.5-5.6 ASPH. / MEGA O.I.S.	28-300mm	Supersonic Wave Motor	●	15-11	75°- 8.2°	7 (Circular aperture diaphragm)
Single Focal Length	LEICA D SUMMILUX 25mm / F1.4 ASPH.	50mm	DC Motor	-	10-9	47°	7 (Circular aperture diaphragm)

• The compression level of product photographs shown in this catalog varies. Check the above table for actual sizes.
*1 Front: Mounting not possible, Rear: Sheet filter holder 22mm / 0.86 inch x 22mm / 0.86 inch
*2 When setting the aspect ratio at 16:9 with the DMC-GH2

• Four Thirds™, Micro Four Thirds™, and the Four Thirds and Micro Four Thirds logo marks are trademarks or registered trademarks of Olympus Imaging Corporation, in Japan, the United States, the European Union and other countries.

Aspherical Lenses

To assure superior image quality while reducing size and weight, each LUMIX G/LEICA DG lens features a number of aspherical lenses that effectively prevent lens aberration, such as spherical and distortion aberration. Each aspherical lens has the effect of several spherical lenses, so a higher magnification ratio can be achieved with fewer lenses. The result is smaller overall size and weight. Aspherical lenses are extremely difficult to produce, however, because they demand high dimensional accuracy. In the past this restricted the applicable lens shapes and materials, but Panasonic has made great strides in this area. Our Yamagata Plant began developing cutting-edge production technologies for molded lenses early on, and today the plant manufactures a wide variety of lenses – including concave lenses that have a large thickness difference and measure a mere 0.3 mm at the thinnest part. The aspherical lenses with superb image rendering ability produced at this plant now see widespread use.

Aspherical lens
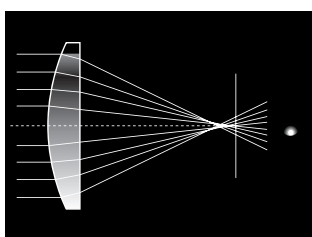
Spherical lens

Extra-Low Dispersion Lenses

In a conventional lens made only of optical glass, it becomes difficult to correct chromatic aberration when the focal length is long or the angle of view is wide, thus resulting in contrast degradation or colour bleeding. This problem has been solved by Panasonic's Extra-Low Dispersion (ED) lens. It suppresses the prism's colour separation effect to correct longitudinal chromatic aberration at the telephoto zoom setting and chromatic difference of magnification at the wide-angle setting. The ED lens is used mainly in LUMIX G/LEICA DG telephoto lenses and wide-angle zoom lenses to render sharp, high-contrast images with clear colours from corner to corner.

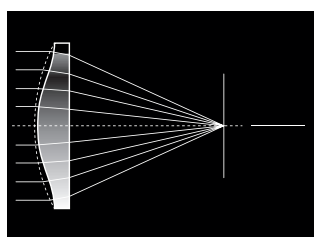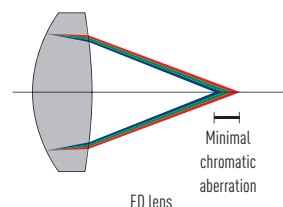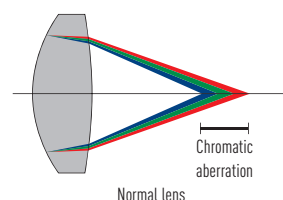Chromatic aberration

Normal lens

Minimal chromatic aberration

ED lens

Minimum Aperture	Closest Focusing Distance (m / ft.)	Maximum Image Magnification (35mm equivalent)	Filter Size (mm)	Diameter (ϕ) x Length (mm / in.)	Weight (g / oz.)	Standard Accessories
22	0.25 / 0.8	0.08x (0.15x)	-	ϕ 70 x 83.1 / ϕ 2.76 x 3.27	300 / 10.58	Lens cap, Lens rear cap, Lens storage bag
22	0.3 / 1	0.16x (0.32x)	52	ϕ 60.6 x 63.6 / ϕ 2.39 x 2.50	165 / 5.82	Lens cap, Lens hood, Lens rear cap, Lens storage bag
22	0.3 / 1	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
22	0.5 / 1.64	0.2x (0.4x)	62	ϕ 70 x 84 / ϕ 2.76 x 3.31	460 / 16.2	Lens cap, Lens hood, Lens rear cap, Lens storage bag
22	1.0 / 3.3	0.19x (0.38x)	52	ϕ 70 x 100 / ϕ 2.76 x 3.94	380 / 13.4	Lens cap, Lens hood, Lens rear cap, Lens storage bag
22	1.5 / 4.92	0.21x (0.42x)	67	ϕ 73.6 x 126 / ϕ 2.90 x 4.96	520 / 18.3	Lens cap, Lens hood, Lens rear cap, Lens storage bag
22	0.15 / 0.50 (FULL), 0.5 / 1.64 (LIMIT)	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
22	0.18 / 0.59	0.10x (0.20x)	46	ϕ 55.5 x 20.5 / ϕ 2.19 x 0.81	55 / 1.9	Lens cap, Lens rear cap, Lens storage bag
16	0.2 / 0.66	0.13x (0.25x)	46	ϕ 63 x 25.5 / ϕ 2.48 x 1.00	100 / 3.53	Lens cap, Lens rear cap, Lens storage bag
22	0.1 / 0.33	0.20x (0.40x)	*1	ϕ 60.7 x 51.7 / ϕ 2.39 x 2.04	165 / 5.82	Lens cap, Lens rear cap, Lens storage bag
-	-	-	-	ϕ 71 x 24 / (ϕ 2.80 × 0.94)	87 / 3.07	-
-	-	-	-	ϕ 61 x 13 / (ϕ 2.40 × 0.51)	60 / 2.12	-
-	-	-	-	ϕ 67 x 33 / (ϕ 2.64 × 1.30)	90 / 3.17	-
-	0.6 / 1.97	0.02x (0.1x*2)	-	ϕ 57.0 x 20.5 / ϕ 2.24 × 0.81	45 / 1.59	Lens cap, Lens rear cap, Lens storage bag

