

# Topcon Slit Lamp Series



# The Combined Result of Optics and Technology

## SL-D series Digital Slit Lamps



The blending of quality, versatility and ease of use make digital image capture smooth and effortless. The SL-D series meets the varied demands of eye care specialists.



### Optical Quality

With more than 85 years of experience in lens manufacturing, Topcon produces all the optics to equip its instruments, ensuring excellent lens quality and a bright, clear view.



### Ergonomics

Topcon Slit Lamps are ergonomically designed for comfortable use. The SL "D" Series employ converging binocular tubes with a parallel magnification system, for comfortable viewing.



### Versatility

A variety of models in different configurations offering primary clinical observation through to sophisticated image capture. The Topcon series will satisfy any need and budget.



### LED Illumination

As a leader in ophthalmic instrumentation, Topcon offers LED as the recommended illumination in many of its Slit Lamp models. The lifetime of LED is substantially longer than conventional halogen bulbs. LEDs don't need frequent replacement, making Topcon Slit Lamps environmentally sound.

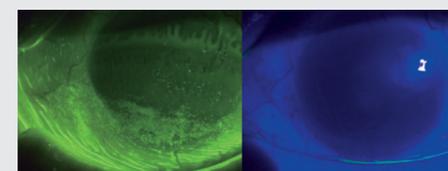
## Filter System



### Topcon Blue-Free Filter™ System<sup>1</sup>

Observation can be performed using the Blue-Free Filter™ System, by using the incorporated exciter filter with the optional barrier filter<sup>2</sup>. Tear dynamics and subtle ocular surface damage can be more clearly viewed, with greater contrast and fewer artefacts.<sup>4</sup>

1. Optional accessory
2. Shizuka Koh et al., "Diagnosing Dry Eye Using a Blue-free Barrier Filter", American journal of ophthalmology, 2013 September
3. Images provided by Toru Noda, M.D., Department of Ophthalmology, Tokyo Medical Center
4. Arita R, Morishige N, Fujii T, et al., "Tear Interferometric Patterns Reflect Clinical Tear Dynamics in Dry Eye Patients", Investigative Ophthalmology and Visual Science, July 2016



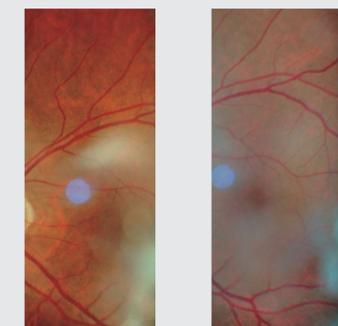
Blue-Free Filter<sup>3</sup>

Cobalt Blue Filter<sup>3</sup>



### Amber Filter

The SL-D Series incorporates an amber filter, which can be easily selected.

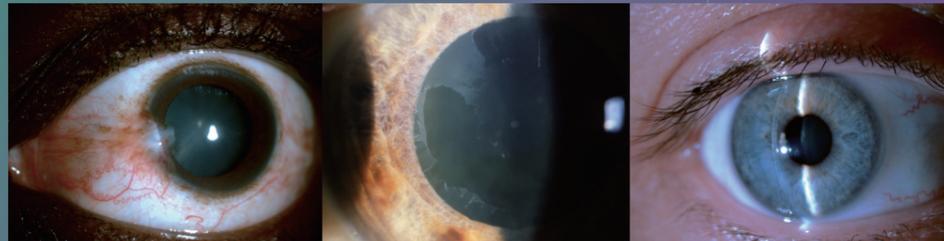


Amber

Non-Amber

## High quality digital images with the DC-4 Digital Photo Attachment\*

The DC-4 Digital Camera can be easily mounted on any of the "D" series Topcon Slit Lamps, converting them into an ophthalmic image recording system. The DC-4 captures color and monochrome images of the eye. When used in conjunction with the BG-5 background illuminator, the infrared capabilities allow viewing and documenting of the Meibomian glands.



