

INVITATION TO BID

BID NUMBER: 22-005SB



INVITATION TO BID TITLE:

X-ray Imaging Solution, Forensic

**Must be received and time stamped in the
Purchasing Division Office
not later than 11:00 a.m., Local Time**

DUE DATE: **4/12/2022**

**SEALED Bid responses are hereby solicited
and will only be received at:**

Snohomish County Purchasing Division
Robert J. Drewel Bldg., 6th Floor
3000 Rockefeller Avenue
Everett, WA 98201

Please refer to Section 1.1 for submittal information

Office Hours: 8:00 a.m. – 4:30 p.m.
Monday - Friday

BIDDERS SHALL COMPLETE AND SIGN THE FORM BELOW

We acknowledge that all Addenda (1 through 1.0) have been examined as part of the Contract documents. The submittal is signed, in ink, by an authorized representative of the Bidder accepting all terms and conditions contained in the bid and any addenda. We acknowledge that attaching our terms and conditions or modifying the Bid terms and conditions may result in our bid being rejected.

Company Name: Lodox NA, LLC <i>c/o ADAM HARRIS</i>	
Address: 143 Burton Street	
City/State/Zip Code: Painesville Ohio, 44077	
Original Signature: <i>[Signature]</i>	Authorized Representative / Title (Please Print Name and Title): Adam Harris, Sales Manager for North America
E-mail: Adam.harris@lodox.com	Phone: 440-210-3030
	1-866-615-6369 x101

Please complete the following information:

Is your firm a:

Women Business Enterprise (WBE)? Yes Small Business Enterprise (SBE)? Yes
Minority Business Enterprise (MBE)? Yes Veteran Owned Business (VOB)? Yes
Disadvantaged Business Enterprise (DBE)? Yes Other Certification: _____? Yes

Do you have a certification number? Yes

If yes, please provide certification number and state or entity who issued the number below:

Certification No.: N/A State or Entity Issued: N/A

SECTION 1 Bid Response and Submittal

1.1 Bid Submittal Information

- A. An **original copy** of Section 1 Bid Response and Submittal is to be completed, signed in ink by an authorized representative of Bidder's company.
- B. Bids must be submitted in a sealed envelope. Bidders are encouraged to use the Bid Opening Label included in this document. Electronic submittals are not acceptable.
- C. Commercial carriers such as Federal Express and United Parcel Services as well as the United States Postal Service will continue to deliver items to County buildings.
- D. If you plan to deliver your bid submittal in-person, you may call 425-388-3344 or a Purchasing staff member will be available to receive bids 20 minutes prior to the bid due date and time at the entrance of the following building:

The Administration West Building (sliding doors directly across from the parking garage elevators, next to ATM machine) located at 3000 Rockefeller Avenue in Everett.

All costs of preparing and submitting the bid response, submittal, and providing specification information or samples shall be borne by the bidder.

Bid Openings-Tuesdays at 11am

Bids are opened by County staff and may be viewed via Teams online meetings. Bidders may attend bid openings on the 6th floor of the Robert J Drewel Building. Bidders may also call in and listen to the bid opening at the number below.

The phone number for bid openings is: 1-425-262-2000, 164 609 418#

Click on the hyperlink for the Bid Opening Meetings: [Click here to join the meeting](#)

Please call the Purchasing Division at 425-388-3344 if you experience technical issues. If possible, please call prior to the start of the bid opening.

1.2 Important Dates

Bid is advertised: 3/30/2022

Questions due: 4/4/2022, 3:00 p.m. Pacific Local Time

Bid due date: 4/12/2022, 11:00 a.m. Pacific Local Time

1.3 Questions and Interpretation of the Bid

No oral interpretations of the Bid will be made to any Bidder. All questions shall be submitted in writing by email to purchasing@snoco.org. All answers and clarifications will be posted and available to all potential bidders via written addenda.

1.4 Payment Method

The County may make payments for purchases under this contract using the County's VISA purchasing card (PCARD).

Are you willing to accept PCARD payments without any fees or surcharges?

Yes No

If no, do you accept PCARD payments and charge a fee?

Yes No If yes, please state the fee charged for PCARD payments:

The cost of the fee for PCARD payments may be included in the bid price for evaluation purposes.

1.5 Prompt Pay Discount

Prompt payment discounts offered by the Bidder shall be used to calculate the low bid provided the discount offered allows a minimum of 20 days for payment.

The number of days is calculated from the date of acceptance of goods or services or from the date a complete invoice is date stamped as received by Snohomish County, whichever event occurs last, and the check/warrant date.

Prompt pay discount offered n/a % - _____ Days, Net _____

If no discount is offered, the County's standard payment terms are Net 30 days.

1.6 Delivery

Refer to Section 2: Specifications for delivery specifications.

1.7 Pricing

Refer to Section 2: Specifications for equipment specifications.

Item #	Est. Qty	Description	Unit Price	Ext. Price
1	1	X-ray Imaging System, Forensic, Full Body, Digital, Lodox System for Rapid Assessment Forensic Pathology or equal	\$ 498,000	\$ 498,000
2	1	Camera, second spare for backup, shall be same manufacturer and model as included in above system	\$ N/A	\$ N/A
3	1	All products and services to provide a turnkey operational X-ray solution. Refer to Section 2.3	\$ 12,000	\$ 12,000
4	12 mos.	Service, Post-warranty including local & virtual technician response within 12 -72 hours, annual preventative maintenance. Refer to Section 2.4	\$ 24,000 Yr	\$ 24,000 yr After 1yr warranty
			Sub-total	\$ 510,000
			WSST 9.8 %	\$ 49,980
			TOTAL	\$ 559,980

1.8 Bid Term

The initial bid term will be two (2) years. Pricing will remain firm fixed for the initial bid term. The post-warranty service portion of this bid will have an initial five (5) year term. The County may extend the service period in two (2) to four (4) year terms for the life of the County's usage of the equipment specified herein.

