

HOYA

HOYA

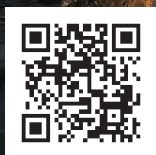
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www.hoyafilter.com

The Difference is Clear



Find out more on the HOYA Global Website

Cover photo by Anton Gorlin

HOYA

HD Mk II IRND

8 (0.9) • 64 (1.8) • 1000 (3.0)

ND FILTER LINE-UP



Simon Painter



Hansol Oh

The HD IRND series is made up of HOYA's premium IRND filters. With the ACCU-ND technology for neutral color reproduction even in the IR spectrum, an extra thin frame for reduced chance of vignetting and water-repellent properties for convenient maintenance, the filter is the perfect choice for advanced and professional photographers who use their ND filters on a daily basis. The ultra-thin aluminum frame provides strong durability and a very low chance of vignetting. HD Mk II IRND filters are also available in a kit.

ABOUT ND FILTERS

Neutral density (ND) filters are the most demanded and essential type of photographic filters. Photographers can precisely control the amount of light passing through the lens for greater creative control over exposure. Video content creators use ND filters to set shutter speeds to match the frame-rate while maintaining the depth-of-field of the footage.

Among the varieties of ND filters, we can generally categorize ND filters into 3 basic groups: Light density filters (ND4 - ND8), middle density filters (ND16 - ND200) and deep density filters (ND500 - ND1000 / ND100000).

Light density filters will lower the shutter speed to allow you to reduce the depth of field in very bright light conditions or to use a wider aperture to stay below the diffraction limit.

Middle density filters will help you to add motion blur to objects in conditions that generally will not allow camera shutter speed to do so.

If you are for more creative shots that are based on extremely slow shutter speeds - deep density filters are to be suggested. ND filters like ND500 or ND1000 will help to capture a dramatic unreal fantasy world that cannot naturally be seen by the human eye.



DMC DIGITAL MULTICOATED | **ARC** WITH SELF-CLEANING | **WRC** WATER-REPELLENT COATING | **LPE** LOW PROFILE FRAME

49 mm | 52 mm | 55 mm | 58 mm | 62 mm | 67 mm | 72 mm | 77 mm | 82 mm

HD Sq100 IRND

8 (0.9) • 64 (1.8) • 1000 (3.0) • GRAD8 (0.9) • GRAD16 (1.2)



Christophe Anagnostopoulos

Incorporating the newest state of the art technology, the HOYA Sq100 premium square filter series includes both full and graduated IRND filters for professionals who want to take their landscape photography to the next level. Made from four-times stronger chemically reinforced optical glass, the filters feature ACCU-ND, double-sided anti-reflection multi-coating with water-repellent properties. The filters provide a truly natural color balance without any IR contamination. Perfect for usage in harsh environments during travel and adventure.



DMC DIGITAL MULTI-COATED | **ARC** ANTI-REFLECTION COATING | **WRC** WATER-REPELLENT COATING | **TOG** TOLERANT OPTICAL GLASS

100x100mm FULL ND | 100x150mm GRAD ND

PROND EX

8 (0.9) • 64 (1.8) • 500 (2.7) • 1000 (3.0)



Antony Zacharias

The PROND EX series is HOYA's standard ND filter range covering all basic features. Based on the popular PROND series, the PROND EX series is the new generation that covers the most popular ND factors ND8, 64, 500 and 1000. It comes with the ACCU-ND technology to prevent any unintended color shifts. Also features a robust aluminum frame with front thread, so the filter can be combined with other ND filters to achieve various ND combinations. Perfect quality for occasional usage.

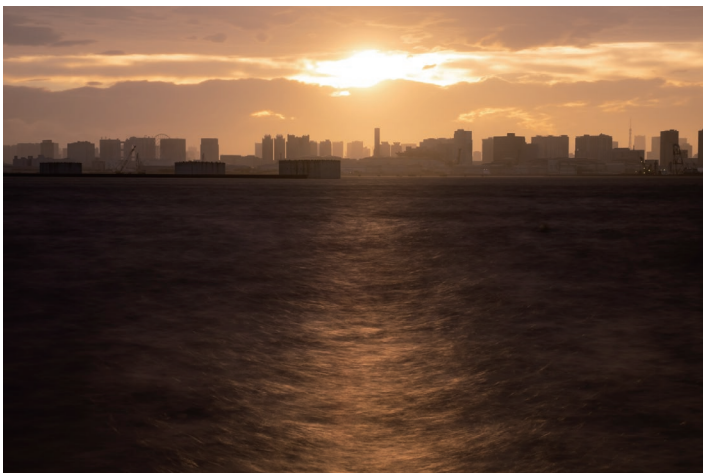


DMC DIGITAL MULTI-COATED | **ARC** ANTI-REFLECTION COATING

49 mm | 52 mm | 55 mm | 58 mm | 62 mm | 67 mm | 72 mm | 77 mm | 82 mm

Variable Density II

3 – 400



Spanning an ND factor range from 3 to 400, the Variable Density II filter can replace a set of several ND filters, making the filter extremely convenient for doing precise instant ND adjustments without the need to swap the filter. Features special frame to minimize chance of vignetting, convenient knob for density adjustments and lens cap compatibility. Note that since the front frame of the filter is a little bit larger in order to reduce the chance of vignetting, the required lens cap is also one size bigger than the filter thread size.