\* Optional

### Features



**Smart Capture Function**  
five images captured in rapid succession



**Live View**  
see exactly what you are capturing on screen



**Still Image with Auto Exposure (AE) Function**  
always the correct color and brightness balance



**Video Capability**  
video clips are easily obtained and displayed



**Meibomian Gland Status**  
view and document Meibomian glands condition with infrared viewing

### Meibomian Gland Observation

The Meibomian glands can be examined and their status documented using the optional BG-5 illumination system in selected models.<sup>1,2</sup>

<sup>1</sup>The selected configuration is Digital Slit Lamp SL-D701 + Digital Camera DC-4 + background illuminator BG-5.

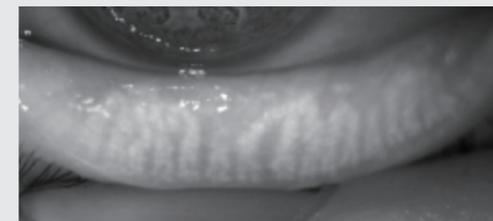
<sup>2</sup>Arita Reiko et., "Development of Definitive and Reliable Grading Scales for Meibomian Gland Dysfunction", American journal of ophthalmology September 2016 ;169:125-137



Grade 0



Grade 1



Grade 2



Grade 3

Courtesy for the Meibomian gland images: Reiko Arita, MD, PhD, Itoh Clinic, Department Ophthalmology, University of Tokyo School of Medicine.

### Image Examples

The DC-4 digital sensor provides natural color and sharp, clear images.

