

Topcon Slit Lamp Series



 **TOPCON** Healthcare
SEEING EYE HEALTH DIFFERENTLY

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™ System¹

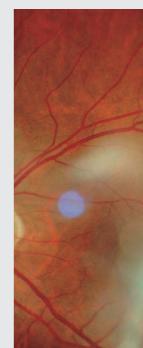
Observation can be performed using the Blue-Free Filter™ System, by using the incorporated exciter filter with the optional barrier filter². Tear dynamics and subtle ocular surface damage can be more clearly viewed, with greater contrast and fewer artefacts.⁴

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



Amber Filter

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



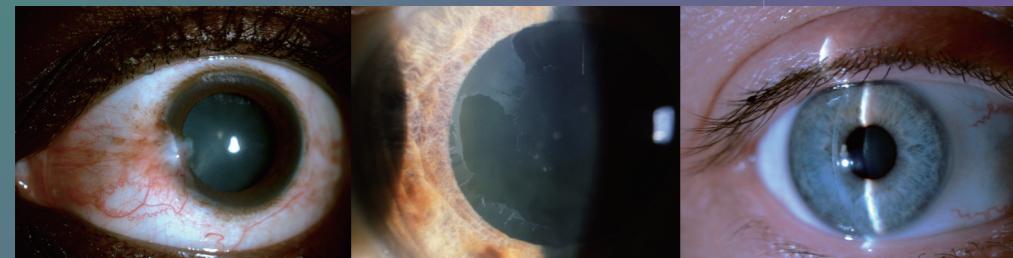
Amber

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.*^{1,2}

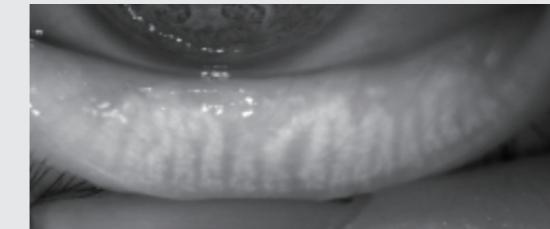
*1 The selected configuration is Digital Slit Lamp SL-D701 + Digital Camera DC-4 + background illuminator BG-5.
*2 Arita Reiko et al., "Development of Definitive and Reliable Grading Scales for Meibomian Gland Dysfunction", American Journal of Ophthalmology September 2016;169:125-137



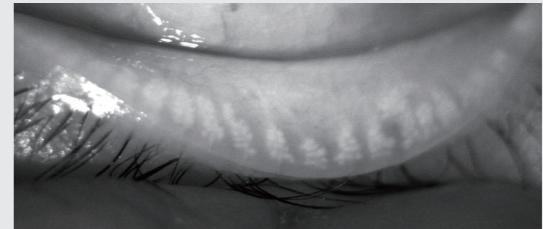
Grade 0



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.

