Marumi Spirits

We at Marumi provide our customers with high-quality, high-performance products as well as top-notch service.

Since 1952

Established in 1952, Marumi Optical has been a manufacturer of camera filters for over 60 years. Guided by our company slogan of "Constantly Continuing to Create New Products," we at Marumi continue to deliver industry-leading filters to customers worldwide. This is made possible by the technology and culture of our Nagano Plant with its integrated production system and through friendly collaboration with our distributors, who are always ready for new challenges. From Nagano to the world, our commitment to quality knows no bounds.

Where are Marumi Products Produced?

Nagano Prefecture is located in the center of Japan. The Marumi Nagane Plant is surrounded by the southern and central Japanese Alps in an industrial city with a favorable environment and a thriving technology industry. Surrounded by companies that make precision machinery and other equipment, it is the perfect environment for us to develop and manufacture Marumi filters.

Nagano Plant

The Source of High-Quality and High-Performance Products

With a strong focus on in-house manufacturing, we have developed an integrated system for research, development, manufacturing, and inspection at our Nagano Plant. We continue to address the challenges of global markets with new Marumi-branded products that rely on the skill, proficiency, and experience of our engineers at the Nagano Plant.

Global Standard Environmental Management System to Ensure High Quality

Nagano Prefecture has been blessed with pure water, clean air, and other natural resources — an ideal environment for craftsmanship to flourish. We have adopted environmental assessments based on global standards so that our Nagano Plant can continue providing users worldwide with the very best products. We strictly abide by ISO 14001.
# Filter Line Up for Digital Cameras

<table>
<thead>
<tr>
<th>Package</th>
<th>Purpose of Use &amp; Key Points</th>
<th>Specifications</th>
<th>Coating</th>
<th>Frame Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXUS Lens Protect</td>
<td>Lens Protection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXUS Lens Protect</td>
<td>UV Cut &amp; Lens Protection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXUS Circular PL</td>
<td>Color Contrast Improvement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DHG Super UV</td>
<td>UV Cut &amp; Lens Protection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DHG Super UV</td>
<td>UV Cut &amp; Lens Protection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DHG Circular PL</td>
<td>Color Contrast Improvement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DHG Circular PL</td>
<td>Color Contrast Improvement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIT + SLIM MC UV</td>
<td>UV Cut &amp; Lens Protection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIT + SLIM MC UV</td>
<td>UV Cut &amp; Lens Protection</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## List of Specification Icon

**Optical Glass**
- Hardened Glass: Increases the strength of the glass
- Hardened Outer Rim of Glass: Reduces edge reflection to increase contrast and clarity.
- UV Cut: Filters out ultraviolet light.
- High Transmission Polarizing Film: Increases transmission and reduces glare.

**Coating**
- Anti-Reflection: Reduces reflection of light and dust, creating a clear image.
- Water Repellent Coating: High water repellency at the front surface.
- Oil Repellent Coating: High oil repellency at the rear surface.
- Dynamic Coating: Resistant to dirt and dust by increasing coating layers.
- Anti-Static Coating: Reduces static electricity to prevent dust adherence.

**Frame Structure**
- Ultra-Thin Frame Design: Reduces the frame size affecting the optical performance.
- Lens Cap and Hood Attachment: Can be attached to the lens cap and hood.
- Twist Locking: Designed for easier handling.
- Safety Lens Cap: Prevents accidental damage to the lens.
**Hardened Glass 7 Times Stronger Than Conventional Products**

Hardened glass with Vickers Hardness Number 700HV is used to achieve 7 times strength of conventional products.

**High Transmission Polarizing Film**

Optical Finder is Bright and Easy to See

Focusing is easier than with conventional polarizing filters, so the polarization effect can be verified more easily. Fine expressions on models or the shadow portions of the subject aren’t lost as easily.

**Blackened Outer Rim**

Reduces Internal Reflections

Fires and ghosting are reduced by reflecting internal reflections with blackened outer rim of the glass.

**Ultra-low Reflection**

Minimizes surface reflection to get the original performance of the lens.

**Antistatic Coating**

Prevents Adhesion of Dirt and Dust, etc.

Prevents adhesion of the dirt and dust by reducing electrostatic charge. Dirt can be easily blown off by a blower, etc. thereby supporting smooth cleaning.

**Water & Oil Repellent Coating**

Water and stain are repelled and can be removed easily, if they attached to the filter. It makes maintenance easy.