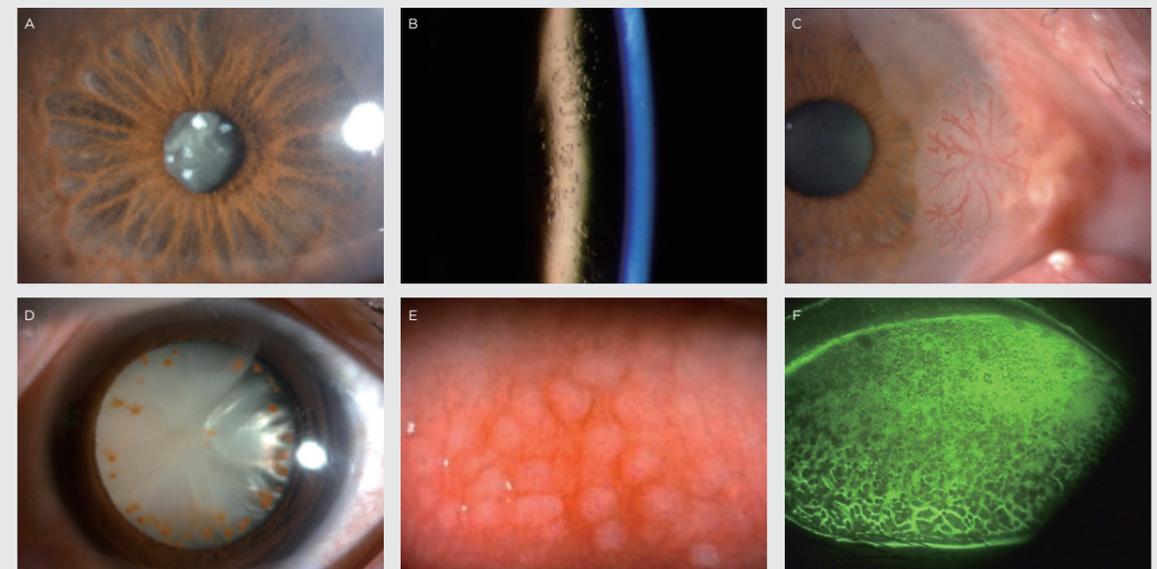


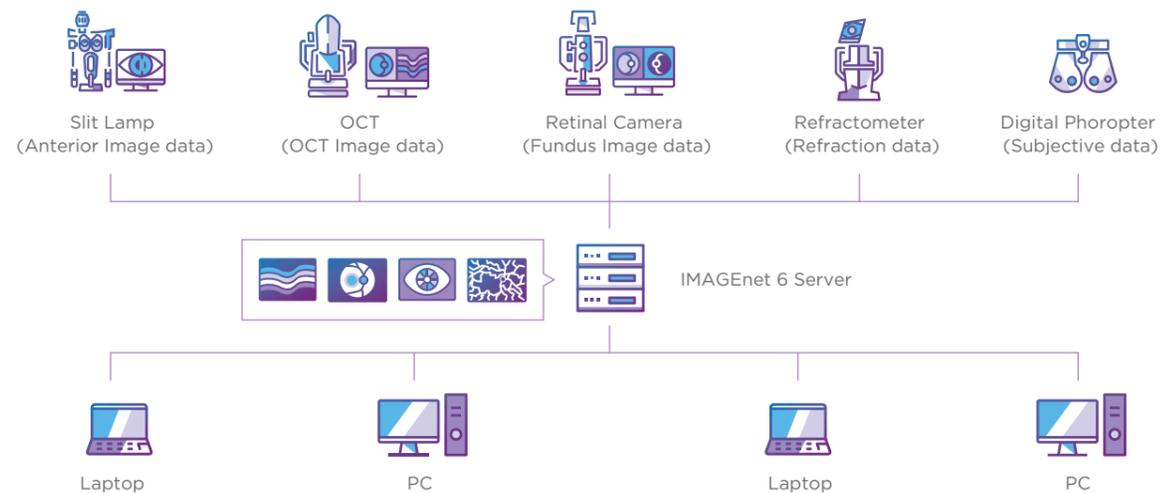
Image courtesy:  
A, B, C, D and E: Zhang Yang, M.D, Beijing Tongren Hospital  
F: Toru Noda, M.D, Department of Ophthalmology, Tokyo Medical Center

## Connectivity

When used in combination with the DC-4 Digital attachment, all SL "D" Series Slit Lamps can capture and transfer images to the IMAGEnet® 6 ophthalmic data system. IMAGEnet® 6 is Topcon's proprietary data management software capable of capture, storage, display and enhancement of digital images obtained with Topcon devices.



## Topcon IMAGEnet® 6 Data Management System



The balanced offering of LED and halogen illumination models plus a selection of optional accessories, provides versatility and convenience.

### Slit Lamp - halogen type



#### SL-D2/D4

Digital Slit Lamp

**SL-D2:** A basic Slit Lamp with three magnifications, halogen illumination and digitally ready for use with the DC-4 attachment.  
**SL-D4:** Five magnifications, halogen illumination and digitally ready for use with the DC-4 attachment.



#### SL-D301

Digital Slit Lamp

Basic three magnifications Slit Lamp with halogen tower illumination system and digitally ready for use with the DC-4 attachment.



#### SL-D701

Digital Slit Lamp

Halogen illumination, five magnifications and digitally ready for use with the DC-4 attachment. Accepts the BG-5 background illuminator with infrared capability for meibography capture and the Blue-Free™ Filter System for fluorescein observation.

### Slit Lamp - LED type



#### SL-2G

LED Slit Lamp

Basic, economical and environmentally friendly with three magnifications and LED illumination.



#### SL-D4 (Type: LED)

Digital Slit Lamp

Five magnifications, LED illumination and digitally ready for use with the DC-4 attachment. Includes exciter filter for use with optional Blue-Free™ Filter observation system.