Minimum Aperture	Closest Focusing Distance (m / ft.)	Maximum Image Magnification (35mm equivalent)	Filter Size (mm)	Diameter (ϕ) x Length (mm / in.)	Weight (g / oz.)	Standard Accessories
22	0.29 / 0.95	0.16x (0.32x)	72	ϕ 78.1 x 97.4 / ϕ 3.07 x 3.83	490 / 17.3	Lens cap, Lens hood, Lens rear cap, Lens storage bag
22	0.29 / 0.95	0.21x (0.42x)	67	ϕ 74 x 93 / ϕ 2.91 x 3.66	434 / 15.3	Lens cap, Lens hood, Lens rear cap, Lens storage bag
22	0.5 / 1.64	0.18x (0.36x)	72	ϕ 78.5 x 90.4 / ϕ 3.09 x 3.56	535 / 18.9	Lens cap, Lens hood, Lens rear cap, Lens storage bag
16	0.38 / 1.25	0.09x (0.17x)	62	ϕ 77.7 x 75 / ϕ 3.06 x 2.95	510 / 18	Lens cap, Lens hood, Lens rear cap, Lens storage bag

		DMC-GH2	DMC-GF2
TYPE	Type	Digital interchangeable lens system camera	
	Recording media	SD memory card, SDHC memory card, SDXC memory card	
	Image sensor size	17.3 x 13.0 mm (in 4:3 aspect ratio)	
	Lens Mount	Micro Four Thirds mount	
IMAGE SENSOR	Type	Live MOS Sensor	
	Total pixels	18.31 Megapixels	13.06 Megapixels
	Camera effective pixels	16.05 Megapixels	12.10 Megapixels
	Colour filter	Primary colour filter	
	Dust reduction system	Supersonic wave filter	
RECORDING SYSTEM	Recording file format	Still Image: JPEG (DCF, Exif 2.3), RAW, DPOF compatible	
		MPO (When attaching 3D lens in Micro Four Thirds standard)	
		Motion Image: AVCHD / QuickTime™ Motion JPEG	
	Aspect ratio	4:3, 3:2, 16:9, 1:1 (Multi-aspect recording except 1:1)	4:3, 3:2, 16:9, 1:1
	Image quality	RAW, RAW+Fine, RAW+Standard, Fine, Standard, MPO+Fine, MPO+Standard (with 3D lens in Micro Four Thirds System standard)	
	Colour space	sRGB, Adobe RGB	
	File size — Still Image	**[4:3]** 4608x3456(L) / 3264x2448(M) / 2336x1752(S) / 1920x1440 (When attaching 3D lens in Micro Four Third System standard) **[3:2]** 4752x3168(L) / 3360x2240(M) / 2400x1600(S) / 1920x1280(When attaching 3D lens in Micro Four Third System standard) **[16:9]** 4976x2800(L) / 3520x1980(M) / 1920x1080(S) / 1920x1080 (When attaching 3D lens in Micro Four Third System standard) **[1:1]** 3456x3456(L) / 2448x2448(M) / 1744x1744(S) / 1792x1792 (When attaching 3D lens in Micro Four Third System standard)	**[4:3]** 4000x3000(L) / 2816x2112(M) / 2048x1536(S) / 1600x1200(When attaching 3D lens in Micro Four Thirds System standard) **[3:2]** 4000x2672(L) / 2816x1880(M) / 2048x1360(S) / 1600x1064(When attaching 3D lens in Micro Four Thirds System standard) **[16:9]** 4000x2248(L) / 2816x1584(M) / 1920x1080(S) / 1600x904(When attaching 3D lens in Micro Four Thirds System standard) **[1:1]** 2992 x 2992 (L) / 2112 x 2112 (M) / 1504 x 1504 (S) / 1440x1440(When attaching 3D lens in Micro Four Thirds System standard)
	File size — Motion Image / Motion JPEG[*1]	**[4:3]** QVGA: 320 x 240, 30fps / VGA : 640 x 480, 30fps **[16:9]** WVGA : 848 x 480, 30fps **[HD]** 1280 x 720, 30fps	**[4:3]** QVGA : 320 x 240, 30fps / VGA : 640 x 480, 30fps **[16:9]** WVGA : 848 x 480, 30fps **[HD]** 1280 x 720, 30fps
	Motion JPEG[*1]	1920×1080, 24p 24H:24Mbps,24L:17Mbps	
	AVCHD[*2] — NTSC	**[Full HD]** 1920×1080, 60i (sensor output is 60p) [FSH:17Mbps, FH:13Mbps] **[HD]** 1280 x 720, 60p (sensor output is 60p) [SH:17Mbps, H:13Mbps]	**[Full HD]** 1920×1080, 60i (sensor output is 30p) [FSH:17Mbps, FH:13Mbps] **[HD]** 1280 x 720, 60p (sensor output is 30p)[SH:17Mbps, H:13Mbps]
	AVCHD[*2] — PAL	**[Full HD]** 1920×1080, 24p 24H:24Mbps,24L:17Mbps **[Full HD]** 1920×1080, 50i (sensor output is 50p) [FSH:17Mbps, FH:13Mbps] **[HD]** 1280 x 720, 50p (sensor output is 50p) [SH:17Mbps, H:13Mbps]	**[Full HD]** 1920×1080, 50i (sensor output is 25p) [FSH:17Mbps, FH:13Mbps] **[HD]** 1280 x 720, 50p (sensor output is 25p)[SH:17Mbps, H:13Mbps]
