

Delphi-X Observer

HIGHLIGHTS

- Medical device class I – EU MDR 2017-745
- Trinocular model
- Sextuple reversed nosepiece with slot for optional DIC prism(s) for differential interference contrast
- Super Wide field SWF 10x/25mm eyepieces, Ø 30 mm tubes
- Enhanced infinity corrected EIS optical system
- Ergonomic tilting head
- 60 mm parafocal Plan EIS objectives
- 60 mm parafocal Plan Semi-Apochromatic EIS objectives
- M25 mm objective thread mounting
- 3 W NeoLED™ illumination
- 100 W halogen illumination
- Face-to-face dual head system
- Multihead systems
- Motorized versions



DX.1153-APLi ●

DX.1153-PLi	454 (h) x 260 (w) x 367 mm (d) 18 kg
DX.2153-PLi	454 (h) x 260 (w) x 480 mm (d) 18.5 kg

TECHNICAL SPECIFICATIONS

EYEPIECES

- Super Wide field SWF 10x/25 mm, Ø 30 mm tubes
- Extended Wide Field EWF 10x/22 mm, Ø 30 mm tubes

STANDARD HEAD

- Siedentopf trinocular head with 30° inclined tubes
- Interpupillary distance adjustable between 47 and 78 mm
- The trinocular standard head has an optical path selector (100:0 / 80:20 / 0:100)
- Diopter ± 5 adjustments on both eyepieces

ERGONOMIC TILTING HEAD

Optional ergonomic 0 to 35° tilting trinocular head supplied with SWF 10x/25 mm eyepieces, interpupillary distance between 47-78 mm and photo tube with standard Ø 23.2 mm tube.

The trinocular tilting head has an optical path selector (100:0 / 80:20 / 0:100). Diopter ± 5 adjustments on both eyepieces



● Ergonomic tilting head

FACE-TO-FACE DUAL HEAD SYSTEM

The Delphi-X Observer™ can be supplied with one trinocular and one binocular head in a face-to-face configuration allowing simultaneous observation by two operators. The main trinocular head is equipped with Super wide field SWF 10x/25 mm eyepieces and the second head with EWF 10x/22 mm eyepieces. A joystick enables the operator to move a green or red laser pointer across the entire field of view of both heads

MULTIHEAD SYSTEM

The Delphi-X-Observer™ can be extended with a multihead system for two, three, five or ten users. The central attachment is equipped with a joystick to move a green and red laser pointer across the entire field of view of all heads. The multihead systems with two, three or five heads and 30° inclined tubes are supplied with Super wide field SWF 10x/25 mm eyepieces. The multihead systems with ten heads and 30° inclined tubes have the trinocular main head equipped with Super wide field SWF 10x/25 mm eyepieces and the other nine binocular other heads with Extended wide field EWF 10x/22 mm eyepieces. The Delphi-X Observer™ multihead system with ten heads is supplied without the iCare sensor



● DX.2156-PLi/10

OBJECTIVES

Plan PLi EIS	2x/0.06 ⁽¹⁾	4x/0.10	10x/0.25	20x/0.40	S40x/0.65	S50x/0.95 oil ⁽¹⁾	S60x/0.80 ⁽¹⁾	S100x/1.25 oil	S100x/1.25 oil iris*
Plan Phase PLPHi EIS			10x/0.25	20x/0.40	S40x/0.65			S100x/1.25 oil	
Plan Semi-Apo PLAi EIS		4x/0.13	10x/0.30	20x/0.50	S40x/0.75			S100x/1.30 oil	

All objectives are 60 mm parafoal and have a M25 mm mounting thread

All optics are anti-fungus treated and anti-reflection coated for maximum light throughput

All S40x, S50x, S60x and S100x objectives are spring loaded

* Optional

NOSEPIECE

Revolving sextuple reversed nosepiece on ball-bearings with with slot for optional DIC prism(s) and with M25 objectives mounting threads

MOTORISED NOSEPIECE

The Delphi-X Observer™ can be supplied with a motorized revolving sextuple reversed nosepiece. A precise step-motor allows the user to switch from objective by a simple push on a button. Another button allows quick switching between two preselected objectives. Standard with this nosepiece comes a motorized condenser

ENHANCED INFINITY SYSTEM (EIS)

The enhanced infinity system (EIS) of the Delphi-X Observer™ consists of Super wide field SFWF 10x25 mm eyepieces, high numerical aperture 60 mm parafoal objectives and a 200 mm focal length tube lens. The 200 mm focal length tube lens reduces the angle of the light rays passing the optics and as a direct result improving significantly the chromatic aberration corrections and contrast. The objectives with larger diameter enable much higher numerical apertures improving the overall resolving power of the optical system.