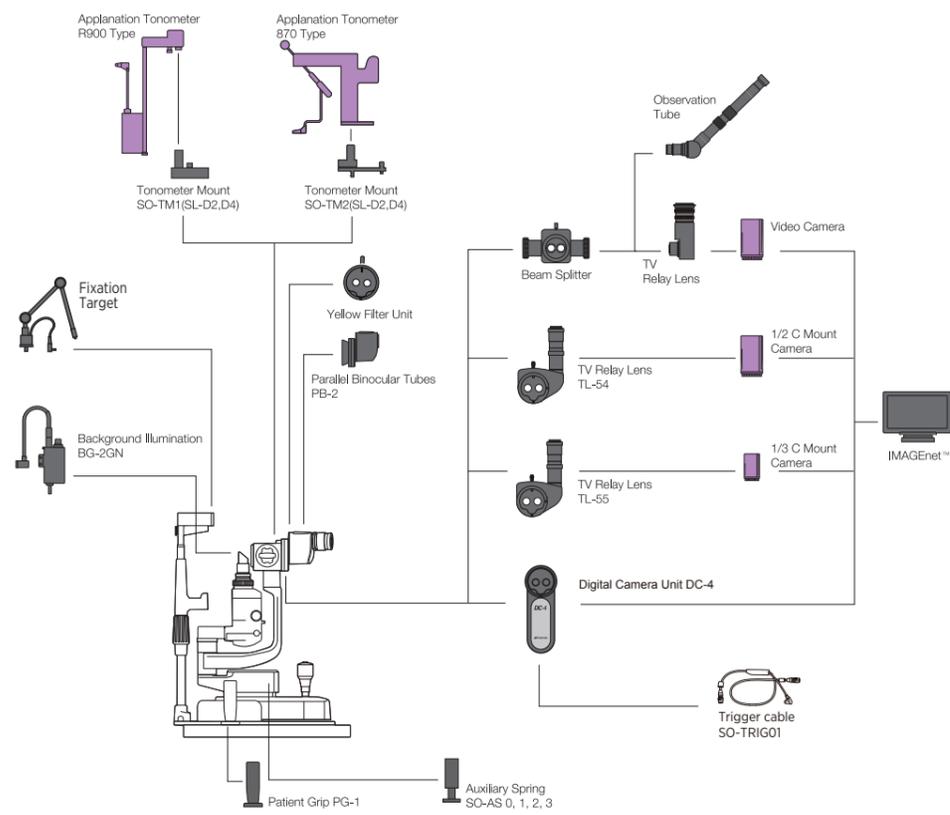


#### SL-D701

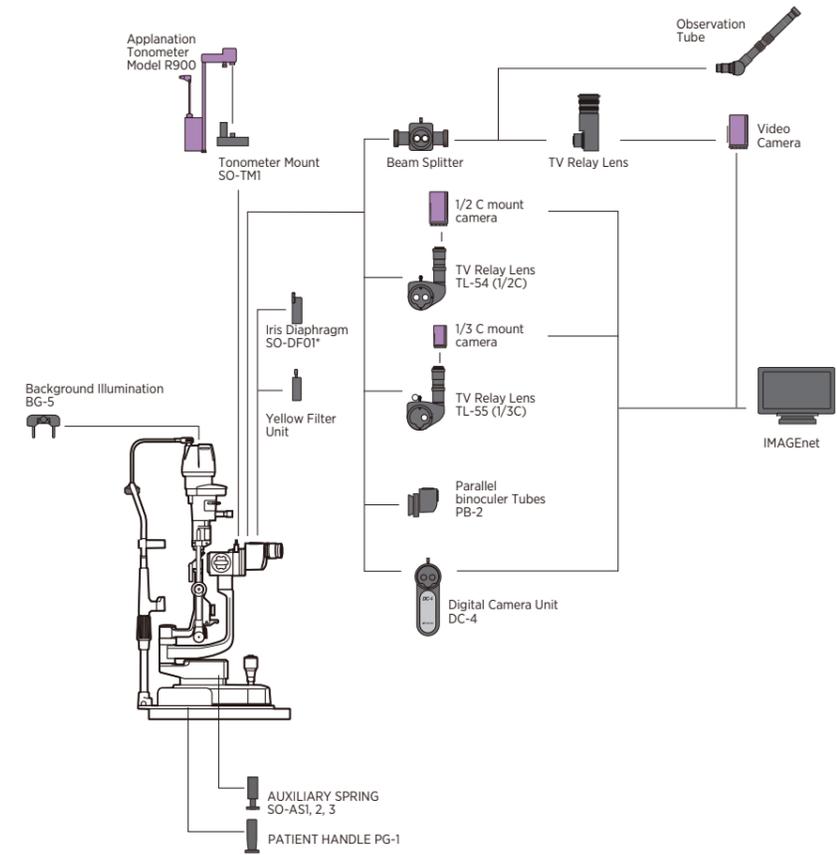
Digital Slit Lamp

LED illumination, five magnifications and digitally ready for use with the DC-4 attachment. Accepts the BG-5 background illuminator with infrared capability for meibography capture and the Blue-Free™ Filter System for fluorescein observation.