	Continuous recordable time (Motion images)	AVCHD with picture quality set to [FSH]: Approx. 120 min with H-FS014042 / Approx. 110 min with H-VS014140 Motion JPEG with picture quality set to [FSH]: Approx. 130 min with H-FS014042 / Approx. 120 min with H-VS014140	AVCHD with picture quality set to [FSH]: Approx. 120 min with H-FS014042 / Approx. 130 min with H-H014 Motion JPEG with picture quality set to [HD]: Approx. 130 min with H-FS014042 / Approx. 140 min with H-H014
	Actual recordable time (Motion images)	AVCHD with picture quality set to [FSH]: Approx. 70 min with H-FS014042 / Approx. 65 min with H-VS014140 Motion JPEG with picture quality set to [HD]: Approx. 75 min with H-FS014042 / Approx. 70 min with H-VS014140	AVCHD with picture quality set to [FSH]: Approx. 60 min with H-FS014042 / Approx. 70 min with H-H014 Motion JPEG with picture quality set to [HD]: Approx. 65 min with H-FS014042 / Approx. 75 min with H-H014
VIEWFINDER	Type	Live View Finder (1,533,600 dots equivalent)	-
	Field of view	Approx. 100%	-
	Magnification	Approx. 1.42x / 0.71x (35mm camera equivalent) with 50mm lens at infinity; -1.0 m-1	-
	Eye point	Approx. 17.5mm from eyepiece lens	-
	Diopter adjustment	-4.0 ~ +4.0 [m-1]	-
	Auto eye sensor	Yes	-
FOCUS	Type	Contrast AF system	
	Focusing mode	AFS/ AFC/ MF	
	Focusing area	Face detection / AF Tracking / 23-area-focusing / 1-area-focusing / Touch (1- area-focusing in Face detection / AF Tracking / Multi-area-focusing / 1-area-focusing)	
	AF detective range	EV 0-18 (F3.5 lens, ISO 100)	
	AF assist lamp	Yes	
	AF lock	AF/AE LOCK Button or Shutter Button Halfway Pressed in AFs Mode	Set the Fn button in custom menu to AF lock
	Others	Pre AF (Quick AF/Continuous AF), AF+MF, Touch shutter, Touch MF Assist,	Quick AF, Continuous AF (during motion image recording), AF+MF, Touch shutter, Touch MF Assist,
EXPOSURE CONTROL	Light metering system	144-zone multi-pattern sensing system	
	Light metering mode	Intelligent Multiple/ Centre Weighted/ Spot	
	Metering range	EV 0-18 (F2.0 lens, ISO 100)	
	Exposure mode	Program AE, Aperture Priority AE, Shutter Priority AE, Manual, Auto	Program AE, Aperture Priority AE, Shutter Priority AE, Manual
	ISO sensitivity (Standard Output Sensitivity)	Auto / Intelligent ISO / 160 / 200 / 250 / 320 / 400 / 400 / 500 / 640 / 800 / 1000 / 1250 / 1600 / 2000 / 2500 / 3200 / 4000 / 5000 / 6400 / 8000 / 10000 / 12800	Auto / Intelligent ISO / 100 / 200 / 400 / 800 / 1600 / 3200 / 6400
	Exposure compensation	1/3EV Step ±5EV	1/3EV Step ±3EV
	AE lock	AF/AE LOCK button or Shutter button halfway pressed	Set the Fn button in custom menu to AE lock
	AE bracket	3,5,7 frame, in 1/3, 2/3 or 1 EV Step, ±3 EV	3,5 frame, in 1/3 or 2/3 EV Step, ±4/3 EV
WHITE BALANCE	White balance	Auto / Daylight / Cloudy / Shade / Halogen / Flash / White Set 1, 2, 3, 4 / Colour temperature setting	Auto / Daylight / Cloudy / Shade / Halogen / Flash / White Set 1, 2 / Colour temperature setting
	White balance adjustment	Blue/ amber bias, Magenta/ green bias	
	Colour temperature setting	2500-10000K in 100K	
	White balance bracket	3 exposures in blue/ amber axis or in magenta/ green axis	
SHUTTER SYSTEM	Type	Focal-plane shutter	
	Shutter speed	Still Images: 1/4000 – 60 and Bulb (up to approx. 2 minutes)	Still Images: 1/4000 - 60
	Self timer	10sec, 3 images/ 2sec / 10sec	10sec, 3 images/ 2sec / 10sec
	Remote control	Remote control with bulb function by DMW-RSL1 (Optional)	