**Dynamic Coating**

Special Coating Preventing Deterioration in Image Quality

**AR Multi Coating**

Multi-layer coating reduces surface reflections

**Light-Blocking Ridge**

Specially Designed Frame for Preventing Deterioration in Image Quality

Light-blocking ridge is added to reduce off-axis reflections.

**Ultra-Thin Frame Design**

Frame Design with Extremely Low Vignetting

Approximately 20-TINNER

Approximately 30-TINNER

Approximately 40-TINNER

**Male Thread: Teflon Coating**

Smooth Attachment to / Detachment from the Lens

Reducing strong sliding of filter frame for lens during the mounting allows smooth attachment to / detachment from the lens.

**Satin Finish & Knurling**

Furrows Higher Image Quality and Easier Handling

Reduces flare and ghosting and supports filter attachment.

**Lens Cap and Hood Attachable**

Lens cap and hood can be attached
LINE-UP OVERVIEW BY FILTER TYPE

UV Cut & Lens Protection

- UV Cut filter irradiation test using a printed material that changes color when exposed to ultraviolet rays.

- Conventional lens protectors pass ultraviolet rays.

Lens Protection

Color Contrast Improvement
Further Evolved Lens Protector

EXUS Lens Protect SOLID

7 Times Stronger than a Conventional Protector Filter

EXUS Lens Protect SOLID adopts 7 times hardened glass compared with conventional filters. AntiStatic Coating and Water & Oil Repellent Coating keep the surface of glass always clean. 0.2% Ultra-low reflection rate brings out the full expressive capabilities of lenses.

[Vickers Hardness Number: 7000±%]

Surface reflection is minimized to 0.2% in order to bring out the full expressive capabilities of lenses.

Static-resistant surface inhibits the adhesion of fine dirt and dust allowing a stress-free capture. Tool plate in respect to tool materials.

Smooth shooting experience is ensured with a water and oil repellent surface which makes it harder for water droplets and fingerprints to adhere, while also making it easy to wipe clean.

Made in Japan
**EXUS Lens Protect SOLID**

7 Times Strength & Ultra-low Reflection Rate 0.2% Filter

EXUS Lens Protect SOLID adopts 7 times hardened glass compared with conventional filters. Anti-static Coating and Water & Oil Repellent Coating keep the surface of glass always clean.

**EXUS UV**

Full Specification Filter with UV Cut Feature

This model, equipped with the UV cut feature on top of the water and oil repellent and anti-static coating, is a must-have for field photographers.

**EXUS Lens Protect**

Ideal Lens Protector of Excellent Quality with Maintenance-Carefree Features

Enhanced features protecting the lens from troubles such as water, stain and static electricity reduce the time and effort required for maintenance.

**EXUS Circular PL**

30% Greater Light Transmission Ratio than Conventional Polarizing Filters

High transmission polarizing film makes it easier to check the polarizing effect through the finder allowing easier focusing on the subject. It also enables richer gradation expression, as the dark portions of the subject aren’t easily lost.

**Antistatic Coating**

The glass is resistant to adhesion of fine dust and dust, and when fine dust or dust does adhere, they can be easily blown off, allowing stress-free shooting.

**High Transmission Polarizing Film**

A high transmission polarizing film, which transmits the light well while keeping the polarizing effect, makes utmost efforts to verify the effect during shooting than with conventional filters.

**Water and Oil Repellent Coating**

Oil repellent performance allows easy maintenance, and high water repellency keep water drops off.

**New Low Reflection Frame**

Light-blocking ridges are equipped inside of the ring to reduce diffused reflections.
DHG Super UV

Reliable Water and Oil Repellent Performance

DHG SUPER UV is a reliable lens protective filter having water and oil repellent effect as well as cutting ultraviolet rays which affect image quality.

---

DHG Super Lens Protect

Reliable Water and Oil Repellent Performance

DHG SUPER LENS PROTECT is a reliable lens protector with excellent water and oil repellent effect.

---

DHG Super Circular PL

High-Functional Polarizing Filter Having Water and Oil Repellency

High functionality suitable for outdoor shooting with addition of the water and oil repellent coating to the polarizing filter effect. Also fully supports wide-angle lens.

---

Water Repellent Coating
Repels Water Droplets

High water repellency protects the filter from water.

