**Features of AFC-230 / 210**

**Accurate Anterior Eye Observation before Photography**

The AFC-230 / 210 integrates the NAVIS-Lite with an AGC (automatic gain control) system in addition to the special optic system, CCD camera and high resolution monitor for anterior eye observation, offering accurate confirmation of the anterior eye status (epiphora, epibulbar opacity, papillitis, cataract, corneal disorder, etc.). This assures high-quality retinal photography.

**Flexible Field Angle**

The AFC-230 / 210 can provide detailed images of smaller field of view in high quality by utilizing full-frame 35 mm in 45º field of view.

**Unique Blink Control**

With the automatic blink detection, the AFC-230 / 210 automatically stops the photography when the patient blinks.

**Anterior Eye Photography Mode**

When the button for anterior eye photography is pressed, the AFC-230 / 210 automatically switches its mode and provides clear anterior eye photography.

**Smaller Pupil Photography Mode**

In addition to the regular minimum pupil diameter - Minimum 3.7 mm. When the patient’s Pupil Diameter is detected to be smaller than the required 4.0 mm, the AFC-230 / 210 automatically switches its mode to the smaller pupil diameter mode.

**Stereo Photography Mode**

Stereo photography is also possible.

**High-Speed Image Transfer to a PC**

Connections to a PC through USB 2.0 allows quick and easy transfer of the images. The data can also be saved in an outside electronic chart system through the NAVIS-Lite.

**Ergonomic Design for Easy Operation in Darkened Room**

Layout of the buttons, lever and dial is ergonomically designed to allow intuitive operation. These allow the operator to take a photograph easily even in a dark room.

**Compact Body**

All necessary functions are integrated into this compact body, offering greater portability.

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**AFC-230 / 210 Specifications**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Model AFC-230</th>
<th>Model AFC-210</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitor</td>
<td>5.7-inch TFT color LCD</td>
<td>5.7-inch TFT color LCD</td>
</tr>
<tr>
<td>Power consumption</td>
<td>Normal 150 VA, Max. 300 VA</td>
<td>Normal 150 VA, Max. 300 VA</td>
</tr>
<tr>
<td><strong>Optics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Picture angle</td>
<td>45º (in smaller pupil diameter mode: 37º)</td>
<td>45º (in smaller pupil diameter mode: 37º)</td>
</tr>
<tr>
<td><strong>Auto Tracking / Auto Shot</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical movement</td>
<td>62 mm (up and down, motorized)</td>
<td>62 mm (up and down, motorized)</td>
</tr>
<tr>
<td>Horizontal movement</td>
<td>85 mm (left and right)</td>
<td>85 mm (left and right)</td>
</tr>
<tr>
<td>Vertical movement</td>
<td>40 mm (back and forth)</td>
<td>40 mm (back and forth)</td>
</tr>
<tr>
<td>External fixation target</td>
<td>Free-arm (optional)</td>
<td>Free-arm (optional)</td>
</tr>
<tr>
<td>Internal fixation target</td>
<td>LED (70 points)</td>
<td>LED (70 points)</td>
</tr>
<tr>
<td><strong>Illumination adjustment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For photography</td>
<td>0.5 EV increments</td>
<td>0.5 EV increments</td>
</tr>
<tr>
<td>For observation</td>
<td>17 levels: F1 (F4.0 + 0.7 EV) to F17 (F22 + 0.5 EV)</td>
<td>17 levels: F1 (F4.0 + 0.7 EV) to F17 (F22 + 0.5 EV)</td>
</tr>
<tr>
<td><strong>Light source</strong></td>
<td>Xenon flash lamp (max. 300 Ws)</td>
<td>Xenon flash lamp (max. 300 Ws)</td>
</tr>
<tr>
<td><strong>Auto Dioptric Compensation</strong></td>
<td>+11 to +35 D (with plus dioptric lens)</td>
<td>+11 to +35 D (with plus dioptric lens)</td>
</tr>
<tr>
<td><strong>Picture Angle</strong></td>
<td>ø4.0 mm (in smaller pupil diameter mode: ø3.7 mm)</td>
<td>ø4.0 mm (in smaller pupil diameter mode: ø3.7 mm)</td>
</tr>
</tbody>
</table>