DMC DIGITAL MULTICOATED
ARC ANTI-REFLECTION COATING

52 mm 55 mm 58 mm 62 mm 67 mm 72 mm 77 mm 82 mm

PROND

4 (0.6) • 16 (1.2) • 32 (1.5) • 100 (2.0) • 200 (2.4)



Dave Zdanowicz

The PROND range covers various less common ND factors. Built with a front thread, it is a perfect series for combining ND filters with different ND factors in order to achieve precisely the desired effect that would otherwise not be possible with a single filter. For example, combining the PROND16 with the PROND32, you can achieve an ND factor of 500, which can already be used to achieve extreme ND effects like letting moving objects vanish in the image. Note that stacking filters can cause vignetting with wide-angle lenses.



DMC DIGITAL MULTICOATED
ARC ANTI-REFLECTION COATING

49 mm 52 mm 55 mm 58 mm 62 mm 67 mm 72 mm 77 mm 82 mm

PROND100000 (5.0)



Antony Zacharias

Dedicated filter with ND100000 factor for solar photography. With a reduction of 16 2/3-stops, it is possible to take photos of the sun surface without overexposure and solid colors while also keeping details such as black spots. Especially recommended for capturing a solar eclipse. Can also be used in other settings for abstract ND effects, especially in architecture and landscape.

WARNING: If using an ND filter (or a stack of ND filters) for solar photography, do NOT use an optical



DMC DIGITAL MULTICOATED
ARC ANTIREFLECTIVE COATING

58 mm 67 mm 72 mm 77 mm 82 mm 95 mm

PROND GRAD

16 (1.2) • 32 (1.5)



Choi Seunghoon

TIPA WORLD AWARDS 2021
BEST PHOTO ACCESSORY
Hoya PROND GRAD Circular Graduated ND Filters

The PROND GRAD series are blender type graduated round filters designed to balance the luminosity of bright areas with the dark areas in the image, making them especially useful for landscape photography with bright skies and darker grounds, or with water bodies in one part of the photo which you would like to blur. Features ACCU-ND technology, anti-reflection and water-repellent coating on both sides of the glass and low-profile rotating frame to adjust angle of gradation.



DMC DIGITAL MULTICOATED
ARC ANTIREFLECTIVE COATING
WRC WATER-REPELLENT COATING
LPE LOW PROFILE FRAME

77 mm 82 mm

How to use ND Filters

The main feature of ND filters is their ability to give you more control over the shutter speed. This is achieved by reducing a certain amount of light that enters your lens, so you can open the shutter of your camera for a longer period of time while exposing the camera sensor to the same amount of light as without filter in the same setting. For example, a photo taken with an exposure time of 30 seconds and a 10 stop ND filter attached, will expose the camera sensor to the same amount of light as a photo taken with 1/30th of a second exposure and without ND filter. Thanks to the filter, you can let in the same amount of light but more slowly, through which effects like motion blur are created. The amount of light being blocked by the filter is described as f-stops and every f-stop halves the amount of incoming light. The ND number indicates the new effective exposure time by an original exposure time of 1 second. For example, with an exposure time of 1 second and an ND filter that reduces the light by 6 stops, your new exposure time will be effectively 64 seconds. In other words, the new effective exposure time is 64 times the original exposure time, hence the name "ND64". For an overview of the light transmission rate in respect to f-stops and ND number, please check the following table.

ND FILTER RATINGS

ND Filter Model	ND Number	Optical Density	f-Stop Reduction	Light Transmittance (approx.)
HOYA PROND2	ND2	0.3	1-stop	50%
HOYA PROND4	ND4	0.6	2-stops	25%
HOYA PROND EX 8	ND8	0.9	3-stops	12.5%
HOYA PROND16	ND16	1.2	4-stops	6.25%
HOYA PROND32	ND32	1.5	5-stops	3.13%
HOYA PROND EX 64	ND64	1.8	6-stops	1.56%
HOYA PROND100	ND100	2.0	6 2/3-stops	1%
HOYA PROND200	ND200	2.3	7 2/3-stops	0.5%
HOYA NDx400	ND400	2.6	8 2/3-stops	0.25%
HOYA PROND EX 500	ND500	2.7	9-stops	0.2%
HOYA PROND EX 1000	ND1000	3.0	10-stops	0.1%
HOYA PROND 100000	ND100000	5.0	16 2/3-stops	0.001%

ND filters come in wide range of values, from ND4 to ND100000, but can be generally summarized in 3 main categories: **light**, **middle** and **deep** density.