1.9 Method of Award

This bid will be awarded to the lowest, responsible bidder.

1.10 Related Items

Any award resulting from this Bid may be expanded to cover related items provided that such products are normally furnished by the Supplier. Supplier shall agree to provide related products using the same pricing structure as the items covered by this Bid in Section 1.7 Pricing (percent discount used to calculate the unit price shall be used to calculate the unit prices of related items added to the contract).

Percent discount offered for equipment in Section 1.7 Pricing: _____ %

1.11 Brand Name or Equal

When products of a specific brand(s), material(s), construction, design, style, or size are named, they indicate the quality level or performance required for the products(s) in the invitation to bid.

"Equal" products may be considered providing they meet the same form, fit, function and quality of the original product(s) specified. If an alternate product is proposed, the bidder shall provide sufficient information with the bid to allow the County to determine that the alternate product is equivalent to the product specified. Any samples requested shall be provided to Snohomish County at no charge. The County retains the sole right to accept or reject "Equal" products that are bid.

1.12 References

List the names and addresses of two (2) customers, for whom the bidder has performed or provided similar goods and/or services, preferably in Washington State, for a period not less than one (1) year. Include dates, contact persons, and telephone numbers. Should any reference submitted by a bidder be found unsatisfactory, Snohomish County, at its sole option, may reject that bidder's bid. Snohomish County shall be the sole judge in determining a satisfactory/unsatisfactory reference response. **References must be submitted with bid.**

Company Name:	Pierce County Medical Examiner's Office	Company Name:	Spokane County Medical Examiner
Company Address:	3619 Pacific Ave, Tacoma, WA 98418	Company Address:	102 S Spokane St, Spokane, WA 99202
Company Phone:	+12537986494	Company Phone:	+15094772296
Contact Person:	Dr. Karen Cline or Amber Larkin	Contact Person:	Fernando Calderon
Contact Email:	<a href="mailto:karen.cline@piercecoun<sup>ty</sup>.wa.gov">karen.cline@piercecoun^{ty}.wa.gov	Contact Email:	<a href="mailto:fcalderon@spokanecoun<sup>ty</sup>.org">fcalderon@spokanecoun^{ty}.org

amber.larkins@piercecoun
tywa.gov

Dates: April 2012 to Present

Dates: June 2020 to Present

1.13 Other Public Agency Orders

The Washington State Interlocal Cooperative Act RCW 39.34 provides that other government agencies may purchase goods or services on this solicitation or contract in accordance with the terms and prices indicated therein if all parties agree. The County does not accept any responsibility or involvement in the purchase orders or contracts issued by other public agencies.

1.14 Obtaining Bid Documents

Any potential bidder should register and obtain a complete, original copy of these bid documents directly from Snohomish County Purchasing or from the Official Snohomish Purchasing Portal website <https://snoco.procurement.com/home>

If you did not receive this bid directly from Purchasing or download it from the County's Portal website, you may not be notified of addenda and other important bid information.

1.15 Snohomish County Terms and Conditions

The Snohomish County General Bid Terms and Conditions located at www.snohomishcountywa.gov/2896/Forms are hereby made a part of this Bid by this reference.

1.16 Conflict of Interest Disclosure

List all business transactions and relations within the past five years that may create or be perceived to create a conflict of interest.

N/A

SECTION 2 Specifications

It is the intent of these specifications to describe the minimum acceptable performance standards for obtaining a new forensic-specific x-ray system: eXero-DR Critical Imaging System, Full Body X-ray System for Rapid Assessment Forensic Pathology or equal.

The following describes the County's minimum specifications for equipment functionality, durability, serviceability, usability, and economics.

Bidders are required to enter a response for each Item in the "Response" column whether the product offered fully meets the specifications. If all specifications in the question are met, the Bidder shall respond with a "Yes". If some or none of the specifications are met by the product offered,

the Bidder shall respond with a “No”. Bidders may provide additional information on any “No” response. Additional information may be added in that column or in an attached document. Items offered which deviate from these requirements will be evaluated by the County for responsiveness on an individual basis. It is the Bidder’s responsibility to ensure sufficient information is provided in the bid when proposing “equal” equipment to allow the County to understand the item proposed.

