# *VDX 3543VW CsI*

**DR acquisition system with Flat Panel technology**

## Product Data

The *VDX 3543VW CsI imaging system* is an image acquisition system that can be integrated with general-purpose radiology systems. Designed to improve the general X-ray diagnostic room workflow, it provides high quality images and long-term reliability. The acquisition system uses the Varex LUMEN 4336W-G5 CsI PREMIUM flat panel detector, which provides outstanding image sharpness and detail.
The system includes:

- Amorphous Silicon LUMEN 4336W G5 CsI with Cesium Iodide scintillator detector to convert X-ray photons into a digital image (one or two detectors according to the system configuration).
- Integrated Operator Console providing full control of exposure parameters and techniques (with G100C and G100 NL generators only), image acquisition, processing, post processing and DICOM functions.

The VDX 3543VW CsI is equipped with a Hot-Swappable Battery: when a discharged battery is removed from the X-ray detector, the User will have approximately 3 minutes of operation for the battery hot-swap to occur without any disconnection from the wireless access point.
VDX 3543VW CsI represents also a retrofit kit solution allowing the digitalization of existing general radiology systems in a very short time, following the check of the technical features of the equipment.

### Digital Detector – Varex LUMEN 4336W-G5 CsI PREMIUM

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| Type | Wireless Flat Panel Detector |
| X-ray conversion layer | Cesium Iodide (CsI) with amorphous Silicon (a-Si) photodiode |
| Image matrix size | 2476 (H) x 3072 (V) pixel (344mm X 427mm) |
| Active area | 2436 (H) x 3032 (V) pixel (338mm X 421mm) |
| Resolution | 3.6 lp/mm typical |
| MTF, typical values (RQA5) | 83% @ 0,5 lp/mm<br>62% @ 1 lp/mm<br>45% @ 1,5 lp/mm<br>32% @ 2 lp/mm<br>23% @ 2,5 lp/mm<br>17% @ 3 lp/mm<br>13% @ 3,5 lp/mm<br>11% @ 3,6 lp/mm |

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| DQE, typical values (RQA5) | 73% @ 0 lp/mm<br>66% @ 0,5 lp/mm<br>58% @ 1 lp/mm<br>53% @ 1,5 lp/mm<br>49% @ 2 lp/mm<br>42% @ 2,5 lp/mm<br>34% @ 3 lp/mm<br>22% @ 3,5 lp/mm<br>19% @ 3,6 lp/mm |
| A/D converter (image depth) | 16 bit (65.536 grayscale) |
| Pixel size | 139 µm |
| Energy range | Da 40 a 150 kVp |
| Acquisition window | 1 Sec.<br>Tomography and Dual Energy functions are not supported. |
| Dimensions | 383,5 x 459,5 x 15 mm (W x D x H) |
| Weight without battery | 2.85 kg |
| Maximum load applicable on the detector | - Maximum load weight of 300 kg distributed around the overall surface of the detector<br>- Maximum load weight of 150 kg distributed on an area of 40 mm in diameter of the detector surface |
| Wireless connection | Ethernet & IEEE 802.11 a/g/n/ac |
| Ingress protection rating | IP68 |

## Rechargeable Li-ion battery

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| Number of batteries | 2 batteries included |
| Nominal voltage | 15,4 V |
| Nominal capacity | 3430 mAh |
| Dimensions | 212,3 x 152,3 x 6,7 (W x D x H) |
| Weight | 338 g |
| Autonomy | 5 h in normal mode, 12 h in sleep mode |
| Charging time | 2,5 h in normal mode<br>3,5 h with totally discharged battery |

## Battery charger

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| *Single bay battery charger (standard)* | |
| Number of slot | 1 slot for battery charging |
| Dimensions (W x D x H) | 240 x 180 x 25 mm |
| Weight | 300 g |
| Input | 19 V DC, 2,1 A |
| Output | 16,8 V DC, 1,4 A |
| *Triple bay battery charger (optional)* | |
| Number of slot | 3 slot for battery charging |
| Dimensions (W x D x H) | 259.9 x 341.7 x 57.5 mm |
| Weight | 1.3 kg |

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| Input | 19 V DC, 4,5 A |
| Output | 16,8 V DC, 1,4 A |