SCENE MODE	Still image SCN mode	Portrait (Normal/Soft Skin/Outdoor/Indoor/Creative) / Scenery (Normal/Nature/Architecture/Creative) / Close-up (Flower/Food/Objects/Creative) / SCN (Peripheral Defocus/Night Portrait/Night Scenery/Sunset/Party/Sports/Baby 1,2/Pet)	Portrait / Soft Skin / Scenery / Architecture / Sports / Peripheral Defocus / Flower / Food / Objects / Night Portrait / Night Scenery / Illuminations / Baby 1, 2 / Pet / Party / Sunset
	Movie SCN Mode	Portrait (Normal/Soft Skin/Outdoor/Indoor/Creative) / Scenery (Normal/Nature/Architecture/Creative) / Close-up (Flower/Food/Objects/Creative) / SCN (Peripheral Defocus/Night Portrait/Night Scenery/Sunset/Party/Sports/Baby 1,2/Pet) (Activated by selecting Still Image SCN mode then pressing Movie Button. Still Image SCN modes without corresponding Movie SCN mode is recorded in mode suitable for the recording situation.)	Portrait / Soft Skin / Scenery / Architecture / Sports / Flower / Food / Objects / Low-light / Party / Sunset (Activated by selecting Still Image SCN mode then pressing Movie Button. Still Image SCN modes without corresponding Movie SCN mode is recorded in mode suitable for the recording situation.)
MY COLOUR MODE	My Colour Mode	(Still image & Movie) Expressive/Retro/Pure/Elegant/Monochrome/Dynamic Art/Silhouette/Custom (Colour/Brightness/Saturation/ adjustable)	(Still image & Movie) Expressive/Retro/Pure/Elegant/Cinema/Monochrome/Dynamic Art/Silhouette/Custom (Colour/Brightness/Saturation/ Contrast adjustable)
BURST SHOOTING	Burst speed	SH: 40 frames/sec(4M), H: 5 frames/sec, M: 3 frames/sec (with Live View), L: 2 frames/sec (with Live View)	H: 3.2 frames/sec, M: 2.6 frames/sec (with Live View), L: 2 frames/sec (with Live View)
	Number of recordable	7 images (when there are RAW files with the particular speed) Unlimited consecutive shooting (when there are no RAW files) (depending on memory card size, battery power, picture size, and compression)	
BUILT-IN-FLASH	Type	TTL Built-in-Flash, GN13.9 equivalent (ISO 160 • m), Built-in Pop-up	TTL Built-in-Flash, GN6 equivalent (ISO 100 • m), Built-in Pop-up
	Flash mode	Auto, Auto/Red-eye Reduction, Forced On, Forced On/Red-eye Reduction, Slow Sync., Slow Sync./Red-eye Reduction, Forced Off	
	X-Sync speed	Less than 1/160 second	
	Flash output adjustment	1/3EV Step ±2EV	
	Flash synchronisation	1st. Curtain Sync, 2nd Curtain Sync.	1st. Curtain Sync
	Hot shoe	TTL Auto with FL220/FL360/FL500(Optional)	
LCD MONITOR	Type	TFT LCD with Touch panel	
	Monitor size	Free-angle 3.0 inch / 3:2 Aspect / Wide viewing angle	3.0 inch / 3:2 Aspect / Wide viewing angle
	Pixels	460K dots	
	Field of view	Approx. 100%	
	Brightness adjustment	Brightness (7 levels), Colour (7 levels)	
	LCD Mode	Off / Auto Power LCD / Power LCD	
LIVE VIEW	Digital zoom	2x, 4x	
	Extra optical zoom	Still image: Max.2x (Not effective with L size recording. Magnification ratio depends on the recording pixels and aspect ratio.) Motion image: Max.4.8x (Magnification ratio depends on the recording quality and aspect ratio.)	Still image: Max.2x (Not effective with L size recording. Magnification ratio depends on the recording pixels and aspect ratio.) Motion image: 3.1x (SH/H in AVCHD and HD/WVGA in Motion JPEG), 4.2x (VGA/QVGA in Motion JPEG)
	Other functions	Guide Lines (3 patterns), Real-time Histogram	
FILM MODE	Colour	Standard / Dynamic / Nature / Smooth / Nostalgic / Vibrant	-
	Black and white	Standard / Dynamic / Smooth	-
	Others	My Film1 / My Film2 / Multi Film / Cinema	-