2.1 Equipment Specifications:

	<u>Equipment Specifications</u>	<u>Response</u>
	In the Response column spaces below, indicate whether the product offered: Fully meets the specifications, response shall be <u>Yes</u> Does not fully meet the specifications, response shall be <u>No</u>	Acceptable Responses: Yes or No or specific information requested
1	System is UL Listed.	Yes
2	System is CE Registered.	Yes
3	System is ISO 13485 conforming including design, manufacturing, and service (Medical Device Quality Management System).	Yes
4	System is FDA cleared/certified in full compliance for Section 21CFR 1020.30 (Diagnostic X-Ray Systems and their Major Components).	Yes
5	Provide power requirements for system proposed	See Attached Electrical Cut Sheet (Pg 7 of proposal)
6	System and its electrical wiring produce low harmonics and high-quality operations.	Yes
7	System provides continuous seamless digital radiograph of large areas including whole body.	Yes
8	System can perform full body area (AP/ anatomical position) digital radiographic images in a single, sweep.	Yes
8a	Provide time to perform single sweep of proposed system:	13 seconds
9	System full body scanning area is a minimum nominal 26.8 inches in width by nominal 70.9 inches in length.	Yes
9a	Provide the full body scanning area of proposed system:	26.8” width 70.9” length

10	System provides anatomical programming with selection of forensic specific X-ray techniques (i.e., fetus, anthropology, soft tissue/organs, decomposed).	Yes
11	Provide the time the proposed system takes to reconstruct the image after acquisition.	<30 seconds
12	X-ray machine will be a C-arm structure capable of rotating 0 to 90 degrees @ 1-degree increments around the body to produce AP Oblique and Lateral images without moving the body on the table.	Yes
13	System includes a mobile radiolucent table capable of transporting body throughout the facility; and for dual exam table use.	Yes
14	Table's height adjustment includes angulation capabilities up to +/- 10 degrees.	Yes
15	System table docks to the X-ray machine for image acquisition.	Yes
16	Table supports a UL certified rating of body weight of at least 650 pounds in weight Provide the UL certified rating for body weight:	Yes 661.387 lbs.
17	The detector provides nominally 12 X 1024 or 12,288 pixels wide and provides a fundamental pixel size of 60 um.	Yes
17a	Provide the actual resolution size:	Maximum Theoretical Resolution with no binning + 60um is 8.1 lp (Line Pairs per millimeter)
18	The system has the capability of binning from nominal 1X1 up to nominal 8X8 bins. Each pixel has nominal 14 bits of data.	Yes
18a	Provide the actual binning/resolution:	Binning options of 1x1, 2x2, 3x3, and 8x8 are selectable
19	The image acquisition size adjusts from the size of a pediatric hand up to a full body.	Yes
20	System has a nominal rating of 64Kw, high frequency and capable of producing 4,000 mAs (Milliamper-Seconds) exposure. A 400mA and 145 kVP exposure shall be achievable.	Yes
20a	Provide the actual rating/exposure:	Sedecal 64Kw Generator and Varian Tube capable of 4,000 mAs and max of 145kVP and 400mA is selectable

21	Proposed equipment must fit functionally and ergonomically within the current radiology room without space modifications. Layout of office/delivery path and x-ray room provided in Section 3.5.	Yes,
21a	Respondent has reviewed drawing and confirms proposed equipment will fit without modifications.	Note 2 nd route option provided (through garage and cooler) is only viable transport option.
21b	If no, to 21a, list any perceived or typical modifications that may be necessary.	

2.2 Technical Specifications:

22 22a	System includes bundle with addressable and searchable viewer software to provide DICOM (Digital Imaging and Communications in Medicine) files for the records management and transmission of medical images and related forensic data. <i>This cost shall be included in turnkey price</i> Provide a list of software included in the system bundle including major features. <i>(Additional information may be attached)</i>	Diagnostic Viewing Software (DVS) with Database and Archiving capability of DICOM images See attached Full Quotation
23	The system includes image archival software that is capable of sending and retrieving images in DICOM 3.0 format; and recording images on CDs, DVDs and flash drives in DICOM and JPEG formats	Yes
24 24a	System has minimal scatter and be safe for use in a radiology suite. Provide the minimum shielding requirements:	Yes Recommend Operators protection of 1/16 th inch lead equivalent and 0-1/32 nd inch lead equivalent for room (dependent upon wall material makeup, 1/32 nd or NO additional shielding may be required)
25 25a	System includes a high performance, medical grade closed-circuit camera including installation and setup, for equipment operation and table visualization from adjacent room. Provide manufacturer and model of proposed camera	Yes Anran type 1080p multiple channel Security Camera System with LCD display (or similar).

26	System bundled with VPN access via Supplier licensed TeamViewer program or equivalent VPN solution. <i>This cost shall be included in turnkey price</i> If proposing an equivalent VPN solution, please provide information on the proposed solution: <i>(Additional information may be attached)</i>	Yes TeamViewer Version 15 or greater
27	System capable of integrating with County provided software. Please also indicate if proposer has completed an integration to this software:	<u>Capable</u> <u>Completed</u>
27a	Opal-RAD	Yes Yes
27b	Image Pilot	Yes Yes
27c	Pax-it Image	Yes Yes
28	Bidder proposed system software shall be FDA 21 CFR Part 11 compliant for the administration of electronic documents, signatures, and other security access features.	Yes
29	Archive software to create a user-friendly database for the electronic organization of x-rays including filing, searching, browsing, etc.	DVS Database integrated with DICOM 3.0 compatibility.
29a	Provide a list of additional archive software that the system can integrate with and that the proposer has actual experience completing an integration. <i>(Additional information may be attached)</i>	Any and All Dicom 3.0 Compliant PACS systems are supported.
30	Successful bidder shall work with County staff to integrate/interface add-on system software as necessary for County security and operation enhancements. <i>This cost shall be included in turnkey price</i>	Yes
31	System works with Microsoft software including Defender, SCCM, Edge, and Windows 10 64-bit.	Yes
32	System information capable running both automatic and manual backup.	Yes
33	Bidder shall disclose any known information regarding security, cyber-attack and/or ransomware issues with the x-ray system and software.	None to Date
34	Bidder shall submit specifications regarding all system provided software including user instructions, integrations, and installation/interface diagrams.	See attached Full Quotation and system Spec Sheet.