---

Oil Repellent Coating
Resistant to Stains

Amazing oil repellent performance allows easy wiping, which makes maintenance easier.

---

Satin Finish & Knurling
Pursues Higher Image Quality and Easier Handling

Reduces flare and ghosting and supports filter attachment.

---

Blackened Outer Rim
Reduces Internal Reflections

Flare and ghosting are reduced by reducing internal reflections with blackened outer rim of the glass.
DHG series

**Standard Type**

**DHG UV**
Standard UV Cut Filter Designed for Digital Cameras
Marumi’s long-selling model invaluable for outdoor shooting, which supports wide-angle lens and employs ultra-thin frame design with knurling.

**DHG Lens Protect**
Long-Selling Reliable Lens Protector
Long-selling basic product of Marumi filter since its release ahead of the industry, it supports a wide-angle lens and employs ultra-thin frame design with knurling.

**DHG Circular PL**
Ultra-Thin Frame and Knurling for Easy Operation
Reducing reflections of the subject and emphasizing color contrast make the picture more vivid. This is applicable to various scenes.

FIT+SLIM series

**Basic Type**

**FIT + SLIM MC UV**
Basic Filter with Both Lens Protection and UV Cut
UV cut lens protective filter having multi-layer coating, tightly holds the lens cap despite the ultra-thin frame.

**FIT + SLIM MC Lens Protect**
Basic Lens Protector with Ultra-Slim Frame
Multi-coating reduces reflections, tightly holds the lens cap despite the ultra-thin frame.

**FIT + SLIM Circular PL**
Slim Frame Reduces Vignetting Basic Polarizing Filter
Emphasizes color contrast and reduces reflections. Tightly holds the lens cap despite the slim frame.
Circular Polarizer

The natural color will be lost if the contrast is forcibly increased drastically by digital setting. Vivid color pictures with natural gradation can be enjoyed by using the polarizing filter.

- Vivid Blue Sky
- Cut Reflection to See Through the Water
- Minimize the glare from leaves to capture the real colors
- Reduce reflections on glass surfaces
- Rotate the filter frame (rotating ring) to adjust the contrast settings.

List of Features

<table>
<thead>
<tr>
<th>Filter</th>
<th>Polarizing Effect</th>
<th>CM Suppressed</th>
<th>Water Suppressed</th>
<th>Anti-Reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXUS Circular PL</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>DHG Super Circular PL</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>DHG Circular PL</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>FIT + SLIM Polarizer</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>
Circular Polarizer HOW TO USE Q & A

How can I check the filter size of my lens?

Filter size is indicated on the back of the lens cap as "XX mm."

What is the recommended mode for more advanced photo shooting?

Try Aperture-Priority Auto (A/AV Mode), often used for landscape photos. Set the Mode to A/AV Mode.

What are the camera settings when I use Aperture-Priority Auto (A/AV Mode)?

Start with the following settings:
1. Set ISO to 100 or 200.
2. Set White Balance (WB) to Daylight or Auto.
3. Check Exposure Compensation is at 0.
4. Start with the f-number at F8.0.
5. Adjust the aperture and check the results. For example, decrease the f-number (to F7.1, F5.6, etc.) to blur the background, and increase the f-number (to F9, F10, etc.) to get a sharp background.

The photos turned out dark. Is there a solution?

Move the exposure compensation value in the "-" direction to make the photos brighter.

Are there any other recommended techniques for shooting landscapes?

Slow shutter shots, which can capture the ethereal flow of water, are highly recommended.

How do I attach and operate polarizing filters?

Beginners can also use these polarizing filters. Step 1 up your landscape photos with ease.

STEP 1
- Check that the filter frame is double-framed with a rotating front ring and a fixed rear ring. The rotating ring is the one for adjusting the filter effects. The fixed ring is the one for attaching the filter to the lens.

STEP 2
- Viewing the lens from the front, hold the fixed ring and rotate it clockwise to attach.

STEP 3
- The polarizing effects can be checked by turning the rotating ring either to the right or left. The effects of a Circular PL filter cannot be seen just by attaching it.

Under clear sky, find a patch of sky. Look through the viewfinder at the sky. Turn the rotating ring. Change the shooting position and try again if a desirable color contrast is not obtained.

I’ve only taken pictures with the Scene Mode on my camera. Can I still use this Mode?

You can use the Scene Mode as usual and let the camera do the work.