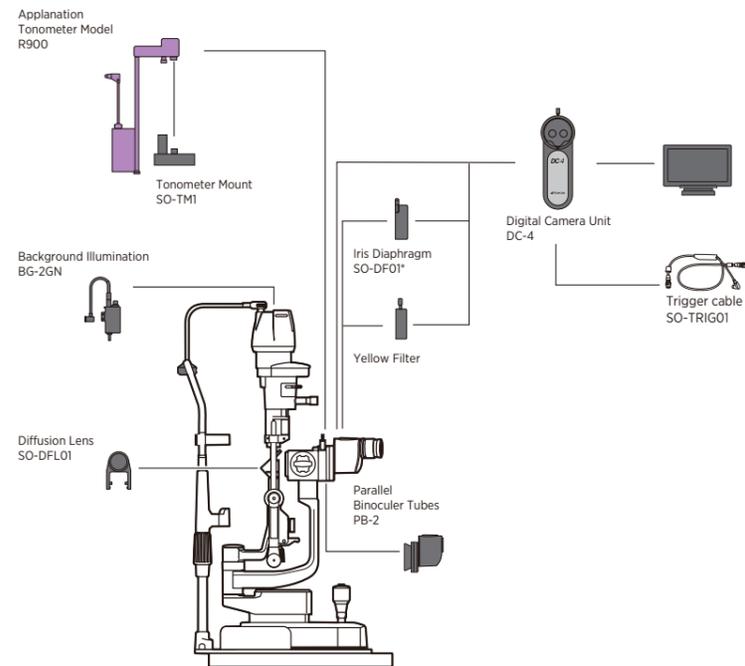
### System Configuration: SL-D2/D4 (Type: LED )



### System Configuration: SL-D701



### System Configuration: SL-D301



■ Topcon product    ■ Third party product

### Optional Accessories



Background Illuminator BG-2GN



Background Illuminator BG-5



Yellow Filter Unit



TV Relay Lens



Observation Tube



Patient grip PG-1

\* Not available in all countries. Please check with the distributor in your country for availability.

