A Quick Guide to Prime Lenses

PUBLISHED - 29 SEP 2016

What is a prime lens? Well, in terms of what it's not, it's a lens that isn't a zoom – rather than have a range of focal lengths, it has only one. But in terms of what it is, it's far more than simply a fixed focal length lens. So what are the benefits of using a prime lens? Get yourself comfortable, because there's a lot to get through…

Smaller, lighter, more compact

Prime lenses are often smaller and more compact than zooms, and tend to be faster, offering wide apertures of f/2.8, f/1.8 or even f/1.4. These large apertures let in more light, which benefits the photographer in a number of ways. First, you can use fast shutter speeds with large apertures to freeze motion. This becomes important when you're shooting in low light. By using a high ISO and a wide aperture, you'll be able to use high enough shutter speeds so you can hand-hold the camera. Secondly, because fast lenses let in lots of light, the viewfinder will be brighter, and so it will be easier to confirm focus, ensuring your images will be sharp.

Also, as primes are often simpler in construction than zooms, this means they are not only often slightly less expensive to make, but they also tend to have fewer visual aberrations such a colour fringing and image distortion, giving you a more technically correct image than a zoom can at the extremes of its focal range

Another popular benefit of a prime lens is the bokeh it will achieve, especially for portraits. Bokeh is the pleasing, diffused softness of the blurred background in an image with shallow depth of field. And then there's the fact that with a prime, to make your subject larger or

smaller in frame, you actually have to move towards or step back from it when shooting, as you can't zoom in and out from a static position as you can with a zoom lens. Many photographers appreciate primes for this exact reason, as they say it encourages them to be more creative in their picture making – it certainly makes you think more about what you're shooting.

Of course, with any piece of kit there are always compromises, and with primes they tend to be twofold: first, whereas you can cover off a range of focal lengths in a single zoom, you might need several primes to do the same, and secondly, they can mean missing out on fast-happening photo opportunities, whereas with a zoom you do have more flexibility. Ultimately, it depends on what you want to shoot and how you like to work. But for many photographers, prime lenses' stunning image quality and speed, especially in low light, usually make them an indispensible part of their kit.

Your prime choice

Primes are well suited to a variety of subjects, including action/sports, architecture, close-ups, flora, landscape, low-light nature, portraits and street photography, as well as video. There are currently 53 primes in the Nikkor lens line-up, with the newest addition being the AF-S 105mm f/1.4E ED, and they range from the ultra-wide AD DX fisheye 10.5mm f/2.8G ED and AF Fisheye 16mm f/2.8D to the super-telephoto AF-S 800mm f/5.6E FL ED VR. There are also primes designed for specific uses, such as the AF-S Micro 85mm f/3.5G ED VR for close-ups, and the PC-E Micro 45mm f/2.8D for perspective control.

Here's a brief overview of Nikkor's primes, and how they can help you achieve the images you want.

Ultra-wideangle/fisheye

For frame-filling 180° angles of view that add drama to your images by bending the subject matter as it reaches the edges of the frame, go for the 10.5mm f/2.8G ED fisheye if you have a DX DSLR, or the 16mm f/2.8D fisheye, which is optimised for FX-format cameras. There are also ultra-wideangle lenses to choose from, including the 14mm f/2.8D ED with a remarkably broad 114° angle of view making it idea for shooting large buildings, tight indoor spaces and sweeping landscapes, while the 20mm f/2.8D and 20mm f/1.8G ED offer dynamic perspective

and great depth of field for landscapes and interiors alike.

Standard wideangle

Ranging from 24mm to 35mm, these include the 24mm f/1.4G ED, which is renowned for its amazing bokeh; the 28mm f/1.8G, whose stunning clarity is optimised for use with our latest high-megapixel cameras; and four fast 35mm primes, whose focal length is similar to the angle of view of human vision (for DX cameras) for natural looking results, and whose maximum apertures of f/1.8 to f/2 maximise your opportunities for low-light and night shots, as well as portraits, landscapes and astrophotography. They're also all compact enough to be the ideal 'nothing to see here' lenses for unobtrusive street photography.

Normal 50mm & 58mm

These primes are stunningly fast and offer superb sharpness and bokeh as well as a very natural angle of view that makes them incredibly versatile across most subjects, from portraits, landscapes and travel to still lives, night shots and candids – the ultimate 'go anywhere' optics. If you're keen on shooting video, the AF-S 50mm f/1.8G and AF-S 50mm f/1.4G maximise edge-to-edge sharpness and achieve the same shallow depth of field at wide-open apertures for your movie footage as you already get with your stills – something that is generally difficult to do using a 'traditional' video camera. There's also a special edition 50mm f/1.8G designed for the Nikon Df, our smallest and lightest FX camera.

Telephoto

This popular focal length range includes the ultra-fast, ultra-crisp 85mm f/1.4G that's ideal for portraits as well as general and low-light shooting, as well as the remarkably compact 180mm f/2.8D IF-ED, and the 200mm f/2.8G ED VR II – a perennial favourite for sports, theatre and studio portraiture. Two DC (Defocus Image Control) lenses – the AF DC-Nikkor 105mm f/2D and 135mm f/2D – give you control over the degree of soft focus in the foreground or background of your image, which is very useful for portraiture.

Super-telephoto

The 'big boys' of the Nikkor prime line-up include the revered 300mm f/2.8G ED VR II that is so beloved of sports photographers for both indoor and outdoor action, as well as an enthusiast's f/4 version that delivers great sharpness for everything from sports and wildlife to travel and close-ups. The 400mm f/2.8E FL ED VR, 500mm f/4E FL ED VR and 600mm f/4E FL ED VR all feature a new Vibration Reduction Sport mode for superior results with fast action; plus, with lens elements constructed from fluorite (signified by the 'FL' in the name), a mineral that is lighter than glass and with lower chromatic aberrations, they also give you high optical quality at a remarkably reduced weight. One of the newer members is the 800mm f/5.6E FL ED VR, which can be extended to a whopping 1000mm using its dedicated 1.25x teleconverter.

Perspective control (PC-E) lenses

The tilt-and-shift operation of these specialist primes enables you to control perspective distortion and depth of field, so you can correct converging verticals in-camera rather than in post-production. This makes them excellent for architecture images, as well as portraiture, still lives and product shots. There are currently three available – the PC-E 24mm f/3.5D ED, the PC-E Micro-NIKKOR 45mm f/2.8D ED and the PC-E Micro-NIKKOR 85mm f/2.8D.

Micro (close-up) Nikkors

These special primes enable you to get up close and personal with your subject to pick out fine detail, enabling life-size reproduction, and their beautiful background bokeh and striking sharpness also make them ideal for portraiture. They include the ultra-lightweight AF-S DX Micro-NIKKOR 40mm f/2.8G and AF-S DX Micro-NIKKOR 85mm f/3.5G ED VR for DX cameras, as well as the versatile 60mm f/2.8G ED and f/2.8D, while the Micro-NIKKOR 105mm f/2.8 IF-ED VR lets you shoot flowers, insects and other micro wildlife from a decent working distance without risk of disturbing them.

Check out the full range of Nikkor primes – you can search via focal length, maximum aperture and type of photography you're interested in. You can also download the current Nikkor brochure here .

© NIKON U.K.