## Digital Radiography Operator Console

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| *The operator console provides a fully integrated front-end for every step of the examination procedure, including network connectivity for patient selection, exam configuration, anatomical programming, setting of exposure parameters, image acquisition, QA and post processing of acquired images, downstream network DICOM store and print connectivity.*<br>*VDX 3543VW CsI can support X-ray generator exposure factors communication and post exposure data read-out in configuration with Villa's equipment and generators.* | |
| CPU | Intel® Core™ i7 |
| RAM | 8 GB DDR5 |
| Graphic card | Integrated graphics with (2x) DP output |
| Storage | 256GB PCIe NVMe Class 35 M.2 SSD (boot)<br>2TB 7200rpm SATA 3.5" HDD (local storage)<br>Image storage capacity: > 69.000 images at full resolution |
| Operating system | Windows 10 Pro (64 bit) |
| Image size | Up to 15 MB depending on the exam type, without any compression |
| Patient data input | Keyboard, HIS/RIS connection |
| Image preview time | 1.5 s |
| Final image time | ≤ 6 s with at least 75% Wi-Fi signal |
| Cycle time | The system is ready to acquire after the display of the previous image |
| Connectable sensors | Up to 2 digital detectors with automatic selection according to the selected procedure |
| Exam preparation and image acquisition features | The console has been designed to maximize the examination workflow by providing an intuitive graphical user interface with fully integrated provisions for:<br>- Automatic data input from RIS/HIS via DICOM Modality Worklist query*<br>- Manual input of patient data, emergency patient registration<br>- Automatic selection of exam procedure based on Worklist*<br>- Programmable X-ray technique factors for each exam, including APR program** and AEC settings**with manual override capability<br>- "Exam coach": step-by-step graphic exam setup with programmable automated workflow and thumbnail icons based on the atlas of radiographic positions<br>- Pre-exposure display of patient and procedure information, X-ray generator exposure factors**, status and control functions integrated in a single display screen<br>- Post-exposure display of actual exposure parameters** and acquired thumbnail images<br>- Dose per area product reading is displayed on the workstation monitor and is automatically burned in the DICOM header (if the generator is connected to a DAP camera) **<br>* these functions are subject to availability and compatibility of exam |

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| | data on the RIS/HIS network<br>** only with the compatible generators |
| Image processing features | The following post-processing features can be applied to the acquired images:<br>- Insertion of markers and comments (predefined or free text) on the image<br>- Pan and zoom<br>- Full size image display<br>- 90° image rotation clockwise or anti-clockwise<br>- Horizontal and vertical flip of the image<br>- Automatic image cropping to collimated area<br>- Manual image cropping<br>- Image rotation through a user-selected angle<br>- Insertion of a mask to display only a part of the image<br>- Image greyscale inversion<br>- Restore to initial image<br>- Acceptance or rejection of the image<br>- Display of the grey level histogram, with manual adjustment of the curve, contrast and brightness values<br>- Application of grid suppression algorithm<br>- Choice between two different image processing algorithms: LUT or Symphony. LUT algorithm controls the minimum and maximum densities used in the printed or displayed image, with the possibility to customize the default settings for each procedure when the system is installed. Symphony applies an advanced image processing according to the examined anatomy, with customization of processing parameters (grey level amplification, grey level equalization, detail enhancement, noise reduction), enhancing the visualization of low contrast structures such as tissue and vessels, while maintaining and enhancing the visibility of high contrast structures such as bones.<br>- Mosaic display up to 16 images<br>- Measurement of distances, angles, rectangular and elliptical areas |
| Rejected images management | "Statistic" window dedicated to search and display of exams with rejected images |
| Image hardcopy | The Print Layout Editor allows to:<br>- Select different printing formats<br>- Print up to 16 images on one film, according to printer capability (multiple image printing)<br>- Print zoomed images<br>- Print patient and examination data within the acquired images (customizable during the installation phase) |
| Connectivity | System can be connected to DICOM-compatible devices through Ethernet port. Capable of sending images to multiple destinations at the same time. |

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| Supported DICOM Classes | - Print (SCU)<br>- Storage (SCU)<br>- Storage Commitment (SCU)<br>- Modality Worklist (SCU)<br>- MPPS (SCU)<br>- Dose SR (SCU)<br>- Query/Retrieve (SCU) (to be enabled during the installation) |
| Media device | The workstation is equipped with a CD/DVD burner to export acquired images in DICOM format or in other formats (jpg, bmp, tiff). |
| DICOM output | 12 bits (4096 grey levels) |
| Remote access | Remote access capability for troubleshooting |
| Data safety and privacy | The system is equipped with multiple-level password protected access to preserve the patient's data integrity and privacy |

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| *Note* | *All the above mentioned features are subject to verification of hardware and software compatibility of the devices to be connected.* |

## DROC cabinet (holds computer, synchronizer, UPS and electrical material)

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| Height | 500 mm |
| Depth | 450 mm |
| Width | 420 mm |
| Weight | 21 kg |

## DROC cabinet electrical features

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| Standard voltage | 220 -240 Vac, 50/60 Hz |
| UPS | 900 VA (max absorbed power by VDX workstation) |

(Armadietto DROC)