Microscope	SL-2G	SL-D2	SL-D4/ SL-D4(Type:LED)	SL-D301	SL-D701
<b>Type</b>	Galilean type	Galilean type		Galilean type	Galilean type
<b>Magnification Selection</b>	3 steps by drum rotation	3 steps by drum rotation	5 steps by drum rotation	3 steps by drum rotation	5 steps by drum rotation
<b>Eyepiece</b>	12.5x	12.5x	12.5x	12.5x	12.5x
<b>Magnification Ratio (Field of View)</b>	10x(22.5mm) 16x(14.1mm) 25x(8.8mm)	10x(22.5mm) 16x(14.1mm) 25x(8.8mm)	6x(35.1mm) 10x(22.5mm) 16x(14.1mm) 25x(8.8mm) 40x(5.6mm)	10x(22.5mm) 16x(14.1mm) 25x(8.8mm)	6x(35.1mm) 10x(22.5mm) 16x(14.1mm) 25x(8.8mm) 40x(5.6mm)
<b>Slit Illumination</b>					
<b>Slit Width</b>	0 -14mm, can be altered gradually (14mm=circle)	0 -14mm, can be altered gradually (14mm=circle)		0 - 9mm, can be altered gradually (9mm=circle)	0 -14mm, can be altered gradually (14mm=circle)
<b>Slit Length</b>	1-14mm, can be altered gradually (14mm=circle)	1-14mm, can be altered gradually (14mm=circle)		1-8mm, can be altered gradually	1-14mm, can be altered gradually (14mm=circle)
<b>Filters</b>	Blue, Red-Free	Blue, Red-Free, Amber UV Cut (Normal Use), IR Cut (Normal Use)		Blue, Red-Free UV Cut (Normal Use), IR Cut (Normal Use) ND filter (13% transmission)	Blue filter, Red-Free filter, Amber filter, UV Cut (normal use), IR Cut (normal use), ND filter (13% transmission), exciter filter for slit lamp*, barrier filter for slit lamp*
<b>Illumination Lamp</b>	LED	<b>SL-D2/D4:</b> Halogen <b>SL-D4 (Type:LED):</b> LED		Halogen	Halogen LED
<b>Base</b>					
<b>Longitudinal Movement</b>	90mm	90mm		90mm	90mm
<b>Lateral Movement</b>	100mm	100mm		100mm	100mm
<b>Fine Base Movement</b>	12mm	<b>SL-D2/D4:</b> 15mm , <b>SL-D4LED:</b> 12mm		12mm	12mm
<b>Vertical Movement</b>	30mm	30mm		30mm	30mm
<b>Chinrest</b>					
<b>Vertical Movement</b>	80mm	80mm		80mm	80mm
<b>Power</b>					
<b>Input (Primary)</b>	100-240V	100-240V		100-240V	100-240V
<b>Frequency</b>	50/60Hz	50/60Hz		50/60Hz	50/60Hz
<b>Power Consumption</b>	40VA	<b>SL-D2/D4:</b> 160VA, <b>SL-D4 (Type:LED):</b> 110VA		80VA	110VA
<b>Dimensions</b>					
<b>w/ Table</b>	550mm(W) x 399mm(D) x 520mm(H)	550mm x 399mm x 558mm		550mm x 430mm x 760-790mm	550mm(W) x 420mm(D) x 752 to 782mm(H)
<b>w/ Unit Table</b>	440mm(W) x 379mm x 558mm(H)	440mm x 379mm x 558mm		440mm x 410mm x 760-790mm	440mm(W) x 397mm(D) x 752 to 782mm(H)
<b>w/o Table and Chinrest</b>	329mm(W) x 293mm(D) x 414-444mm(H)	<b>SL-D2/D4:</b> 329mm x 306mm x 415-445mm, <b>SL-D4 (Type:LED)</b> 329mm(W) x 331mm(D) x 426 to 456mm(H)		312mm x 296mm x 646-676mm	329mm(W) x 331(304)mm(D) x 652 to 682mm(H)
<b>Weight</b>					
<b>w/ Table</b>	15.2 Kg	17kg		17.5kg	19kg
<b>w/ Unit Table</b>	14.8 Kg	16kg		17kg	18kg
<b>w/o Table and Chinrest</b>	8.0 Kg	9.5kg		12kg	11.5kg

\* A model with standard cobalt blue filter instead of the exciter/barrier filter combination is also available.

#### DC-4 Digital Camera Unit (Option)

<b>System</b>	Beam flux division by beam splitter
<b>Beam splitter division ratio</b>	Operator side: 50%; Camera side: 50%
<b>Focus distance</b>	35.7mm
<b>Sensor type</b>	1/2.5 type CMOS; Effective pixel number: 5.04 M pixels
<b>Dimensions</b>	76mm(W) x 163mm(D) x 304mm(H)
<b>Weight</b>	430g



**DC-4**  
Digital Camera Unit



**SL-2G**  
Slit Lamp



**SL-D2**  
Slit Lamp



**SL-D4/D4 (Type:LED)**  
Slit Lamp



**SL-D301**  
Slit Lamp



**SL-D701**  
Slit Lamp

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**IMPORTANT** In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation.

Not all products, services or offers are approved or offered in every market, and products vary from one country to another. Contact your local distributor for country-specific information and availability.



SEEING EYE HEALTH DIFFERENTLY  
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