2.3 Turnkey (including delivery & setup) Specifications:

35	Delivery Lead Time: Delivery is requested no later than 6 months after receipt of order.	6 months
35a	If bidder cannot meet the requested delivery, please propose an alternate delivery schedule: The County may, at its sole discretion, accept or reject a proposed deviation in delivery schedule.	6 months N/A
35a	Indicate if there are expedite options available. If so, please define the time savings and costs.	N/A
36	Bid prices shall include FOB destination to the following location including all delivery, install, configuration, and training items required to provide a turnkey operational x-ray system. <i>Snohomish County Medical Examiner's Office 9509 29th Avenue W Everett, WA 98204</i>	Provide list of all components required for turnkey service See attached Full Quote
37	The County will be responsible for system hardwire electrical connections if applicable.	No response required
38	Unloading at Medical Examiner's Office (ME): There is no loading dock at the ME facility. The successful bidder (supplier) shall provide and use a liftgate truck, forklift, pallet jack, or other unloading equipment as required for unloading.	No response required
39	Supplier shall provide at least one week notice to schedule installation. Advance scheduling is required to ensure personnel and area are available.	No response required
40	Supplier to estimate the number of days to complete the installation and configure the equipment.	7-10 Business Days
40a	Will installation and configuration be started available after delivery?	Yes
41	Estimate total down time for delivery, install, configuration, and training.	10-15 Business days from Delivery to Final Training completion.
42	The County is responsible for removing the existing x-ray equipment.	No response required.

<p>43</p>	<p><u>Standard Doorway Access to Installation Area:</u> Equipment and associated packaging must fit through standard doorway openings at 34" wide.</p> <p>Supplier will knockdown/un-palletize components if necessary to fit.</p> <p>The County will not remove doors or modify doorway openings for large pallet/box access</p> <p><u>Packaging & shipment:</u> Equipment shall be packaged appropriately to prevent shipping damage. Supplier will replace any broken, damaged, or missing items immediately.</p> <p><u>Onsite Installation Personnel:</u> Onsite supplier's personnel will be required to sign confidentially forms</p> <p>County staff will provide installation escort services.</p> <p>Supplier shall maintain a safe, clean, and secure worksite and protect the County's property and finishes during the work. There shall be no unauthorized access to the building or use of system.</p> <p><u>Packaging removal.</u> Supplier will be responsible for removing and recycling or disposing of all packaging materials.</p>	<p>No response required.</p>
<p>44</p>	<p>List all components, products, and services to provide a fully turnkey operatable system. <i>(Additional information may be attached)</i></p>	<p>See Attached full Quote and Specification sheets, - Primary included elements as follows-</p> <p>1-Lodox eXero-DR ASP(system body)</p> <p>1-eXero-dr imaging trolley</p> <p>1-x-ray generator</p> <p>1-Control Console w/ monitor</p> <p>1-3mhu X-ray tube</p>
<p>45</p>	<p>System acceptance when system is fully operational</p>	<p>No response required</p>

2.4 Ongoing Maintenance Specifications:

<p>46</p> <p>46a</p> <p>46b</p> <p>46c</p>	<p>System is critical to the operations of the Medical Examiner's Office. System is projected to be operational 40 hours per week. Provide the expected/normal uptime for the system proposed.</p> <p>Provide the estimated/normal downtime each year for:</p> <p>maintenance</p> <p>updates</p> <p>repairs</p>	<p>Greater than 98%</p> <p>1 Preventative Maintenance day per yr. (includes Updates)</p> <p>2-4 Days Est. down per year system average (repair)</p>
<p>47a</p> <p>47b</p> <p>47c</p> <p>47d</p>	<p>Provide the guaranteed response time:</p> <p>Emergency response on site</p> <p>Emergency response virtual</p> <p>Regular response on site</p> <p>Regular response virtual</p>	<p>48-72 Hours (Except Sundays and Major Holidays)</p> <p>12 Hours (Except Sundays and Maj. Holidays)</p> <p>5-7 Bus. days for noncritical repair</p> <p>1-2 Bus Days for noncritical repair</p>
<p>48</p>	<p>Successful bidder shall provide one (1) on-site preventive maintenance and inspection service during the warranty period in addition to as-needed repairs, maintenance, and replacement work in a timely manner.</p>	<p>Yes</p>
<p>49</p>	<p>Bidder to provide details on warranty offered</p> <p><i>(Additional information may be attached)</i></p>	<p>See Attached Warranty Statement</p>

2.5 Training Specifications:

The successful Bidder shall provide operational and service/repair/troubleshooting training at Snohomish County's Medical Examiner's facility. After system commissioning and customer acceptance, supplier shall provide in-person, onsite training to designated County employees comprising equipment, software, troubleshooting and other associated operations.

Onsite training above shall be led by a certified factory trained applications specialist with an accomplished level of experience in the medico-legal autopsy profession.

Supplier will meet with County pathologists and other key stakeholders before & after installation to provide information on standard/best procedures for utilizing/ integrating new x-ray system including workflow, procedures, and protocols. Advance information sharing may be electronic, in-person, teams, etc.

Training above will be held within 1 week of final install including 3 consecutive days and up to 25 participants.