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**Connections**

- USB cable for digital camera
- Cable shone Tie wires
- Lens cover, Slide and paper, Paper for slide and paper
- Objective lens cap
- Camera mount cap
- Dust cover
- Pin for chin rest paper
- USB cable for fundus camera
- Camera mount cap
- USB cable for fundus depression target
- Free-arm (optional)
NIDEK delivers the innovative non-mydriatic digital fundus camera that integrates every function required for easy retinal screening. Customized built-in functions of the AFC-230 / 210 improve the quality and efficiency of medical examinations.

**High Quality Retinal Imaging**

Integrating the innovative imaging optical system, this technologically advanced AFC-230 / 210 realizes digital fundus imaging of high resolution and fine gradation. The fine gradation provides clear and detailed display of the entire fundus image from the light optic disc to a darkened disease area. With noise greatly reduced, the system offers retinal photography with minimum flash exposure allowing quick and efficient fundus photography of both eyes, thereby minimizing patient discomfort.

With advanced optical system with large sensor, the AFC-230 / 210 offers high quality image at true 45º field of view.

**Stress Free Photography Management**

The AFC-230 / 210’s advanced technologies reduce every day problems.

- High resolution Image Photography
- Always in focus
- Minimum retakes
- Patient Friendly
- User Friendly

**First in the world full automatic Non-Mydriatic Camera**

The AFC-230 / 210 is the first in the world full automatic Non-Mydriatic Camera with advanced auto-tracking, auto-focus and Auto Shot technology. Auto-tracking technology allows easy and accurate alignment to the anterior corneal center. Also, the auto focus system provides automatic switching from anterior to retina, realizing high performance focusing. Once you have retina in focus, Auto Shot function offers high quality imaging without manually shooting the retina.

**Key Features of NAVIS-Lite**

- Images that are automatically imported from the AFC-230 / 210 are sorted by patient name.
- Easy-care pathway protocols in place for displaying patient information.
- Sophisticated imaging functions are incorporated, including Image Processing, Drawing, Measurement, and Panoramic Imaging for large field analysis.

- **Zoom**: Images can be zoomed freely
- **Effects**: Sharp, Combination, Edge enhancement
- **Color control**: Gray scale, Contrast (RGB), Red-free, Channel split, Inverting Color
- **Brightens**: Contrast, Histogram, Gamma control, Intensity selection
- **Rotate**: Image can be rotated / reversed at any angle
- **Measurements**: C / D ratio, Disc HV, Cup HV, Two point distance, Selected area
- **Drawing**: Text / objects can be inserted into the image

**Sample Screens**

- High Performance Retinal Image Filing System - NAVIS-Lite

The AFC-230 / 210 system incorporates the sophisticated and user-friendly data filing software - NAVIS-Lite - allowing easy patient data management.

**Various System Configurations**

1. **Stand-Alone or Review Station capability**

   - Easy connection with a laptop or PC using USB 2.0 interface.
   - Quick and easy software installation to a laptop or PC using NAVIS-Lite installer.
   - NAVIS-Lite software is available in standalone or review-station capable edition.
   - OS requirement: Windows XP or later.

2. **Communication with Existing Modules**

   - DICOM connection can be achieved. Downloading work lists from the HIS Server is also possible.

   - **Infor Module**
     - Image file and XML file can be automatically / manually exported to a designated folder. XML files include information that links the patient data and image file, allowing data export to the NAVIS and other existing software modules.

3. **DECOM Connection (optional)**

   - DECOM connection can be achieved. Downloading work lists from the HIS Server is also possible.
Photography.