- Shoot with front light to increase the contrast of a blue sky.
- Shoot at 30-40° from the water’s surface to eliminate light reflection on the surface.
- Turn off the flash, you can easily improve your photos!
ND FILTER

Control the Lights and Shape the Time. The invisible becomes visible.

DHG ND
ND8 / ND16 / ND32 / ND64

The DHG ND series allows you to adjust the shutter speed.
ND filters prevent overexposure (blown out highlights) when taking photos with a slow shutter speed in a bright place to enable a fantastic expression of materials and streaming. The DHG ND series controls the amount of light without interfering with the colors of the subject and is available in four levels of shading from ND8 to ND64 to allow the selection of filters suitable for the shooting conditions or destined finish.

<table>
<thead>
<tr>
<th>DHG NDB</th>
<th>1 stop</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DHG ND16</th>
<th>2 stop</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DHG ND32</th>
<th>4 stop</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DHG ND64</th>
<th>8 stop</th>
</tr>
</thead>
</table>

*The effects may vary depending on the shooting environment.*

Available sizes
- 37  49  52  55  62  67  77  82

Contact us for more information on page 53
DHG SUPER ND

Water & Oil Repellent Coating ensures comfortable photo shooting experience at water side.

DHG Super ND series controls the amount of light without interfering with the colors of subject as well as DHG ND series. In addition, excellent Water & Oil repellent coating allows easy maintenance.

<table>
<thead>
<tr>
<th>DHG Super ND8 (0.9)</th>
<th>DHG Super ND16 (1.2)</th>
<th>DHG Super ND500 (2.7)</th>
<th>DHG Super ND1000 (3.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DHG Super ND32 (1.5)</th>
<th>DHG Super ND64 (1.8)</th>
<th>DHG Super ND4000 (3.6)</th>
<th>DHG Super ND32000 (4.5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Available Size

<table>
<thead>
<tr>
<th>Size</th>
<th>55</th>
<th>58</th>
<th>62</th>
<th>67</th>
<th>72</th>
<th>77</th>
<th>82</th>
</tr>
</thead>
</table>

Water Repellent Coating

High water repellency protects the filter from water. This function is effective especially at water side photo shooting such as waterfall, beach and under rainy condition.

Oil Repellent Coating

Amazing oil repellent performance allows easy wiping, which makes daily maintenance easier. Smeads on the surface of the glass adhered during photo shooting can be wiped off easily.
GRADUATED ND FILTER

100x150

Create ethereal world with GND Filters.
Graduated ND Filters adopt high definition Schott BK7 glass. Double side coating for low reflection and easy daily maintenance.

**SOFT GND4/GND8/GND16**
- SOFT GND4 filters have soft transition area from transparency part to darkened part, suitable for scenes which have no clear horizon line.

**HARD GND4/GND8/GND16**
- HARD GND4 filters have hard transition area from transparency part to darkened part, suitable for scenes which have a very defined horizon line.

**REVERSE GND4/GND8/GND16**
- REVERSE GND filters have the darkest area in the middle that fades to the top, suitable for sunrise or sunset scenes.

*The suitable filter may vary depending on the shooting environment. The examples pictures are for illustrative purposes only.*

[w100mm x h150mm]
100x100 ND FILTER

Combining with GND Filters, your pictures turn to be more creative.

100x100 ND Filters adopt high definition Schott 9270 glass, Double-side coating for low-reflection and easy daily maintenance.
100mm MAGNETIC FILTER HOLDER

- Quality Aluminum Made
- Light-leak blocking foam gaskets on front of holder
- No vignetting with 10-35mm focal length lenses
- Circular PL rotates independently

INNOVATIVE MAGNETIC FILTER SYSTEM

Innovative magnetic filter system enables you to attach/detach square filters on an instant. To capture magnificent scenery changing second by second, magnetic holder is an ideal item.

**Holder Attachment Illustration**

1. **Holder Attachment Illustration**
   - Holder
   - Circular PL
   - Holder-Ring
   - GND Filter
   - ND Filter
   - Step-Ring

   *2/77/82mm lens can be attached by Holder-Rings, Step-Rings are required to attach lenses less than 67mm.

**Circular PL for M100 Holder**

Designed for 100mm Magnetic Filter Holder (M100).

Double-side coating of Water & Oil Repellent, Anti-Static, Anti-Scratch and Anti-Reflection ensures great shooting experience.