SECTION 3 Special Terms & Conditions

3.1 Bidder Qualifications

To be eligible for award, Bidder shall be an authorized distributor, dealer or manufacturer of the products offered, shall have prior experience in providing the goods offered, and shall possess all permits, licenses, certifications, approvals, equipment, materials, and staff necessary to perform and/or carry out the requirements of this Invitation to Bid.

All products shall be intended for sale in the United States of America.

3.2 Insurance Requirements

Insurance Requirements. The Supplier shall procure prior to delivery of equipment, and maintain for the duration, (i) insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the services hereunder by the Supplier, its agents, representatives, or employees, and (ii) a current certificate of insurance and additional insured endorsement when applicable.

a. General. Each insurance policy shall be written on an "occurrence" form, except that Professional Liability, Errors and Omissions coverage, if applicable, may be written on a claims made basis. If coverage is approved and purchased on a "claims made" basis, the Supplier warrants continuation of coverage, either through policy renewals or the purchase of an extended discovery period, if such extended coverage is available, for not less than three (3) years from the date of completion of the work which is the subject of this Bid.

By requiring the minimum insurance coverage set forth in this Section 12, the County shall not be deemed or construed to have assessed the risks that may be applicable to the Supplier under this Bid. The Supplier shall assess its own risks and, if it deems appropriate and/or prudent, maintain greater limits and/or broader coverage.

b. No Limitation on Liability. The Supplier's maintenance of insurance as required by this Bid shall not be construed to limit the liability of the Supplier to the coverage provided by such insurance, or otherwise limit the County's recourse to any remedy available at law or in equity.

c. Minimum Scope and Limits of Insurance. The Supplier shall maintain coverage at least as broad as, and with limits no less than:

(i) General Liability: \$2,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage, and for those policies with aggregate limits, a \$3,000,000 aggregate limit. CG 00 01 current edition, including Products and Completed Operations;

(ii) Workers' Compensation: To meet applicable statutory requirements for workers' compensation coverage of the state or states of residency of the workers providing services under this Bid;

(iii) Employers' Liability or "Stop Gap" coverage: \$2,000,000

(iv) Professional Liability: \$1,000,000

d. Other Insurance Provisions and Requirements. The insurance coverages required in this Bid for all liability policies except workers' compensation and Professional Liability, if applicable, must contain, or must be endorsed to contain, the following provisions:

(i) The County, its officers, officials, employees, and agents are to be covered as additional insureds as respects liability arising out of activities performed by or on behalf of the Supplier in connection with this Bid. Such coverage shall be primary and non-contributory insurance as respects the County, its officers, officials, employees, and agents. Additional Insured Endorsement shall be included with the certificate of insurance, "CG 2026 07/04" or its equivalent is required.

(ii) The Supplier's insurance coverage shall apply separately to each insured against whom a claim is made and/or lawsuit is brought, except with respect to the limits of the insurer's liability.

(iii) Any deductibles or self-insured retentions must be declared to, and approved by, the County. The deductible and/or self-insured retention of the policies shall not limit or apply to the Supplier's liability to the County and shall be the sole responsibility of the Supplier.

(iv) Insurance coverage must be placed with insurers with a Best's Underwriting Guide rating of no less than A:VIII, or, if not rated in the Best's Underwriting Guide, with minimum surpluses the equivalent of Best's surplus size VIII. Professional Liability, Errors and Omissions insurance coverage, if applicable, may be placed with insurers with a Best's rating of B+:VII. Any exception must be approved by the County.

Coverage shall not be suspended, voided, canceled, reduced in coverage or in limits until after forty-five (45) calendar days' prior written notice has been given to the County.

If at any time any of the foregoing policies fail to meet minimum requirements, the Supplier shall, upon notice to that effect from the County, promptly obtain a new policy, and shall submit the same to the County, with the appropriate certificates and endorsements, for approval.

e. Subcontractors. The Supplier shall include all subcontractors as insureds under its policies or shall furnish separate certificates of insurance and policy endorsements for each subcontractor. **Insurance coverages provided by subcontractors instead of the Supplier as evidence of compliance with the insurance requirements of this Bid shall be subject to all of the requirements stated herein.**

3.2 Government Regulations

The equipment shall be designed, built, installed and setup in compliance with all applicable local, Washington state, federal and other medical/safety/health regulations including UL Listed, CE Registered, ISO 13485 conforming and FDA 21CFR, part 1020.30 certified.