For all these reasons the Delphi-X Observer™ offers superior optical performance for the most demanding applications

PLAN ACHROMATIC EIS OBJECTIVES (CLINICAL ROUTINE APPLICATIONS)

The Delphi-X Observer™ is standard supplied with Plan Achromatic infinity corrected 4x/0.10, 10x/0.25, 20x/0.40, S40x/0.65 and S100x/1.25 oil immersion EIS objectives

As an option available: 2x/0.06, S50x/0.95 (oil immersion) and S60x/0.80

PLAN SEMI-APPOCHROMATIC OBJECTIVES (ANATOMO- AND HISTOPATHOLOGY APPLICATIONS)

The Delphi-X Observer™ can also be supplied with Plan Semi-Apochromatic Fluarex 4x/0.13, 10x/0.30, 20x/0.50, S40x/0.75 and S100x/1.30 (oil immersion) infinity corrected EIS objectives

PLAN PHASE CONTRAST OBJECTIVES

Plan Phase EIS 10x/0.25, 20x/0.40, S40x/0.65 and S100x/1.25 (oil immersion) infinity corrected EIS objectives

STAGE



Sextuple nosepiece ●

- 190 x 152 mm stage with 78 x 32 mm integrated right-handed mechanical stage
- Designed for 2 slides
- Standard supplied with scratch-resistant Gorilla glass
- Sapphire scratch-resistant glass is available on request
- Left-handed mechanical stage is available on request

FOCUSING

- Coaxial coarse and fine adjustment, 100 graduations, 1 µm precision, 100 µm per rotation, total travel range is approx. 35 mm
- Supplied with an adjustable rack stop to prevent damage to sample and objectives
- The coarse adjustments are equipped with friction control
- The focusing knobs can be switched from left to right according to the user's preference

CONDENSER FOR BRIGHTFIELD

In height adjustable N.A. 0.90/1.25 Abbe swing-out condenser with numerical aperture identification marks. Models with a motorized nosepiece are supplied with a motorized condenser that automatically flips out the front lens of the condenser when the 4x objective is used

CONDENSER FOR DIFFERENTIAL INTERFERENCE CONTRAST (DIC) AND BRIGHTFIELD

An optional in height adjustable disc condenser for DIC and brightfield can be equipped with several primary DIC prisms to be used with sliders with secondary DIC prisms to be placed in the nosepiece

CONDENSER FOR PHASE CONTRAST

In height adjustable N.A. 1.25 Zernike phase contrast condenser with phase annuli for 10/20/40x and S100x-oil objectives. To be used with the phase contrast objectives

DIASCOPIIC ILLUMINATION

Two Köhler illuminations are available for the Delphi-X Observer™ microscope:

- Diascopic intensity adjustable 3 W NeoLED™ Köhler illumination with internal 100-240 V power supply
- Diascopic intensity adjustable 100 W halogen Köhler illumination with internal 100-240 V power supply

The diascopic halogen illumination comes with two push-in/push-out neutral density filters for smooth attenuation of the light intensity for all kind of samples. The diascopic NeoLED™ illumination comes with one neutral density filter

LIGHT INTENSITY MEMORY FUNCTION

LIM automatically saves preferred brightness while changing magnifications. It eliminates the need for adjusting lamp brightness when changing magnification. This allows maintaining preferred brightness at each magnification, thus improving user efficiency significantly and reducing eye strain. Standard on all models with a motorized nosepiece, for other models see ordering instructions below

For ordering Automatic light intensity memory function

Example: DX.1153-PLi = DX.1153-PLi/LIM model but with automatic light control

NEOLED™

The innovative NeoLED™ design is a combination of a custom LED and a specially designed thin lens with a short focal length in order to obtain three main benefits:

- More oblique light from the LED light source can be captured, which increases the light output significantly
- Less energy is required to achieve this level of light intensity
- The larger aperture of NeoLED™ allows the optical system to produce images at higher resolutions, very close to the theoretical diffraction limit of the optics

ICARE SENSOR

- The motorized Delphi-X Observer



The unique iCare Sensor is developed to avoid unnecessary loss of energy. The illumination of the microscope automatically switches off shortly after the microscopist steps away from the microscope



● iCare sensor for energy saving

CARRYING GRIP

The carrying grip at the back of the microscope ensures safe transportation of the microscope and the integrated tool & holder makes sure the right tool is always available