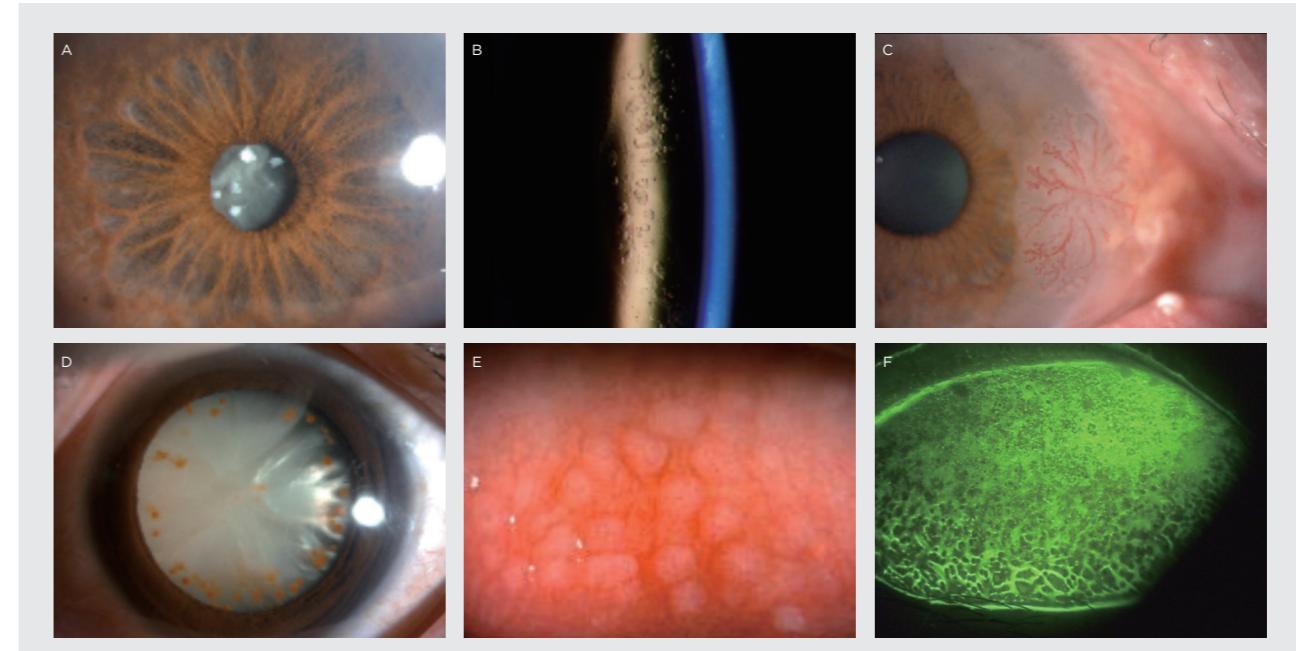


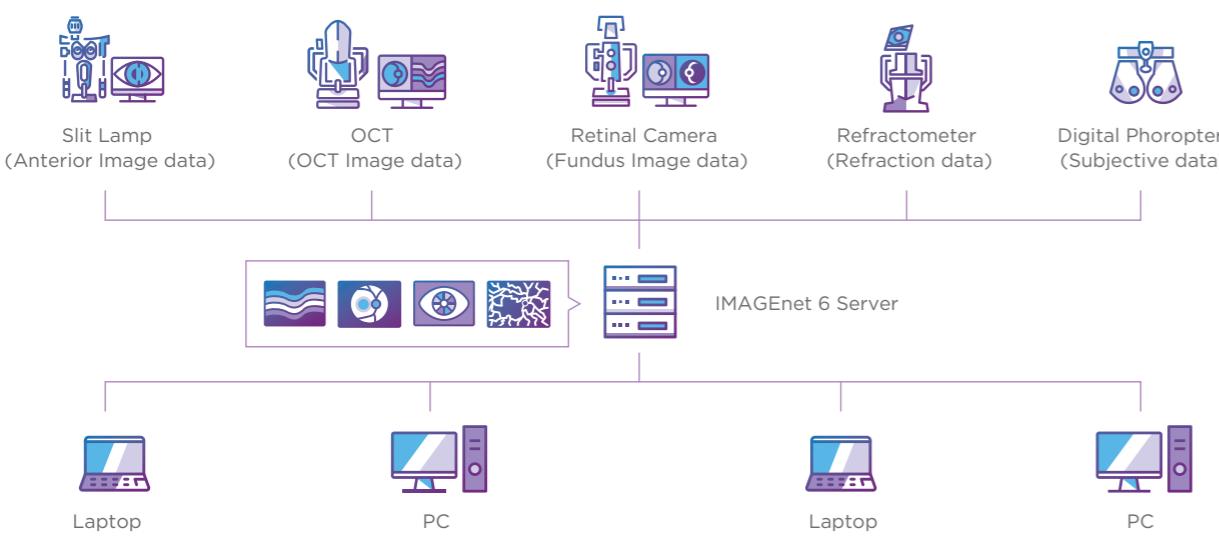
Image courtesy:
A,B,C,D and E: Zhang Yang, M.D, Beijing Tongren Hospital
F: Toru Noda, M.D, Department of Ophthalmology, Tokyo Medical Center

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.