PLAYBACK MODE		Normal playback, 30-thumbnail display, 12-thumbnail display, Calendar display, Zoomed playback (16x Max.), Slideshow (duration & effect is selectable), Playback Mode (Normal/Picture/AVCHD/Motion JPEG/3D Play/Category/Favourite), Title Edit, Text Stamp, Video Divide, Resize, Cropping, Aspect Conversion, Rotate, Rotate Display, Favourite, Print Set, Protect, Face Rec Edit	Normal playback, 30-thumbnail display, 12-thumbnail display, Calendar display, Zoomed playback (16x Max.), Slideshow (duration & effect is selectable), Playback Mode (Normal/Picture/AVCHD/Motion JPEG/3D Play/Category/Favourite), Title Edit, Text Stamp, Video Divide, Resize, Cropping, Aspect Conversion, Rotate, Rotate Display, Favourite, Protect, Face Recognition Edit
PROTECTION / ERASE	Protection	Single / Multi or Cancel	
	Erase	Single / Multi / All / Except Favourite	
DIRECT PRINT		PictBridge compatible (Print size, Layout, Date setting is selectable)	
INTERFACE	Digital	USB 2.0 High Speed	
	Digital video	miniHDMI TypeC. Video: Auto / 1080i / 720p / 480p (576p in PAL system). Audio: Dolby® Digital Stereo Creator	miniHDMI TypeC. Video: Auto / 1080i / 720p / 480p (576p in PAL system). Audio: Monaural
	Audio video output	Stereo Type, NTSC/PAL, NTSC only for North America *Check the website of the Panasonic sales company in your country or region for details on the products that are available in your market.	HDMI mini TypeC, Video: Auto / 1080i / 720p / 480p (576p in PAL system) Audio: Dolby® Digital Stereo Creator
	Remote / External microphone input	φ2.5mm. stereo mini jack	φ2.5mm. stereo mini jack
	Built-in microphone	Stereo, Wind-cut: Off / Low / Standard / High	Stereo, Wind-cut: Off / Low / Standard / High. Microphone level adjustable: Lv1 / Lv2 / Lv3 / Lv4
	Speaker	Monaural	Monaural
OSD LANGUAGE	OSD language	English, German, French, Italian, Spanish, Polish, Czech, Hungarian, Russian, Chinese (Traditional), Chinese (Simplified), Dutch, Thai, Korean, Turkish, Portuguese, Arabic, Persian, Japanese, Swedish, Danish, Finnish, Greek *Check the website of the Panasonic sales company in your country or region for details on the OSD languages on the products that are available in your market.	
POWER	Battery	ID-Security Li-ion Battery Pack (7.2V, 1200mAh) (Included) Battery Charger	ID-Security Li-ion Battery Pack (7.2V, 1010mAh) (Included) Battery Charger
	Battery life (CIPA Standard)	Approx. 330 images (LCD), Approx. 340 images (LVF) with H-FS014042 Approx. 320 images (LCD), Approx. 330 images (LVF) with H-VS014140	Approx. 300 images with H-FS014042 Approx. 320 images with H-H014
DIMENSIONS / WEIGHT	Dimensions (W x H x D)	124 x 89.6 x 75.8mm / 4.88 x 3.53 x 2.98 in (excluding protrusions)	112.8 x 67.8 x 32.8 mm / 4.44 x 2.67 x 1.29 inch (excluding protrusions)
	Weight	Approx. 609g / 21.48 oz (SD card, Battery, 14-42mm lens included) Approx. 904g / 31.88 oz (SD card, Battery, 14-140mm lens included) Approx. 392g / 13.82 oz (Body only)	Approx. 475g / 16.75 oz (SD card, Battery, H-FS014042 lens included) Approx. 365g / 12.87 oz (SD card, Battery, H-H014 lens included) Approx. 265g / 9.35 oz (Body only)
OPERATING CONDITION	Operating temperature	0°C to 40°C (32°F to 104°F)	
	Operating humidity	10% to 80%	
STANDARD ACCESSORY	Software	PHOTOfunSTUDIO 6.0 BD Edition, SILKYPIX® Developer Studio 3.1 SE, Super LoiloScope (trial version), USB Driver	PHOTOfunSTUDIO 6.0 HD Edition, SILKYPIX® Developer Studio 3.1 SE, Super LoiloScope (trial version), USB Driver
	Standard accessory	Battery Charger, Battery Pack, Body Cap, AV Cable, USB Connection Cable, Shoulder Strap, Stylus pen, CD-ROM	Battery Charger, Battery Pack, Battery Case, Body Cap, Hot Shoe Cover, AV Cable, USB Connection Cable, Shoulder Strap, Stylus pen, CD-ROM