CONTENTS

- Holder (M100)
- Holder Pouch
- Holder-Ring 82mm
- Holder-Ring 77mm
- Holder-Ring 72mm
**How can I take slow shutter photos?**

**A**
Set the Mode to S/TV Mode.

Set the camera to Shutter-Priority Auto (S/TV) Mode.

---

**What are the camera settings?**

**A**
Start by setting as follows.
1. Set ISO to 100 or 200.
2. Set White Balance (WB) to Daylight or Auto.
3. Check Exposure Compensation is at 0.
4. Start from a shutter speed of 1/4 second. When the image seems too dark, slow the shutter speed to 1/2 sec., 1 sec., and so on to take in more light and check the results.

★ With a digital camera you can take as many photos as you like until you get the finish you want!

---

**Can I use Auto Focus (AF) to let the lens focus by itself?**

**A**
Auto Focus may or may not work when an ND filter is attached. If AF does not work, change the setting to Manual Focus (MF).

---

**What happens if I take photos with a slow shutter speed without using an ND filter?**

**A**
When taking photos with a slow shutter speed in a bright place, your photos may not capture the fluidity or may result in overexposure (blown-out highlights on the left image).

---

**Why does an ND filter make shutter speed slow?**

**A**
Attach an ND filter. Light intensity is reduced, shutter speed slows down.

---

**Which of the ND filter should I choose for the first time?**

**A**
For first time users of ND filters, the user-friendly ND8 or ND16 is recommended.

---

**Is there any mode which allows me to adjust the blurriness of the background?**

**A**
Use Aperture-Priority Auto (A/AV Mode) to adjust the blurriness to your taste.

Set the Mode to A/AV Mode.

---

Once you are used to using ND filters, adjust the shutter speed [by turning the dial] according to the scene. Try shooting slow shutter photos!
The DHG Cross series adds a starburst effect on point light sources to create sparkling photos of illuminations and nightscapes. Reduce ghosting and flares caused by reflected lights and get clear, enhancing effects for nightscape shots.

**DHG Star Cross**  Turns a light source into a 4-point star

**DHG 6x Cross**  Turns a light source into a 6-point star

**DHG 8x Cross**  Turns a light source into an 8-point star

**Useful for daytime photo shoots, too!**

Cross filters add accents to scenes with rivers, lakes and water fountains. Make ordinary waterscapes shine!

**POINT**

Can also be used for video filming!

Cross filters have a rotating ring. Rotate it while shooting video with an SLR camera to film a whimsical video with sparkling rays of light.

**Filter Size**  37  40.5  46  49  52  55  58  62  67  72  77  82
Add a soft touch to the photos of flowers, portraits, babies and so on. The DHG Soft series filters generate soft effects on the photos while keeping a clear focus. The photos will turn out soft and gentle with smooth blurs by simply attaching this filter to the lens.

**DHG Portrait Soft**
- To be released beginning of 2019

**DHG Retro Soft**
- To be released beginning of 2019

**DHG Soft Fantasy**
- To be released beginning of 2019

**DHG Soft Fantasy II**
- To be released beginning of 2019

**DHG Foggy Soft**
- To be released beginning of 2019

- Product names may be changed without notification when it’s released.

**Use Soft Filters at night**
- At night scape photos, Soft Filters generate dream-like atmosphere.

- Make the city lights softer
- with DHG Soft Fantasy

- Find motifs at your home
- with DHG Portrait Soft

- Soften the silhouette into misty expression
- with DHG Foggy Soft
Enjoy shooting close-up photos with ease

Reducing the minimum focusing distance of the lens makes it possible to take magnified images of small objects such as flowers.

** DHG Macro 3 **

Convenient to Carry Around for Close-up Shooting

- Lightweight and Compact
  - This filter is very light, at 37g by 77mm size, it's a pocket-sized filter, so easy to carry around in a camera bag or in a pocket.
  - You can enjoy close-up photography at will.

** DHG Achromat Macro **

200(+5)

Close-up Picture with Clarity Including Periphery

- Allows close-up shooting, as the minimum object distance can be shortened.
- Chromatic aberration on periphery is also reduced by using multiple lenses.

** DHG ND-100000 **

Need Special Filter for Solar Eclipse Shooting

This is a special filter for shooting the sun, which has special effect to withstand the light and heat from the sun, and can reduce the light volume to 1/100,000 in order to shoot the sun.