PACKAGE CONTENT

Supplied with power cord, dust cover, a spare fuse, user manual and 5 ml immersion oil. All packed in a polystyrene box



DELPHI-X OBSERVER WITH TRINOCULAR (ERGONOMIC TILTING) HEAD

MODELS	Ergonomic tilting head	SWF 10x/25 mm eyepieces	Sextuple nosepiece	Plan 4/10/20/540/ S100x oil EIS objectives	Plan Semi-Apo 4/10/20/540/ S100x oil EIS objectives	Plan Phase 10/20/540/ S100x oil EIS objectives	3 W NeoLED™ Köhler	100 W 24 V halogen Köhler
DX.1153-PLi		•	•	•			•	
DX.1158-PLi	•	•	•	•			•	
DX.1153-APLi		•	•		•		•	
DX.1158-APLi	•	•	•		•		•	
DX.1153-PLPHi		•	•			•	•	
DX.1158-PLPHi	•	•	•			•	•	
DX.2153-PLi		•	•	•				•
DX.2158-PLi	•	•	•	•				•
DX.2153-APLi		•	•		•			•
DX.2158-APLi	•	•	•		•			•
DX.2153-PLPHi		•	•			•	•	•
DX.2158-PLPHi	•	•	•			•	•	•

MOTORIZED MODELS

MODELS	Ergonomic tilting head	SWF 10x/25 mm eyepieces	Sextuple nosepiece	Plan 4/10/20/540/ S100x oil EIS objectives	Plan semi-apo 4/10/20/540/ S100x oil EIS objectives	3 W NeoLED™ Köhler	100 W 24 V halogen Köhler
DX.1173-PLi		•	•	•		•	
DX.1178-PLi	•	•	•	•		•	
DX.1173-APLi		•	•		•	•	
DX.1178-APLi	•	•	•		•	•	
DX.2173-PLi		•	•	•			•
DX.2178-PLi	•	•	•	•			•
DX.2173-APLi		•	•		•	•	•
DX.2178-APLi	•	•	•		•	•	•

For ordering more motorized models, substitute the third digit "5" of the model reference with the digit "7"
 Example: DX.1173-PLi = DX.1153-PLi model but with motorized nosepiece, flip-down condenser and automatic light control



DX.1153-PLi ●

FACE-TO-FACE DUAL HEAD SYSTEMS

MODELS	Total users	Trinocular head SWF 10x/25 mm eyepieces	Binocular head SWF 10x/22 mm eyepieces	Sextuple nose-piece	Plan 4/10/20/ S40/ S100x oil EIS objectives	Plan Semi-Apo Fluarex 4/10/20/S40/S100x oil EIS objectives	Plan Phase 10/20/ S40/ S100x oil EIS objectives	3 W NeoLED™ Köhler	100 W 24 V halogen Köhler
DX.1154-PLi	2	1x	1x	•	•			•	
DX.1154-APLi	2	1x	1x	•		•		•	
DX.1154-PLPHi	2	1x	1x	•			•	•	
DX.2154-PLi	2	1x	1x	•	•				•
DX.2154-APLi	2	1x	1x	•		•			•
DX.2154-PLPHi	2	1x	1x	•			•		•

MULTIHEAD SYSTEMS

MODELS	Total users	Trinocular head SWF 10x/25 mm eyepieces	Number of binocular heads	Binocular head SWF 10x/25 mm eyepieces	Sextuple noise-piece	Plan 4/10/20/ S40/ S100x oil EIS objectives	Plan Semi-Apo Fluarex 4/10/20/S40/S100x oil EIS objectives	Plan Phase 10/20/ S40/ S100x oil EIS objectives	3 W NeoLED™ Köhler	100 W 24 V halogen Köhler
DX.1156-PLi/2	2	1x	1	•	•	•			•	
DX.1156-PLi/3	3	1x	2	•	•	•			•	
DX.1156-PLi/5	5	1x	4	•	•	•			•	
DX.1156-APLi/2	2	1x	1	•	•		•		•	
DX.1156-APLi/3	3	1x	2	•	•		•		•	
DX.1156-APLi/5	5	1x	4	•	•		•		•	
DX.1156-PLPHi/2	2	1x	1	•	•			•	•	
DX.1156-PLPHi/3	3	1x	2	•	•			•	•	
DX.1156-PLPHi/5	5	1x	4	•	•			•	•	
DX.2156-PLi/2	2	1x	1	•	•	•				•
DX.2156-PLi/3	3	1x	2	•	•	•				•
DX.2156-PLi/5	5	1x	4	•	•	•				•
DX.2156-APLi/2	2	1x	1	•	•		•			•
DX.2156-APLi/3	3	1x	2	•	•		•			•
DX.2156-APLi/5	5	1x	4	•	•		•			•
DX.2156-PLPHi/2	2	1x	1	•	•			•		•
DX.2156-PLPHi/3	3	1x	2	•	•			•		•
DX.2156-PLPHi/5	5	1x	4	•	•			•		•
DX.2156-PLi/10	10	1x	9 ⁽¹⁾	•	•	•				•
DX.2156-APLi/10	10	1x	9 ⁽¹⁾	•	•		•			•
DX.2156-PLPHi/10	10	1x	9 ⁽¹⁾	•	•			•		•
DX.1156-PLi/10	10	1x	9 ⁽¹⁾	•	•	•				• ⁽²⁾
DX.1156-APLi/10	10	1x	9 ⁽¹⁾	•	•		•			• ⁽²⁾
DX.1156-PLPHi/10	10	1x	9 ⁽¹⁾	•	•			•		• ⁽²⁾