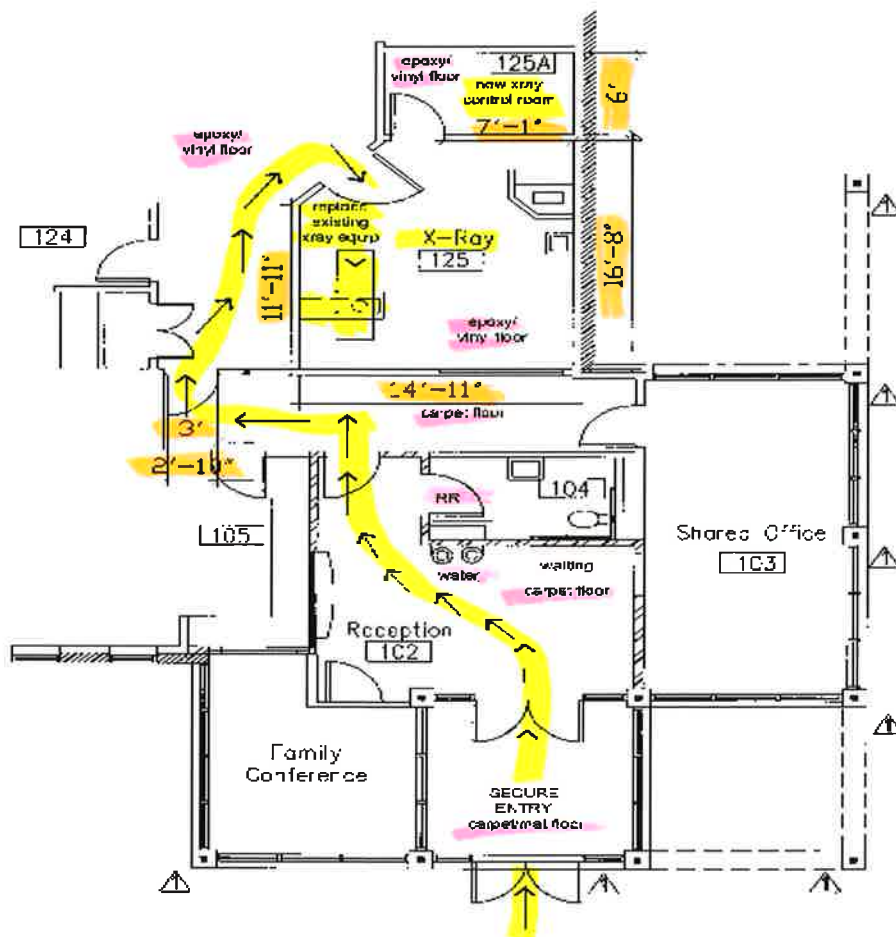
3.3 County Provisions

1. The County will have a maintenance technician onsite during system install for wiring troubleshooting & final, hardwire connections if applicable.
2. The County is responsible for installing standard camera wiring beforehand for remote operations if needed. Supplier shall provide requirements at least one month in advance.
3. The County will remove the existing x-ray equipment
4. The County will provide supplier parking, restrooms, and any utility connections required to complete the work.

3.4 American Rescue Plan Act (ARPA) Funding

This Project is funded by the American Rescue Plan Act (APRA), PL 117-2, Section 9901, Coronavirus State and Local Fiscal Recovery Fund. The Project is subject to a number of conditions as outlined in the statute, the Interim Final Rule promulgated on May 13, 2021, 31 CFR Part 35, Coronavirus State and Local Fiscal Recovery Funds Frequently Asked Questions promulgated by the U.S. Department of the Treasury as amended, and Compliance and Reporting Guidance – State and Local Fiscal Recovery Funds as promulgated by the U.S. Department of the Treasury as amended. Additional information is available on the U.S. Department of the Treasury website at: <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/state-and-local-fiscal-recovery-funds>. The Contractor is also subject to compliance with regulatory requirements under the Uniform Guidance at 2 CFR Part 200.

3.5 Room Layout



MEDICAL EXAMINER FLOOR PLAN 2022

Bid Opening Label

Complete the form below (or a reasonable facsimile thereof) and affix to the exterior lower left-hand corner of the submission package envelope.

URGENT – SEALED PROPOSAL ENCLOSED

Do Not Delay – Deliver Immediately

Bid No.: X-Ray Imaging Solution, Forensic

Bid Title: 22-005B

Due Date: April 14th 2022 @ 11am Pacific

Supplier: Lodox NA, LLC



Mail To:

**Snohomish County Purchasing Division
Robert J Drewel Building, 6th Floor, MS 507
3000 Rockefeller Avenue
Everett, WA 98201**

ADDENDUM NO:

1

BID NO:

22-005SB

ISSUE DATE:

4/6/2022



Snohomish County

Purchasing Services

(425) 388-3344

purchasing@snoco.org

INVITATION TO BID (ITB) TITLE:

X-ray Imaging Solution, Forensic

This addendum is issued to revise the original Invitation to Bid as follows:

- I. The Bid opening date has changed:
Bids are due Thursday, April 14, 2022, no later than 11:00am Pacific Local Time.
- II. The question due date has changed.
Questions are due by Monday, April 11, 2022 no later than 11:00am Pacific Local Time.
- III. Delete Item # 2, Camera from Section 1.7 Pricing. Bidders are to make this change to the existing Bid documents.

2	4	Camera, second spare for backup, shall be same manufacturer and model as included in above system
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- IV. A site visit is available to bidders who wish to see the building and routes. If a site walk is desired, please email purchasing@snoco.org to schedule preferably this week if possible.
- V. The following questions have been received to date:
Q1. Section 2.1 Questions 21, 21a, 21b, 43 and ref. Section 3.5 (respectfully) The information and layout given unfortunately is insufficient to determine the delivery path of the proposed equipment. Current diagram indicates a U turn hallway with 2 entry points of only a 34" door and 3' width hallway. No height specified or floor material etc. given.

Answer: *The first (original) route provided would require access through 2 standard doorways at approximately. 83" high x 33" wide and 81" high by 34" wide. The double front lobby/reception doors are 65" wide x 83" high. Lobby/reception/hallway are mat & carpet floor finishes transitioning to epoxy/vinyl floor in medical rooms.*

Correction: *the north hallway is 5' wide not 3'. X-ray room door is 82" tall x 43" wide.*

All interior doors are sized to admit standard autopsy carts.