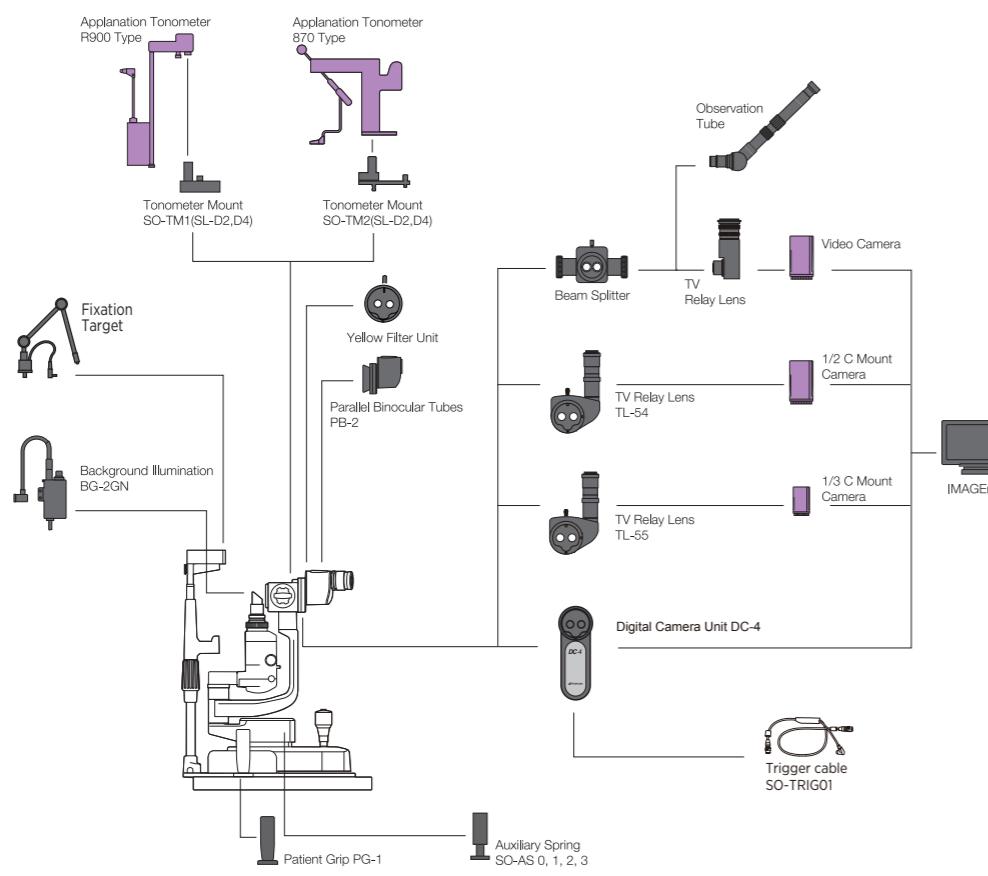


SL-D701

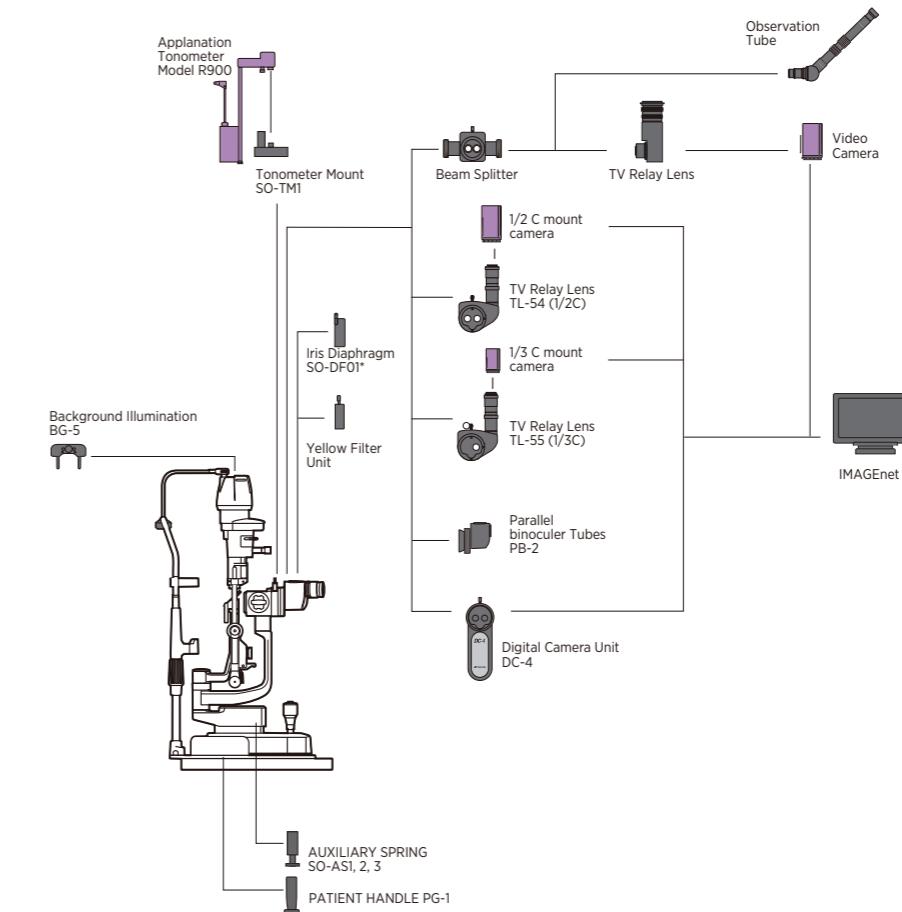
Digital Slit Lamp

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.