⁽¹⁾ The model with 9 binocular heads (10 users) is supplied with EWF 10x/22 mm eyepieces

⁽²⁾ Supplied with 10 W NeoLED™ Köhler, without iCare sensor

ACCESSORIES AND SPARE PARTS

EYEPIECES

- DX.6010** Super wide field SWF 10x/25 mm eyepiece
- DX.6010-CM** Super wide field SWF 10x/25 mm eyepiece with micrometer and crosshairs
- DX.6210** Super wide field SWF 10x/22 mm eyepiece
- DX.6210-CM** Super wide field SWF 10x/22 mm eyepiece with micrometer and crosshairs
- DX.6012** Wide field WF 12.5x/17.5 mm eyepiece
- DX.6015** Wide field WF 15x/16 mm eyepiece
- DX.6020** Wide field WF 20x/12 mm eyepiece
- DX.6099-L** Eyecups for eyepiece

OBJECTIVES

- DX.7201** Infinity EIS 60 mm Plan PLi 1x/0.04 objective. WD 3.2 mm
- DX.7202** Infinity EIS 60 mm Plan PLi 2x/0.06 objective. WD 7.5 mm
- DX.7204** Infinity EIS 60 mm Plan PLi 4x/0.10 objective. WD 30 mm
- DX.7210** Infinity EIS 60 mm Plan PLi 10x/0.25 objective. WD 10.2 mm
- DX.7220** Infinity EIS 60 mm Plan PLi 20x/0.40 objective. WD 12 mm
- DX.7240** Infinity EIS 60 mm Plan PLi S40x/0.65 objective. WD 0.7 mm
- DX.7250** Infinity EIS 60 mm Plan PLi S50x/0.95 oil objective. WD 0.19 mm
- DX.7260** Infinity EIS 60 mm Plan PLi S60x/0.80 objectives. WD 0.3 mm
- DX.7200** Infinity EIS 60 mm Plan PLi S100x/1.25 oil immersion objective. WD 0.2 mm
- DX.7200-I** Infinity EIS 60 mm Plan PLi S100x/1.25 oil immersion objective with built-in iris diaphragm. WD 0.2 mm
- DX.7304** Infinity EIS 60 mm plan semi-apochromatic PLi-apo Fluarex 4x/0.13 objective. WD 16.5 mm
- DX.7310** Infinity EIS 60 mm plan semi-apochromatic PLi-apo Fluarex 10x/0.30 objective. WD 8.1 mm
- DX.7320** Infinity EIS 60 mm plan semi-apochromatic PLi-apo Fluarex 20x/0.50 objective. WD 2.1 mm
- DX.7340** Infinity EIS 60 mm plan semi-apochromatic PLi-apo Fluarex S40x/0.75 objective. WD 0.7 mm
- DX.7300** Infinity EIS 60 mm plan semi-apochromatic PLi-apo Fluarex S100x/1.30 oil immersion objective. WD 0.15 mm
- DX.7710** Infinity plan phase PLPHi 10x/0.25 objective
- DX.7720** Infinity plan phase PLPHi 20x/0.40 objective
- DX.7740** Infinity plan phase PLPHi S40x/0.65 objective
- DX.7700** Infinity plan phase PLPHi S100x/1.25 oil objective