Q2: Is there any alternate path? A full facility layout would be helpful to use our experience to determine potential alternate routes/ points of entry.

Answer: Yes. An alternate route is available if required. The alternate route goes through secure medical spaces starting in the garage, through the cooler and then to the x-ray room. The rollup garage doors are large with drain grate and slope to negotiate. Both cooler doors are 78" tall by 40" wide with threshold from garage space. Garage and cooler floors are concrete.

Please see Attachment A - Drawing and photos 1-9.

Q3. Will the County provide an extension for clarifications and the subsequent bid due date to outline a more defined layout with additional optional delivery paths?

Answer: The questions and bid due date are extended per this Addendum #1.

Q4. We have an additional clarification on the Section 1.7 of the bid. Please clarify what is meant by "Camera" and "Second Spare for Backup". Please define if this is to be intended for a backup radiology device of some kind, or if it is in reference to Specification 25 and 25a for system and table visualization from the operator.

Answer: This item has been deleted from the bid per this Addendum #1. If there is additional equipment required, it will be determined after the bid is awarded and purchased by the County.

Q5. If this section is in reference to the outline in the Specification 25 and 25a, that defines a solution for viewing the system from the enclosed control room for operation (in a scenario without a leaded viewport), If the purpose is to acquire TWO (2) of these closed-circuit cameras w/ LCD screen, please confirm.

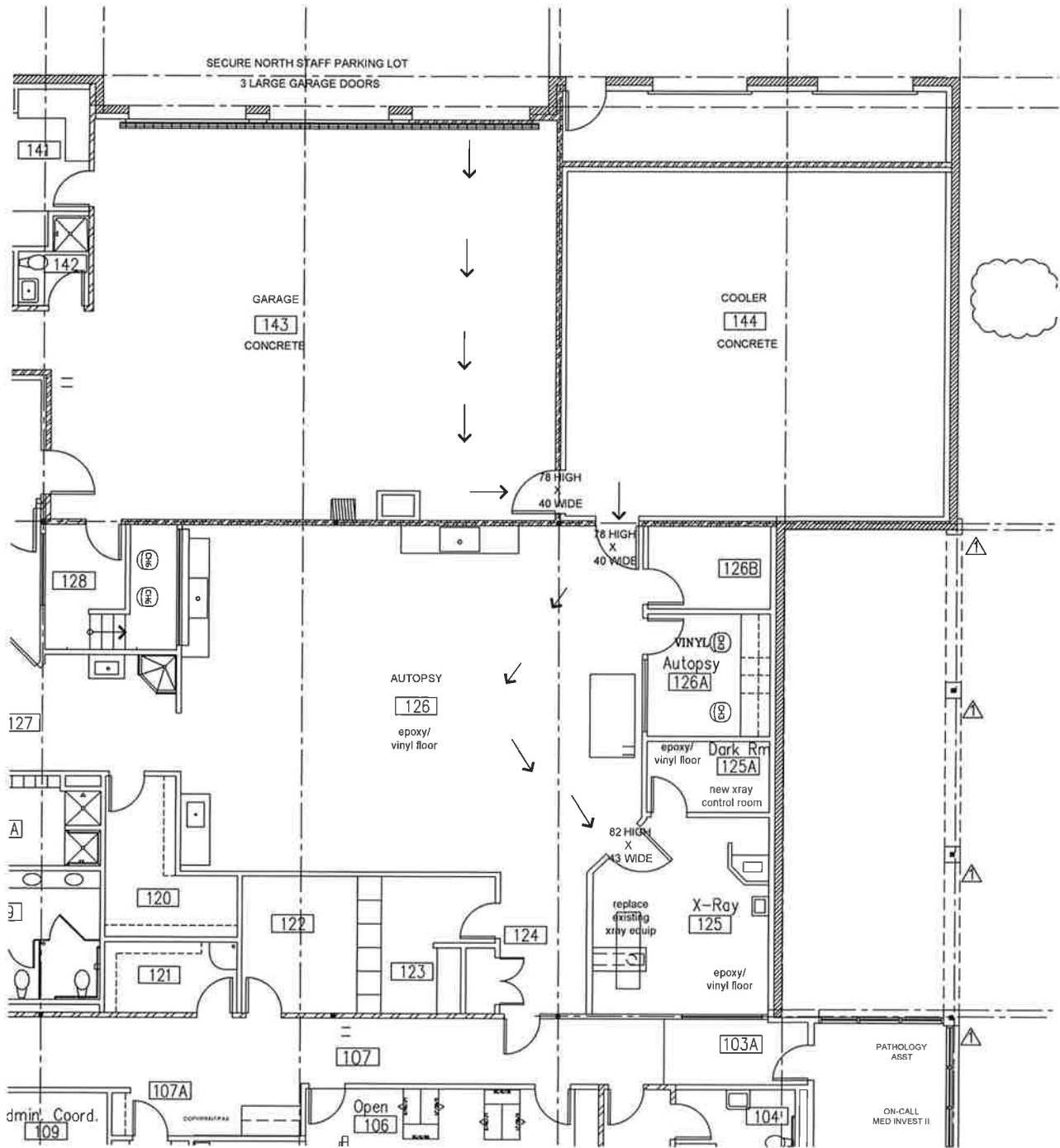
Answer: See answer to question 4.

Attachments:

Attachment A: Building layout

Pictures 1-9: Interior of building.