Total or annular solar eclipses visible in the world within the next three years

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/22/2019</td>
<td>Pacific, Chile, Argentina</td>
<td>Annular</td>
</tr>
<tr>
<td>12/29/2019</td>
<td>Saudi Arabia, India, Sumatra, Indonesia</td>
<td>Annular</td>
</tr>
<tr>
<td>08/21/2020</td>
<td>South, Asia, China, Pacific</td>
<td>Annular</td>
</tr>
<tr>
<td>12/26/2022</td>
<td>Pacific, Chile, Argentina, Atlantic</td>
<td>Annular</td>
</tr>
</tbody>
</table>

** Caution: ** To shoot the sun:
- Never look into the optical finder
- Do not expose the lens to the sun without attaching the filter

What camera user only, do not use on an eye protection
CREATION SERIES

CREATION VARI. ND2.5-ND500

- Wide variable range: ND2.5 to ND500 (1 1/3 to 9 stops)

For easy focus adjustment with ND filter
It is not easy to adjust focus when using the high density ND filter because the finder becomes dark. The ND filter has to be detached before taking a picture to adjust focus. When using the variable ND filter, the finder can be bright by only rotating the filter ring to lower density. There is no need to detach the filter when adjusting focus.

Indispensable for DSLR movie
When shooting movie with DSLR under bright conditions, such as outdoor under fine weather, whether the shutter speed tends to go up 1/500, 1/1000 sec., all the more when fixing the aperture for the desired depth of field. The movie with high shutter speed is likely to be flash motion. The variable ND filter is very useful to avoid it, as the shutter speed can be slower.

MOVIE SHOOTING

Enjoy movie shooting at the matching shutter speed to the frame rate.
To shoot a movie with DSLR camera, set the "Frame Rate" first that specifies how many frames of an image are shot per second. Mostly "24 fps", "30 fps" or "60 fps" is selected, however, please note that the proper range of the shutter speed for movie shooting is up to about two times of the shutter speed at maximum.

For example, 1/30→1/60 (shutter speed) are within proper range at the frame rate setting of 30 fps. Setting a higher shutter speed over the range may result in unnatural picture image with chappy movements as only a part of the image is captured.

<table>
<thead>
<tr>
<th>Frame Rate</th>
<th>Shutter Speed</th>
<th>Suitable Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 fps</td>
<td>1/30→1/120</td>
<td>Normal shooting for general use</td>
</tr>
<tr>
<td>30 fps</td>
<td>1/30→1/120</td>
<td>Shaded shooting for bright day, Slow-motion movie</td>
</tr>
<tr>
<td>60 fps</td>
<td>1/60→1/120</td>
<td>Slow-motion movie</td>
</tr>
<tr>
<td>fps: frames per second</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CREATION C-PL/ND8/ND16/ND32

Two-in-One functions
- There is no need to stack two filters!

C-PL/ND filter has dual purpose polarizer and ND functions 2 in 1. This filter employs slim profile frame to prevent vignetting. It is useful to reduce reflections and set the slow shutter when shooting water splash, streaming, etc.

Shooting using a tripod is recommended.

Available Option: 77mm, 72mm, 67mm, 58mm

Available Option: 82mm, 77mm, 72mm, 67mm
Filter for everyday use to protect your lenses

**Protective Filter**

**MC-UV**
Taking photos under strong UV rays results in color photos with a blue tinge or black and white photos with a white haze. MC-UV, which cuts UV rays, is essential for seaside and mountain photography on a clear day.

Eliminate light reflections and improve color contrast

**Polarizing Filter series**

**PL/C-PL**
A Polarizing Filter is recommended for taking color photos of landscapes. Deep blue sky and clear clouds can be captured to produce an image with high color contrast. Furthermore, transparecency can be achieved by eliminating reflections on the water's surface or display windows.

**MC C-PL**
The multi-coated (MC) Circular PL filter with a standard ring is designed for use with a film camera.

Simple step for a dynamic close-up photo

**Close-up Lenses**

**MC+1 / MC+2 / MC+3 / MC+4**

**Macro MC+10**
Simply attach a close-up lens to the camera lens for easy close-up capture. Unlike a zoom lens with macro capabilities, there is no fixed object distance or magnification. The filters work with all the zooming ranges. Magnification can be changed by zooming and focusing.