*1 Use a card with SD Speed Class with "Class6" or higher
*2 Use a card with SD Speed Class with "Class4" or higher

		DMC-G2	DMC-G10
TYPE	Type	Digital interchangeable lens system camera	
	Recording media	SD memory card, SDHC memory card, SDXC memory card	
	Image sensor size	17.3 x 13.0 mm (in 4:3 aspect ratio)	
	Lens Mount	Micro Four Thirds mount	
IMAGE SENSOR	Type	Live MOS Sensor	
	Total pixels	13.1 Megapixels	
	Camera effective pixels	12.1 Megapixels	
	Colour filter	Primary colour filter	
	Dust reduction system	Supersonic wave filter	
RECORDING SYSTEM	Recording file format	Still Image: JPEG (DCF, Exif 2.21), RAW, DPOF compatible	Still Image: JPEG (DCF, Exif 2.21), RAW, DPOF compatible
		Still Image with Audio: JPEG (DCF, Exif 2.21) + QuickTime™	Still Image with Audio: JPEG (DCF, Exif 2.21) + QuickTime™
		Motion Image: AVCHD Lite / QuickTime™ Motion JPEG	Motion Image: QuickTime™ Motion JPEG
	Aspect ratio	4:3, 3:2, 16:9, 1:1	
	Image quality	RAW, RAW+Fine, RAW+Standard, Fine, Standard	
	Colour space	sRGB, Adobe RGB	
	File size — Still Image	[4:3] 4000 x 3000 (L), 2816 x 2112 (M), 2048 x 1536 (S) [3:2] 4000 x 2672 (L), 2816 x 1880 (M), 2048 x 1360 (S) [16:9] 4000 x 2248 (L), 2816 x 1584 (M), 1920 x 1080 (S) [1:1] 2992 x 2992 (L), 2112 x 2112 (M), 1504 x 1504 (S)	[4:3] 4000 x 3000 (L), 2816 x 2112 (M), 2048 x 1536 (S) [3:2] 4000 x 2672 (L), 2816 x 1880 (M), 2048 x 1360 (S) [16:9] 4000 x 2248 (L), 2816 x 1584 (M), 1920 x 1080 (S) [1:1] 2992 x 2992 (L), 2112 x 2112 (M), 1504 x 1504 (S)
	File size — Motion Image — Motion JPEG*[1]	[4:3] VGA : 640 x 480, 30fps / QVGA : 320 x 240, 30fps [16:9] WVGA : 848 x 480, 30fps [HD] 1280 x 720, 30fps	[4:3] VGA : 640 x 480, 30fps / QVGA : 320 x 240, 30fps [16:9] WVGA : 848 x 480, 30fps [HD] 1280 x 720, 30fps
	File size — Motion Image — AVCHD*[2] NTSC	[HD] 1280 x 720, 60p (sensor output is 30fps) [SH: 17Mbps, H: 13Mbps, L: 9Mbps]	-
	File size — Motion Image — AVCHD*[2] PAL	[HD] 1280 x 720, 50p (sensor output is 25fps) [SH: 17Mbps, H: 13Mbps, L: 9Mbps]	-
	Continuous recordable time (Motion images)	AVCHD Lite with picture quality set to [SH]: Approx. 180 min with H-FS014042 / Approx. 160 min with H-FS045200, Motion JPEG with picture quality set to [HD]: Approx. 180 min with H-FS014042 / Approx. 160 min with H-FS045200* **Maximum clip length 29min 59s	Motion JPEG with picture quality set to [HD]: Approx. 180 min with H-FS014042 / Approx. 160 min with H-FS045200* *Maximum clip length 29min 59s
	Actual recordable time (Motion images)	AVCHD Lite with picture quality set to [SH]: Approx. 100 min with H-FS014042 / Approx. 90 min with H-FS045200, Motion JPEG with picture quality set to [HD]: Approx. 100 min with H-FS014042 / Approx. 90 min with H-FS045200	Motion JPEG with picture quality set to [HD]: Approx. 100 min with H-FS014042 / Approx. 90 min with H-FS045200
VIEWFINDER	Type	Live View Finder (1,440,000 dots equivalent)	Live View Finder (202,000 dots equivalent)
	Field of view	Approx. 100%	
	Magnification	Approx. 1.4x / 0.7x (35mm camera equivalent) with 50mm lens at infinity; -1.0 m-1	Approx. 1.04x / 0.52x (35mm camera equivalent) with 50mm lens at infinity; -1.0 m-1
	Eye point	Approx.17.5mm from eyepiece lens	
	Diopter adjustment	-4.0 – +4.0 [m-1]	
	Auto eye sensor	Yes	No
FOCUS	Type	Contrast AF system	
	Focusing mode	AFS/ AFC/ MF	
	Focusing area	Face detection / AF Tracking / 23-area-focusing / 1-area-focusing Touch (1- area-focusing in Face detection / AF Tracking / Multi-area-focusing / 1-area-focusing)	Face detection / AF Tracking / 23-area-focusing / 1-area-focusing
	AF detective range	EV 0-18 (F3.5 lens, ISO 100)	
	AF assist lamp	Yes	
	AF lock	AF/AE LOCK Button or Shutter Button Halfway Pressed in AFs Mode	
	Others	Touch shutter, Pre AF (Quick AF/Continuous AF), Touch MF Assist (5x, 10x)	Pre AF (Quick AF/Continuous AF), MF Assist (5x, 10x)
EXPOSURE CONTROL	Light metering system	144-zone multi-pattern sensing system	
	Light metering mode	Intelligent Multiple/ Centre Weighted/Spot	
	Metering range	EV 0-18 (F2.0 lens, ISO 100)	
	Exposure mode	Program AE, Aperture Priority AE, Shutter Priority AE, Manual	
	ISO sensitivity (Standard Output Sensitivity)	Auto / 100 / 200 / 400 / 800 / 1600 / 3200 / 6400 / Intelligent ISO	
	Exposure compensation	1/3EV Step ±3EV	
	AE lock	AF/AE LOCK button or Shutter button halfway pressed	
	AE bracket	3, 5, 7 frame, in 1/3 or 2/3 EV Step, ±2 EV	