STAGES

- DX.9501-R** Stage with Gorilla glass. Right handed
- DX.9501-L** Stage with Gorilla glass. Left handed
- DX.9504-R** Stage with Sapphire glass. Right handed
- DX.9504-L** Stage with Sapphire glass. Left handed
- DX.9501-LG** Option for left handed stage with Gorilla glass*
- DX.9504-RS** Option for right handed stage with Sapphire glass*
- DX.9504-LS** Option for left handed stage with Sapphire glass*

* Only with new Delphi-X Observer™ microscopes

(resp. DX.xx5x-xxx/LG, DX.xx5x-xxx/RS and DX.xx5x-xxx/LS)

PHASE CONTRAST EQUIPMENT

- DX.9126** Phase contrast set with 10/20/S40 and S100x oil objectives, supplied with rotating disc phase contrast condenser with phase annuli and alignment telescope
- DX.9140** Rotating disc phase contrast condenser with phase annuli without objectives
- DX.9148** Alignment telescope for phase contrast, Ø 30 mm tube

CONDENSERS

- DX.9105** Abbe condenser with 0.9/1.25 swing-out front lens
- DX.9110** Dry darkfield condenser
- DX.9112** Oil immersion darkfield condenser

POLARIZER

- DX.9660** Simple polarization kit
- DX.9662** Special polarization kit for gout

DIFFERENTIAL INTERFERENCE CONTRAST

- DX.9690** Rotating DIC and BF disc condenser without DIC prisms for Life Science Delphi Observer models. (DX.9693 and/or DX.9694) and DIC polarizer for transmitted light (DX.9695)
- DX.9690-10** DIC prism for rotating disc condenser (DX.9690) for Life Science Delphi Observer models. To be used with plan semi-apo 10x objective
- DX.9690-24** DIC prism for rotating disc condenser (DX.9690) for Life Science Delphi Observer models. To be used with plan semi-apo 20x objective and/or S40x objective
- DX.9690-100** DIC prism for rotating disc condenser (DX.9690) for Life Science Delphi Observer models. To be used with plan semi-apo 100x objective
- DX.9693** Slider with DIC prism for nosepiece and to be used with plan semi-apo 10x and 20x objectives of Life Science Delphi Observer models
- DX.9694** Slider with DIC prism for nosepiece and to be used with plan semi-apo 40x and 100x objectives of Life Science Delphi Observer models
- DX.9695** DIC polarization filter for transmitted light

CAMERA ACCESSORIES

- DX.9810** C-mount with 1x magnification for C-mount camera
- DX.9835** C-mount with high resolution relay 0.35x objective for 1/3 inch C-mount camera
- DX.9850** C-mount with high resolution relay 0.50x objective for 1/2 inch C-mount camera
- DX.9863** C-mount with high resolution relay 0.63x objective for 2/3 inch C-mount camera
- AE.5130** Universal SLR adapter with built-in 2x lens for standard 23.2 mm tube. Needs T2 adapter
- AE.5025** T2 adapter for Nikon D SLR digital camera
- AE.5040** T2 adapter for Canon EOS SLR digital camera

MISCELLANEOUS

- DX.9704** Yellow filter for lamphouse, diameter 45 mm
- DX.9885** 25.4 mm eye-level riser (1 inch)
(see photo below)
- DX.9887** 40 mm nosepiece and stage lowering attachment
(see photo below)
- DX.9960** 100 Watt 24 V halogen bulb (revision 1 models)
- DX.9961** 100 Watt 12 V halogen bulb for (revision 2 models)
- DX.9993** 3 Watt LED replacement
- AE.5214** 500 mA 250 V fuses for LED models, 10 pieces
- AE.5216** 5 A 250 V fuses for Halogen models, 10 pieces

DISPOSABLES

- PB.5155** Microscope slides 76 x 26 mm, ground edges, 50 pieces per pack
- PB.5157-W** Microscope slides 76 x 26 mm, ground edges and frosted side white color, 50 pieces per pack
- PB.5157-B** Microscope slides 76 x 26 mm, ground edges and frosted side blue color, 50 pieces per pack
- PB.5165** Cover glasses 18 x 18 mm, 0.13-0.17 mm, 100 pieces
- PB.5168** Cover glasses 22 x 22 mm, 0.13-0.17 mm, 100 pieces
- PB.5245** Lens cleaning paper, 100 sheets per pack
- PB.5255** Immersion oil, 25 ml. Refraction index n = 1.482
- PB.5274** Isopropyl alcohol 99%, 200 ml
- PB.5275** Cleaning kit: lens fluid, lint free lens tissue/paper, brush, air blower, cotton swabs

WD = Working distance