**MC/Close-UP SET (+1, +2, +3, +4)**

Enhance a specific color

**DHG HANCER Filters**

**DHG HANCER Filters** enhance only a specific color without changing other colors. 3 types of filter series are in our line-up.
### Non-Rotating Frame

**EXUS LP SOLID**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>42.2</td>
<td>8.4</td>
</tr>
<tr>
<td>55mm</td>
<td>60.0</td>
<td>8.4</td>
</tr>
<tr>
<td>68mm</td>
<td>80.0</td>
<td>8.4</td>
</tr>
<tr>
<td>77mm</td>
<td>90.0</td>
<td>8.4</td>
</tr>
</tbody>
</table>

**EXUS LP(3104)/UV(4404)**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>42.2</td>
<td>8.4</td>
</tr>
<tr>
<td>55mm</td>
<td>60.0</td>
<td>8.4</td>
</tr>
<tr>
<td>68mm</td>
<td>80.0</td>
<td>8.4</td>
</tr>
<tr>
<td>77mm</td>
<td>90.0</td>
<td>8.4</td>
</tr>
</tbody>
</table>

**DIG Super LP (3104)/ Super UV(4404)/ Super ND (3104)/ Soft Fantasy (3104)**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>42.2</td>
<td>8.4</td>
</tr>
<tr>
<td>55mm</td>
<td>60.0</td>
<td>8.4</td>
</tr>
<tr>
<td>68mm</td>
<td>80.0</td>
<td>8.4</td>
</tr>
<tr>
<td>77mm</td>
<td>90.0</td>
<td>8.4</td>
</tr>
</tbody>
</table>

**DIG ND100000**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>42.2</td>
<td>8.4</td>
</tr>
<tr>
<td>55mm</td>
<td>60.0</td>
<td>8.4</td>
</tr>
<tr>
<td>68mm</td>
<td>80.0</td>
<td>8.4</td>
</tr>
<tr>
<td>77mm</td>
<td>90.0</td>
<td>8.4</td>
</tr>
</tbody>
</table>

### Rotating Frame

**DIG Macros 3**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>54.0</td>
<td>10.0</td>
</tr>
<tr>
<td>55mm</td>
<td>72.0</td>
<td>10.0</td>
</tr>
<tr>
<td>68mm</td>
<td>90.0</td>
<td>10.0</td>
</tr>
<tr>
<td>77mm</td>
<td>102.0</td>
<td>10.0</td>
</tr>
</tbody>
</table>

**DIG Achromat Macro**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>54.0</td>
<td>10.0</td>
</tr>
<tr>
<td>55mm</td>
<td>72.0</td>
<td>10.0</td>
</tr>
<tr>
<td>68mm</td>
<td>90.0</td>
<td>10.0</td>
</tr>
<tr>
<td>77mm</td>
<td>102.0</td>
<td>10.0</td>
</tr>
</tbody>
</table>

**DIG Super CPL (1604)**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>54.0</td>
<td>8.4</td>
</tr>
<tr>
<td>55mm</td>
<td>72.0</td>
<td>8.4</td>
</tr>
<tr>
<td>68mm</td>
<td>90.0</td>
<td>8.4</td>
</tr>
<tr>
<td>77mm</td>
<td>102.0</td>
<td>8.4</td>
</tr>
</tbody>
</table>

**DIG Super CPL(1604)**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>54.0</td>
<td>8.4</td>
</tr>
<tr>
<td>55mm</td>
<td>72.0</td>
<td>8.4</td>
</tr>
<tr>
<td>68mm</td>
<td>90.0</td>
<td>8.4</td>
</tr>
<tr>
<td>77mm</td>
<td>102.0</td>
<td>8.4</td>
</tr>
</tbody>
</table>

**DIG CROSS FILTER(3104)**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>54.0</td>
<td>8.4</td>
</tr>
<tr>
<td>55mm</td>
<td>72.0</td>
<td>8.4</td>
</tr>
<tr>
<td>68mm</td>
<td>90.0</td>
<td>8.4</td>
</tr>
<tr>
<td>77mm</td>
<td>102.0</td>
<td>8.4</td>
</tr>
</tbody>
</table>

**DIG CREATION CPL/NDA (1604)**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>54.0</td>
<td>8.4</td>
</tr>
<tr>
<td>55mm</td>
<td>72.0</td>
<td>8.4</td>
</tr>
<tr>
<td>68mm</td>
<td>90.0</td>
<td>8.4</td>
</tr>
<tr>
<td>77mm</td>
<td>102.0</td>
<td>8.4</td>
</tr>
</tbody>
</table>