WHITE BALANCE	White balance	Auto / Daylight / Cloudy / Shade / Halogen / Flash / White Set 1, 2 / Colour temperature setting	
	White balance adjustment	Blue/ amber bias, Magenta/ green bias	
	Colour temperature setting	2500-10000K in 100K	
	White balance bracket	3 exposures in blue/ amber axis or in magenta/ green axis	
SHUTTER SYSTEM	Type	Focal-plane shutter	
	Shutter speed	Still Images: 1/4000 – 60 and Bulb (up to approx. 4 minutes)	
	Self timer	2sec / 10sec / 10sec, 3 images	
	Remote control	Remote control with bulb function by DMW-RSL1 (Optional)	
SCENE MODE	Still image SCN mode	Portrait (Normal/Soft Skin/Outdoor/Indoor/Creative) / Scenery (Normal/Nature/Architecture/Creative) / Sports (Normal/Outdoor/Indoor/Creative) / Close-up (Flower/Food/Objects/Creative) / Night Portrait (Night Portrait/Night Scenery/Illuminations/Creative) / SCN (Sunset/Party/Baby 1, 2/Pet/Peripheral Defocus)	Portrait (Normal/Soft Skin/Outdoor/Indoor/Creative) / Scenery (Normal/Nature/Architecture/Creative) / Sports (Normal/Outdoor/Indoor/Creative) / Close-up (Flower/Food/Objects/Creative) / Night Portrait (Night Portrait/Night Scenery/Illuminations/Creative) / SCN (Sunset/Party/Baby 1, 2/Pet/Peripheral Defocus)
	Movie SCN Mode	Portrait (Normal/Soft Skin) / Scenery (Normal/Nature/Architecture/Creative) / Sports (Normal/Outdoor/Indoor/Creative) / Close-up (Flower/Food/Objects/Creative) / Low-light / SCN (Sunset/Party/Portrait) (Activated by selecting Still Image SCN mode then pressing Motion picture Button. Still Image SCN mode without corresponding Movie SCN mode is recorded in Normal mode or other related mode.)	–
MY COLOUR MODE	My Colour Mode	(Still image & Movie) Expressive/Retro/Pure/Elegant/Monochrome/Dynamic Art/Silhouette/Custom (Colour/Brightness/Saturation/ adjustable)	(Still image only) Expressive/Retro/Pure/Elegant/Monochrome/Dynamic Art/Silhouette/Custom (Colour/Brightness/Saturation/ adjustable)
BURST SHOOTING	Burst speed	H: 3.2 frames/sec, M: 2.6 frames/sec (with Live View), L: 2 frames/sec (with Live View)	H: 3.2 frames/sec, M: 2.6 frames/sec (with Live View), L: 2 frames/sec (with Live View)
	Number of recordable	7 images (when there are RAW files with the particular speed) Unlimited consecutive shooting (when there are no RAW files) (depending on memory card size, battery power, picture size, and compression)	
BUILT-IN-FLASH	Type	TTL Built-in-Flash, GN11 equivalent (ISO 100 -m), Built-in Pop-up	TTL Built-in-Flash, GN11 equivalent (ISO 100 -m), Built-in Pop-up
	Flash mode	Auto, Auto/Red-eye Reduction, Forced On, Forced On/Red-eye Reduction, Slow Sync., Slow Sync./Red-eye Reduction, Forced Off	
	X-Sync speed	Less than 1/160 second	
	Flash output adjustment	1/3EV Step ±2EV	
	Flash synchronisation	1st. Curtain Sync, 2nd Curtain Sync.	
	Hot shoe	TTL Auto with FL220/FL360/FL500 (Optional)	
LCD MONITOR	Type	Low temperature Polycrystalline TFT LCD with Touch panel	Low temperature Polycrystalline TFT LCD
	Monitor size	Free-angle 3.0 inch / 3:2 Aspect / Wide viewing angle	3.0 inch / 3:2 Aspect / Wide viewing angle
	Pixels	460K dots	
	Field of view	Approx. 100%	
	Brightness adjustment	Brightness (7 levels), Colour (7 levels)	
	LCD Mode	Off / Auto Power LCD / Power LCD	
LIVE VIEW	Digital zoom	2x, 4x	
	Extra optical zoom	Still image: Max.2x (Not effective with L size recording. Magnification ratio depends on the recording pixels and aspect ratio.) Motion image: 3.1x (SH/H/L in AVCHD Lite and HD/WVGA in Motion JPEG), 4.2x (VGA/QVGA in Motion JPEG)	Still image: Max.2x (Not effective with L size recording. Magnification ratio depends on the recording pixels and aspect ratio.) Motion image: 3.1x (HD/WVGA), 4.2x (VGA/QVGA)
	Other functions	Guide Lines (3 patterns), Real-time Histogram	
FILM MODE	Colour	Standard / Dynamic / Nature / Smooth / Nostalgic / Vibrant	
	Black and white	Standard / Dynamic / Smooth	
	Others	My Film1 / My Film2 / Multi Film	
PLAYBACK MODE		Normal playback, 30-thumbnail display, 12-thumbnail display, Calendar display, Zoomed playback (16x Max.), Slide show, Playback Mode (Normal/Picture/AVCHD Lite/Motion JPEG/Category/Favourite), Title Edit, Text Stamp, Video Divide, Resize, Cropping, Aspect Conversion, Rotate, Rotate Display, Favourite, Print Set, Protect, Face recognition Edit	Normal playback, 30-thumbnail display, 12-thumbnail display, Calendar display, Zoomed playback (16x Max.), Slide show, Playback Mode (Normal/Picture/Motion Picture/Category/Favourite), Favourite, Title Edit, Text Stamp, Resize, Cropping, Aspect Conversion, Rotate, Rotate Display, Print Set, Protect, Face recognition Edit