## Environmental conditions

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| Operating conditions | Temperature:<br>Relative humidity:<br>Pressure: | from +10° to +35°C (from 50° to 95° F)<br>from 10% to 80% non-condensing<br>from 70 to 106 kPa |
| Conditions for transport and storage | Temperature:<br>Relative humidity:<br>Pressure: | from -10° to +55°C (from 14° to 131° F)<br>from 10% to 90%, non-condensing<br>from 70 to 106 kPa |

## Standards and regulations

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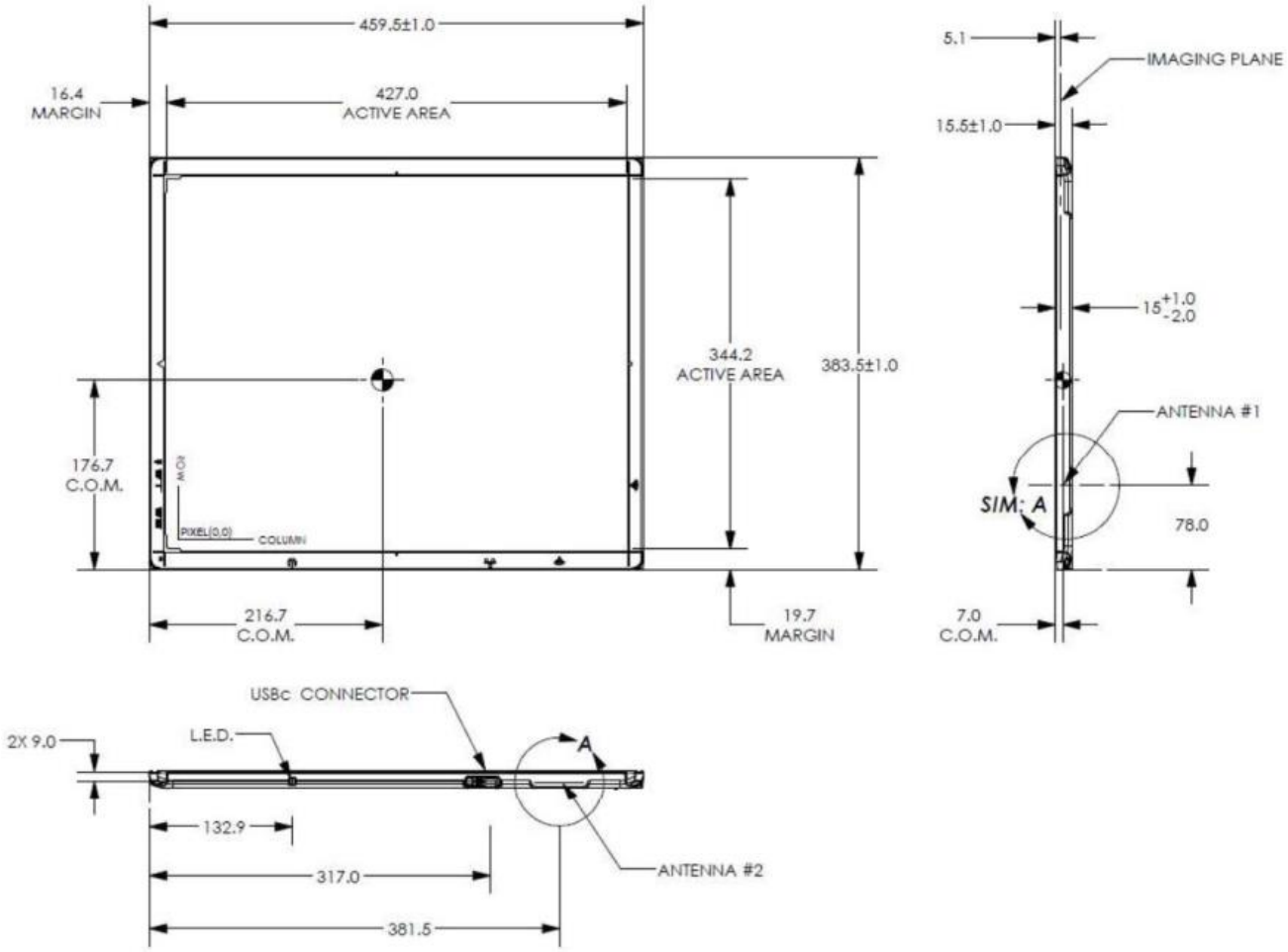
| CE | CE symbol marked on a component grants that the component itself is compliant with the European Directive 93/42/EEC and its revised versions or with the Regulation (EU) 2017/745 for Medical Devices |
| VDX 3543VW CsI is a system according to article 22 of the Regulation (EU) 2017/745 for Medical Devices | |

Digitally signed by Morozov Maria
Date: 2023.08.16 16:58:48 EEST
Reason: MoldSign Signature
Location: Moldova

## Digital Detector dimensions (all quotes in mm)




Note: Products are continuously under review in the light of technical advancement. The actual specification may therefore be subject to improvement or modification without notice.

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