**DIG FIT+SLIM LP/UV**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>54.0</td>
<td>8.4</td>
</tr>
<tr>
<td>55mm</td>
<td>72.0</td>
<td>8.4</td>
</tr>
<tr>
<td>68mm</td>
<td>90.0</td>
<td>8.4</td>
</tr>
<tr>
<td>77mm</td>
<td>102.0</td>
<td>8.4</td>
</tr>
</tbody>
</table>

**DIG FIT+SLIM CPL**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>54.0</td>
<td>8.4</td>
</tr>
<tr>
<td>55mm</td>
<td>72.0</td>
<td>8.4</td>
</tr>
<tr>
<td>68mm</td>
<td>90.0</td>
<td>8.4</td>
</tr>
<tr>
<td>77mm</td>
<td>102.0</td>
<td>8.4</td>
</tr>
</tbody>
</table>

**Creation Vari. ND**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>OD</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>37mm</td>
<td>54.0</td>
<td>8.4</td>
</tr>
<tr>
<td>55mm</td>
<td>72.0</td>
<td>8.4</td>
</tr>
<tr>
<td>68mm</td>
<td>90.0</td>
<td>8.4</td>
</tr>
<tr>
<td>77mm</td>
<td>102.0</td>
<td>8.4</td>
</tr>
</tbody>
</table>

---

**Frame Size**

**Non-Rotating Frame**

- Outer Diameter (φD)
- Thickness (L)
- Width (M)
- Thickness w/ Thread (A)

**Rotating Frame**

- Outer Diameter (φD)
- Thickness (L)
- Width (M)
- Thickness w/ Thread (A)
## ACCESSORIES

### Step Up Ring

<table>
<thead>
<tr>
<th>Male (mm)</th>
<th>27</th>
<th>28</th>
<th>30</th>
<th>30.5</th>
<th>34</th>
<th>37</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female (mm)</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>52</td>
<td>46</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Male (mm)</th>
<th>48</th>
<th>49</th>
<th>50</th>
<th>52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female (mm)</td>
<td>48</td>
<td>52</td>
<td>55</td>
<td>58</td>
</tr>
</tbody>
</table>

### Step Down Ring

<table>
<thead>
<tr>
<th>Male (mm)</th>
<th>43</th>
<th>46</th>
<th>52</th>
<th>58</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female (mm)</td>
<td>37</td>
<td>48</td>
<td>49</td>
<td>52</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Male (mm)</th>
<th>52</th>
<th>55</th>
<th>58</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female (mm)</td>
<td>58</td>
<td>62</td>
<td>67</td>
</tr>
</tbody>
</table>

### Lens Cap / Lens Hood

<table>
<thead>
<tr>
<th>Filter</th>
<th>Size (mm)</th>
<th>37</th>
<th>40.5</th>
<th>43</th>
<th>48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snap-On Lens Cap with Keeper</td>
<td>49</td>
<td>52</td>
<td>55</td>
<td>58</td>
<td>62</td>
</tr>
<tr>
<td>Snap-On Plastic Lens Cap</td>
<td>67</td>
<td>72</td>
<td>77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubber Lens Hood</td>
<td>62</td>
<td>67</td>
<td>72</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>Wide Rubber Hood</td>
<td>58</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Soft Filter Case

<table>
<thead>
<tr>
<th>Color : Black / Gray</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 sizes: up to ø32mm x 6 pcs.</td>
</tr>
<tr>
<td>M 32x: up to ø20mm x 6 pcs.</td>
</tr>
<tr>
<td>L 32x: up to ø22mm x 6 pcs.</td>
</tr>
</tbody>
</table>

### How to Maintain the Filter

<table>
<thead>
<tr>
<th>Daily Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blow dirt and dust by a blower or wipe with a cleaning paper or cloth, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>For Heavy Stains</th>
</tr>
</thead>
<tbody>
<tr>
<td>For heavy stains, use lens cleaning liquid and a cleaning cloth or paper, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cautions in Conducting Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never use water or detergent for cleaning the filter.</td>
</tr>
<tr>
<td>Avoid storing the filter in the filter case, in order to prevent adhesion of dust and scratches.</td>
</tr>
</tbody>
</table>