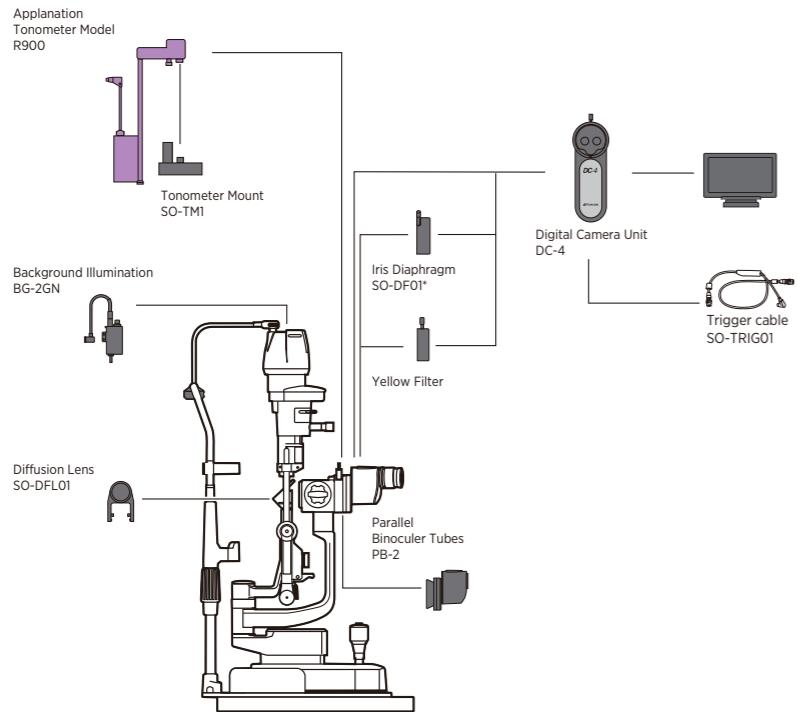
System Configuration: SL-D2/D4 (Type: LED)



System Configuration: SL-D701



System Configuration: SL-D301



Optional Accessories



Background Illuminator
BG-2GN



Background Illuminator
BG-5



Yellow Filter Unit



TV Relay Lens



Observation Tube



Patient grip PG-1

■ Topcon product

■ Third party product

Microscope	SL-2G	SL-D2	SL-D4/ SL-D4(Type:LED)	SL-D301	SL-D701
Type	Galilean type			Galilean type	
Magnification Selection	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
Eyepiece	12.5x	12.5x	12.5x	12.5x	12.5x
Magnification Ratio (Field of View)	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)
Slit Illumination					
Slit Width	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)	
Slit Length	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)	
Filters	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*	
Illumination Lamp	LED	SL-D2/D4: Halogen SL-D4 (Type:LED): LED	Halogen	Halogen	LED
Base					
Longitudinal Movement	90mm	90mm	90mm	90mm	90mm
Lateral Movement	100mm	100mm	100mm	100mm	100mm
Fine Base Movement	12mm	SL-D2/D4: 15mm , SL-D4LED: 12mm		12mm	12mm
Vertical Movement	30mm	30mm	30mm	30mm	30mm
Chinrest					
Vertical Movement	80mm	80mm	80mm	80mm	80mm
Power					
Input (Primary)	100-240V	100-240V	100-240V	100-240V	100-240V
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Power Consumption	40VA	SL-D2/D4:160VA, SL-D4 (Type:LED):110VA	80VA	80VA	110VA
Dimensions					
w/ Table	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)	
w/ Unit Table	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)	
w/o Table and Chinrest	329mm(W) x 293mm(D) x 414-444mm(H)	SL-D2/D4: 329mm x 306mm x 415-445mm, SL-D4 (Type:LED) 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)	
Weight					
w/ Table	15.2 Kg	17kg	17.5kg	19kg	
w/ Unit Table	14.8 Kg	16kg	17kg	18kg	
w/o Table and Chinrest	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)

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

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.