Anterior Eye Photography Mode

In addition to the regular non-mydriatic mode, the AFC-230 / 210 is also highly capable of detecting a smaller pupil diameter. When the patient’s Pupil Diameter is detected to be smaller than the required 4.0 mm, the AFC-230 / 210 automatically switches its mode to the smaller pupil diameter mode.

Smaller Pupil Photography Mode

When the pupil diameter is less than 4.0 mm, the AFC-230 / 210 automatically stops the photography when the patient’s eye blinks. This ensures high-quality retinal photography.

Flexible Field Angle

The AFC-230 / 210 can provide detailed images of the anterior eye field of view in high quality by utilizing full frame 35 mm in 45º field of view.

Unique Blink Control

When the automatic blink detection, the AFC-230 / 210 automatically stops the photography when the patient blinks.

Anterior Eye Photography Mode

When the button for anterior eye photography is pressed, the AFC-230 / 210 automatically switches its mode and provides clear anterior eye photography.

Features of AFC-230 / 210

- Accurate Anterior Eye Observation before Photography
- Flexible Field Angle
- Unique Blink Control
- Anterior Eye Photography Mode
- Compact Body
- Darkened Room
- Ergonomic Design for Easy Operation in Darkened Room
- High-Speed Image Transfer to a PC
- Stereo Photography Mode
- Conventional frame size camera adapter (factory option)
NIDEK delivers the innovative non-mydriatic digital fundus camera that integrates every function required for easy retinal screening. Customized built-in functions of the AFC-230 / 210 improve the quality and efficiency of medical examinations.

### High Quality Retinal Imaging

Integrating the innovative imaging optical system, this technologically advanced AFC-230 / 210 realizes digital fundus imaging of high resolution and fine gradation. The fine gradation provides clear and detailed display of the entire fundus image from the light optic disc to a darkened disease area. With noise greatly reduced, the system offers retinal photographs with minimum flash exposure allowing quick and efficient fundus photography of both eyes, thereby minimizing patient discomfort.

With advanced optical system with large sensor, the AFC-230 / 210 offers high-quality image at true 45º field of view.

### First in the world full automatic Non-Mydriatic Camera

The AFC-230 / 210 is the first in the world full automatic Non-Mydriatic Camera with advanced auto-tracking, auto-focal and Auto Shot technology. Auto-tracking technology allows easy and accurate alignment to the anterior corneal center. Also, the auto focus system provides automatic switching from anterior to retina, enabling high performance focusing. Once you have retina in focus, Auto Shot function offers high-quality imaging without manually shooting the retina.

### Stress Free Photography Management

The AFC-230 / 210’s advanced technologies reduce every day problems.

<table>
<thead>
<tr>
<th>Patient List</th>
<th>Retinal Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image Viewing</td>
<td>Image Filing</td>
</tr>
</tbody>
</table>

### Key Features of NAVIS-Lite

- Images that are automatically imported from the AFC-230 / 210 are sorted by patient name.
- Easy-care pathway protocols in place for displaying patient information.
- Sophisticated imaging functions are incorporated, including Image Processing, Drawing, Measurement, and Panoramic Imaging for large field analysis.
- Zoom : Images can be zoomed freely
  - Effects : Drop, Combination, Edge-enhancement
  - Color-control : Gray scale, Contrast (RGB), Red-free, Channel split, Inverting Color
  - Brightness, Contrast, Histogram, Gamma control, Intensity selection
  - Rotates : Image can be rotated / reversed at any angle
  - Measurement : C / D ratio, Disc HV, Cup HV, Two point distance, Selected area
  - Drawing : Text / objects can be inserted into the image
- Flexible print layout display for patient reports
- Data back-up function
- Easy Image report
- E-mail function allowing to send message text with image files
- The data can be transferred to a DICOM (Digital Imaging and Communications in Medicine) 3.0 compatible server (optional).