PROTECTION / ERASE	Protection	Single / Multi or Cancel	
	Erase	Single / Multi / All / Except Favourite	
DIRECT PRINT		PictBridge compatible (Print size, Layout, Date setting is selectable)	
INTERFACE	Digital	USB 2.0 High Speed	
	Digital video	miniHDMI TypeC Video: Auto / 1080i / 720p / 480p (576p in PAL system) Audio: Stereo / Monaural	miniHDMI TypeC Video: Auto / 1080i / 720p / 480p (576p in PAL system) Audio: Monaural
	Audio video output	Monaural Type, NTSC/PAL, NTSC only for North America *Check the website of the Panasonic sales company in your country or region for details on the products that are available in your market.	
	Remote / External microphone input	φ2.5mm. Remote control only	φ2.5mm. stereo mini jack
	Built-in microphone	Monaural, Wind-cut: Off / Low / Standard / High	
	Speaker	Monaural	Yes
OSD LANGUAGE	OSD language	English, German, French, Italian, Spanish, Polish, Czech, Hungarian, Russian, Chinese (Traditional), Chinese (Simplified), Dutch, Thai, Korean, Turkish, Portuguese, Arabic, Persian, Japanese, Swedish, Danish, Finnish, Greek *Check the website of the Panasonic sales company in your country or region for details on the OSD languages on the products that are available in your market.	
POWER	Battery	ID-Security Li-ion Battery Pack (7.2V, 1250mAh) (Included) Battery Charger/AC Adapter (Input: 110-240V AC, DC Cable is required)	
	Battery life (CIPA Standard)	Approx. 360 images (LCD), Approx. 390 images (LVF) with H-FS014042 Approx. 340 images (LCD), Approx. 370 images (LVF) with H-FS045200	Approx. 380 images (LCD), Approx. 410 images (LVF) with H-FS014042 Approx. 350 images (LCD), Approx. 380 images (LVF) with H-FS045200
DIMENSIONS / WEIGHT	Dimensions (W x H x D)	124 x 83.6 x 74mm / 4.88 x 3.29 x 2.91 in (excluding protrusions)	124 x 83.6 x 74mm / 4.88 x 3.29 x 2.91 in (excluding protrusions)
	Weight	Approx. 593g / 20.92 oz (SD card, Battery, 14-42mm lens included) Approx. 810g / 28.57 oz (SD card, Battery, 45-200mm lens included) Approx. 371g / 13.09 oz (Body only)	Approx. 558g / 19.68 oz (SD card, Battery, 14-42mm lens included) Approx. 775g / 27.33 oz (SD card, Battery, 45-200mm lens included) Approx. 336g / 11.85 oz (Body only)
OPERATING CONDITION	Operating temperature	0°C to 40°C (32°F to 104°F)	
	Operating humidity	10% to 80%	
STANDARD ACCESSORY	Software	PHOTOfunSTUDIO 5.0 HD Edition, SILKYPIX® Developer Studio 3.1 SE, QuickTime™, USB Driver	PHOTOfunSTUDIO 5.0, SILKYPIX® Developer Studio 3.1 SE, QuickTime™, USB Driver
	Standard accessory	Battery Charger / AC Adaptor, Battery Pack, Body Cap, AV Cable, USB Connection Cable, AC Cable, Shoulder Strap, Stylus pen, CD-ROM	Battery Charger / AC Adaptor, Battery Pack, Body Cap, AV Cable, USB Connection Cable, AC Cable, Shoulder Strap, CD-ROM

*1 Use a card with SD Speed Class with ˝Class6˝ or higher
*2 Use a card with SD Speed Class with ˝Class4˝ or higher

Panasonic ideas for life

LUMIX
LIFESTYLE
Share the experience

As a Lumix G owner, we want you to get the best out of your camera that's why we've created a site exclusively for Lumix G owners.

A place to **Learn** how to take better pictures using your Lumix G camera, **Create** and share galleries and even enter competitions. Why not **Inspire** others or be inspired by sharing your views and tips with other aspiring photographers in the forum.

The site is packed with features to help you learn, create, inspire and be inspired. Watch our video tutorials, useful and far more user friendly than wading through a dull instruction manual. From shooting landscapes to setting up a studio, the videos aim to help you uncover ways to take shots you never thought you could. And be sure to check out our pro photographer Phil Surbey's expert advice articles and find out how he achieves great results with his Lumix G.

There's also a forum for you to share your views or discover other Lumix G hot topics, a gallery for you to share your photos and view others, competitions with great prizes, exclusive offers for Lumix Lifestyle members and plenty more to help you get the best out of your Lumix G.

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