Light ND Filters

"**Light**" ND filters can be used especially in portrait photography or typical daylight conditions with F1.2 or F1.4 fast lenses. One often desired effect is creating a beautifully blurred background, easily obtained with F1.2 or F1.4 fast prime lenses at maximum aperture that require a high shutter speed. As some cameras come with a maximum shutter speed of 1/4000 sec that would cause over-exposure with such fast lenses, the photographer can still achieve an appropriate exposure by controlling the shutter speed through using "light" ND filters, such as ND4 or ND8.



Dave Zdanowicz

Middle ND Filters

"Middle" ND filters are perfect for performing motion control or blurring objects and are therefore used to render the movement of moving objects such as water flow, wave motion or moving people. A typical example is shooting a fountain. Without an ND filter and with standard camera settings the water of the fountain would appear "still" on the final image. In a daylight setting, one way to avoid this effect and have the fountain "flowing" (but still without using ND filters) would be to extremely reduce the aperture to a value of f/16 or f/22.

However, when shooting with such a reduced aperture value, "diffraction" may occur, making resolution and overall depiction poor. Also, when shooting with fast prime lenses and cameras that have ISO200 as their lowest sensitivity, it might not be possible to reduce the exposure enough to achieve a shutter speed that causes the "water flowing" effect. However, by using a "middle" ND filter, it is possible to shoot at a proper F value to avoid "diffraction", and it is possible to lower the exposure to a necessary shutter speed value that can express the water "flowing".



Antoine Denis

Deep ND Filters

"Deep" ND filters are particularly used when shooting "imaginary landscape" or "another world" style images. With these filters, you can make a person "disappear" from a cityscape shot, shoot in very long exposure under daytime light conditions, or use for time laps videos of clouds to create a movie of fascinating and otherworldly fast clouds streams. Filters in the upper range of this category like the ND100000 are also suitable for directly shooting the sun, e.g., during a solar eclipse, without overexposure and solid colors, while keeping details such as black spots.



Antony Zacharias

HOYA's Effect Filter Line-Up

CIR-PL

HD nano Mk II • HD Mk II • Fusion Antistatic NEXT • Fusion ONE NEXT • UX II

Control surface reflections and strengthen color contrasts for crisper colors in your image.



International Filter Photo Contest 2014: Kyaw Kyaw Winn



CLOSE-UP

HMC Close-Up No.1-4 • MACRO Close-Up No.10
• PRO1D AC Close-Up No.3

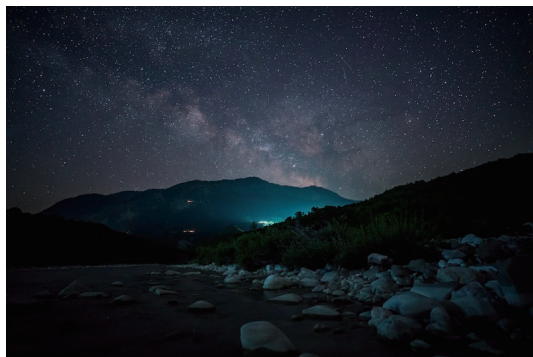
Allows you to conveniently shoot macro photography without the need to buy an expensive macro lens. Great for shooting flora or small objects.



LIGHT POLLUTION FILTER

Starscape • Craft Sq100 Starscape

Filters out colors associated with light pollution to allow only natural colors in your night photography.



Christophe Anagnostopoulos



MIST FILTER

Mist Diffuser Black No0.5 • No1

Diffuses light sources and lowers contrast to add a stylish cinematic effect to the image.



Christophe Anagnostopoulos



CROSS FILTER

Star 4X, 6X, 8X

Give light sources in your image light beams to create a beautiful star effect.



SOFT FILTER

Softener No0.5 & No1 • Fog No05. & No1 • Diffuser No1

Filters to produce various kinds of soft effects in your images. Create a dreamy atmosphere in your landscape shots or smoothen out the skin texture in portrait shots.



Sparkle 4X, 6X

Adds moderately sized light beams to light sources as well as a gentle soft effect. Creates a particular cozy and joyful atmosphere.



Christophe Anagnostopoulos



R72 INFRARED

Take photos through the infrared spectrum and create images with a unique B&W contrast or post-process them further with false colors.



Antony Zacharias



COLOR CORRECTION FILTERS

C2/C4/C8/C12 Blue Cooling

Balance out any reddish or orange hues in your image.



W2/W4/W10/W12 Umber Warming

Corrects any blue cast and adds an amber warmth to the image.



FL-DAY • FL-W • Skylight 1B

Correct greenish tones and fluorescent lighting with FL filters or reduce excessive bluishness with the Skylight 1B.



BLACK & WHITE FILTERS

R1 Pro (Red) • Y2 Pro (Yellow) • YA3 Pro (Orange)

Have more control over contrast in your black and white photography.



X0 (Yellow Green) • X1 (Green)

Correct skin tones and bring out facial expressions in close-up black and white portrait shots.



Model: Kasumi Tsukada

ENHANCERS

RA56 Green Enhancer • RA64 Blue Enhancer • Portrait

Enhance colour in landscape or portrait photography. Recommended to use with CIR-PL for increased contrast and sharpness.