### Various System Configurations

1. **Stand-Alone or Review-Station capability**
   - Easy connection with a laptop or PC using USB 2.0 interface.
   - Quick and easy software installation to a laptop or PC using NAVIS-Lite installer.
   - NAVIS-Lite software is available in stand-alone or review-station capable edition.
   - OS requirement: Windows XP or later

Image files and XML files can be automatically / manually exported to a designated folder. XML files include information that links the patient data and image files, allowing data export to the NAVIS and other existing software modules.

DICOM connection can be achieved. Downloading work lists from the HIS Server is also possible.

### High-Performance Retinal Image Filing System - NAVIS-Lite

The AFC-230 / 210 system incorporates the sophisticated and user-friendly data filing software - NAVIS-Lite - allowing easy patient data management.

### Sample Screens
**Auto Fundus Camera**

**AFC-230 / 210**

**NIDEK delivers the innovative non-mydriatic digital fundus camera that integrates every function required for easy retinal screening. Customized built-in functions of the AFC-230 / 210 improve the quality and efficiency of medical examinations.**

**High Quality Retinal Imaging**

Integrating the innovative imaging optical system, this technologically advanced AFC-230 / 210 realizes digital fundus imaging of high resolution and fine gradation. The fine gradation provides clear and detailed display of the entire fundus image from the light optic disc to a darkened disease area. With noise greatly reduced, the system offers retinal photographs with minimum flash exposure allowing quick and efficient fundus photography of both eyes, thereby minimizing patient discomfort.

With advanced optical system with large sensor, the AFC-230 / 210 offers high-quality image of true 45º field of view.

**First in the world full automatic Non-Mydriatic Camera**

The AFC-230 / 210 is the first in the world full automatic Non-Mydriatic Camera with advanced auto-tracking, auto-focus and Auto Shot technology. Auto-tracking technology allows easy and accurate alignment to the anterior corneal center. Also, the auto-focus system provides automatic switching from anterior to retina, realizing high performance focusing. Once you have retina in focus, Auto Shot function offers high quality imaging without manually shooting the retina.

**Stress Free Photography Management**

The AFC-230 / 210’s advanced technologies reduce every day problems.

**High Performance Retinal Image Filing System - NAVIS-Lite**

The AFC-230 / 210 system incorporates the sophisticated and user-friendly data filing software - NAVIS-Lite - allowing easy patient data management.

**Key Features of NAVIS-Lite**

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- Easy-care pathway protocols in place for displaying patient information.
- Sophisticated imaging functions are incorporated, including Image Processing, Drawing, Measurement, and Panoramic Imaging for large field analysis.
- Images can be zoomed freely.
- Effects: Sharp, Combination, Edge enhancement
- Color control: Gray scale, Contrast (RGB), Red-free, Channel split, Inverting Color
- Brightness, Contrast, Histogram, Gamma control, Intensity selection
- Rotation / Reverse
- Measurement: C / D ratio, Disc HV, Cup HV, Two point distance, selected area
- Drawing: Text / objects can be inserted into the image
- Flexible print layout display for patient reports
- Data back-up function
- Easy Image report
- E-mail function allowing to send message text with image files
- The data can be transferred to a DICOM (Digital Imaging and Communications in Medicine) 3.0 compatible server (optional).

**Sample Screens**

**Various System Configurations**

**1 Stand-alone or Review-Station capability**

Easy connection with a laptop or PC using USB 2.0 interface. Quick and easy software installation to a laptop or PC using NAVIS-Lite installer. NAVIS-Lite software is available in stand-alone or review-station capable edition:

- OS requirement: Windows XP or later

**2 Communication with Existing Modules**

DICOM connection can be achieved. Downloading work lists from the HIS Server is also possible.

- DICOM connection (optional)

**3 DICOM Connection (optional)**

Image files and XML files can be automatically / manually exported to a designated folder. XML files include information that links the patient data and image file, allowing data export to the NAVIS and other existing software modules.

**Stress Free Photography Management**

- High resolution Image Photography
- Always in focus
- Minimum retakes
- Patient friendly
- User friendly

**First in the world full automatic Non-Mydriatic Camera**

- Optic disc (closeup)
Non-Mydriatic Auto Fundus Camera

AFC-230 / 210

Features of AFC-230 / 210

Accurate Anterior Eye Observation before Photography

The AFC-230 / 210 integrates the 5.7-inch TFT color LCD and a 5.7 MP digital camera in addition to the special optic system, CCD camera and high resolution monitor for anterior eye observation, affording accurate confirmation of the anterior eye status (hypermetropia, myopia, astigmatism, keratoconus, corneal disorder, etc.). This assures high-quality retinal photography.

Flexible Field Angle

The AFC-230 / 210 can provide detailed image of smaller field of view in high quality by utilizing full-frame 25 mm in 40° field of view.

Unique Blink Control

When the automatic blink detection, the AFC-230 / 210 automatically switches its mode to the smaller pupil-diameter mode.

Anterior Eye Photography Mode

When the button for anterior eye photography is pressed, the AFC-230 / 210 automatically sets to its mode and provides clear anterior eye photography.

Smaller Pupil Photography Mode

When the patient’s Pupil Diameter is determined to be smaller than the required 4.0 mm, the AFC-230 / 210 automatically switches its mode to the smaller pupil-diameter mode.

Accurate Anterior Eye Observation before Photography

When the button for anterior eye photography is pressed, the AFC-230 / 210 automatically switches its mode to the smaller pupil-diameter mode.

Compact Body

The AFC-230 / 210 integrates the 5.7-inch TFT LCD screen, offering greater portability.

High-Speed Image Transfer to a PC

Connection to a PC through USB 2.0 allows quick and easy transfer of the images. The data can also be saved in an outside electronic chart system.

Ergonomic Design for Easy Operation in Darkened Room

The layout of the buttons, lever and dial is ergonomically designed to allow intuitive operation. These allow the operator to take a photograph easily even in a dark room.

Specifications and design are subject to change without notice.

Caution: U.S. Federal law restricts this device to sale, distribution and use by or on the order of a physician or other licensed eye care practitioner.

Technical specifications are for guidance only and do not constitute part of an offer.

AFC-230 Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-mydriatic auto fundus camera</td>
<td>5.7-inch TFT color LCD</td>
</tr>
<tr>
<td>High-resolution digital SLR camera</td>
<td>17 levels: F1 (F4.0 + 0.7 EV) to F17 (F22 + 0.5 EV)</td>
</tr>
<tr>
<td>Xenon flash lamp (max. 300 Ws)</td>
<td>1.0 A, 12 V</td>
</tr>
<tr>
<td>Halogen lamp 12 V 50 W with infrared filter</td>
<td>200 W, 12 V</td>
</tr>
<tr>
<td>Infrared split bright target coincidence</td>
<td>0.5 EV increments</td>
</tr>
<tr>
<td>Auto shot</td>
<td>17 levels: F1 (F4.0 + 0.7 EV) to F17 (F22 + 0.5 EV)</td>
</tr>
<tr>
<td>Focusing method</td>
<td>0.5 EV increments</td>
</tr>
<tr>
<td>Dioptric compensation for patient’s eyes</td>
<td>17 levels: F1 (F4.0 + 0.7 EV) to F17 (F22 + 0.5 EV)</td>
</tr>
<tr>
<td>Minimum pupil diameter</td>
<td>ø4.0 mm</td>
</tr>
<tr>
<td>Working distance</td>
<td>45.7 mm</td>
</tr>
<tr>
<td>Picture angle</td>
<td>42° (in regular mode: ø3.7 mm)</td>
</tr>
<tr>
<td>Light source</td>
<td>Xenon (max. 300 Ws)</td>
</tr>
<tr>
<td>Focusing method</td>
<td>ø4.0 mm</td>
</tr>
<tr>
<td>Working distance</td>
<td>45.7 mm</td>
</tr>
<tr>
<td>Picture angle</td>
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