All other terms and conditions remain unchanged





NEW Full-Body Imaging Solution Proposal
For Snohomish County Medical Examiner
Bid # 22-005SB

From:

Adam Harris

Sales Manager for North America

Lodox NA LLC

143 Burton Street

Painesville, Ohio 44077

440-210-3030 (PH)

440-210-3030 (FX)

Adam.harris@lodox.com

Transmittal Letter

From:
Adam Harris C/O Lodox NA LLC
143 Burton St. Painesville, OH 44077
Phone: (866) 615-6369 Extension 101 or (440)-210-3030
Fax: (440)-210-3030
email: adam.harris@lodox.com

To whom it may concern,

Lodox NA LLC is the only source for the StatScan, Xmplar-DR, and Exero-DR machines and software, their parts, and their direct Technical Support in North America. We hereby submit the following Proposal for consideration for Snohomish County Medical Examiner Bid # 22-005SB.

Best Regards,

ADAM HARRIS
Sales & Marketing Manager,
North America

Toll Free: 1 866 615 6369 ext 101 | M: 440 210 3030 | www.lodox.com

lodox

Executive Summary

Introduction

The LODOX eXero-dr is a low dose, high speed, and high-resolution digital X-ray scanning system that can produce an AP full body X-ray image in 13 seconds and also allows for coned down general radiology procedures in AP, Oblique, and Lateral orientations.

System Visual



About the LODOX eXero-dr

The eXero-dr consists of a moving C-arm with an X-ray source mounted at the head of the C-arm and an X-ray detector mounted on the other side of the C-arm (directly adjacent to the X-ray source). This mechanism exposes the subject to a thin fan beam of X-rays. The system also includes a tailor made radiolucent trolley.

The system contains two software applications – one that is used to operate the system (User Interface or UI), and another to view, manipulate and export and/or print DICOM images (Digital Viewing System or DVS).

The DVS can be located remotely, or images can be stored on a PACS.

The LODOX® eXero-dr Critical Imaging System can be used to perform trauma, general or forensic imaging investigations on subjects of any age, gender, weight (limit of 300kg/660 lbs), or physical condition.

The LODOX eXero-dr Advantage

1. Saves Time

An entire full-body AP (Antero-Posterior) image is obtained in 13 seconds, with a complete image available within 30 seconds – giving very high case throughput capacity.

2. User Friendliness

The UI and the DVS are designed for easy and fast access, with pre-set technique factors for all procedures ensuring optimal, diagnostic-quality images that allows the user to operate the machine rapidly.

3. Low Dose

The eXero-dr imaging system is specifically designed to provide the lowest possible dose, providing high resolution, digital radiographic images at a fraction of the dose. The LODOX eXero-dr offers ultra low-dose, full-body screening at both low and high-resolution levels, supplying the user with safe screening and diagnostic value images.

4. Image Quality and Size

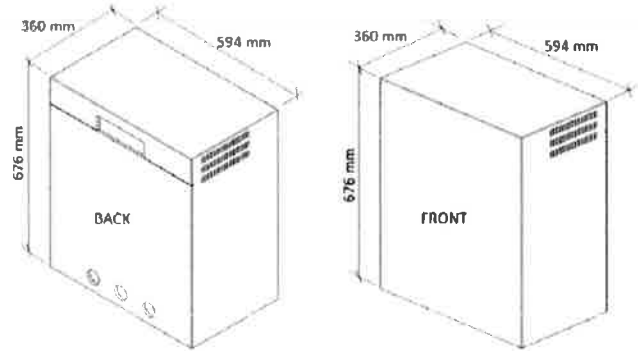
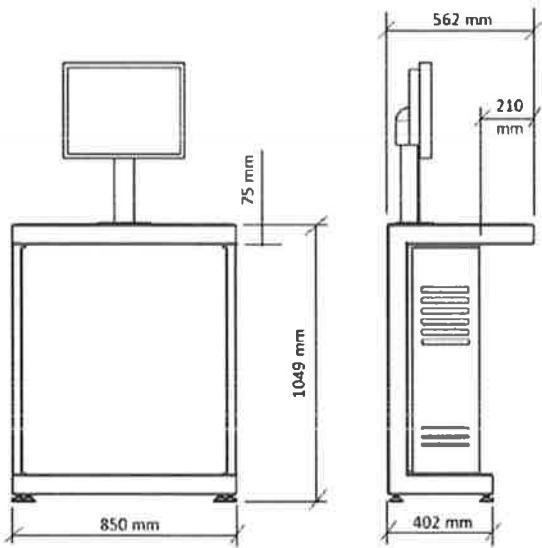
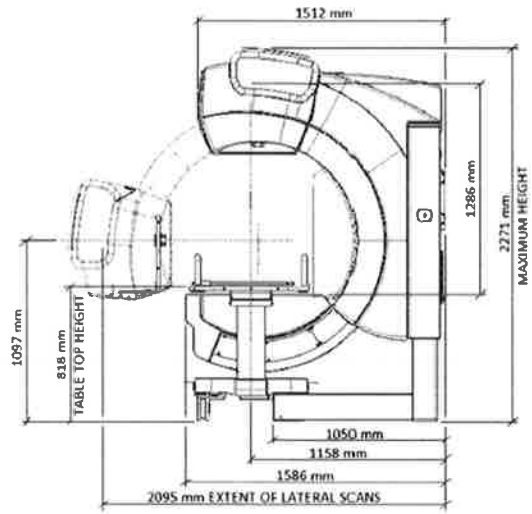
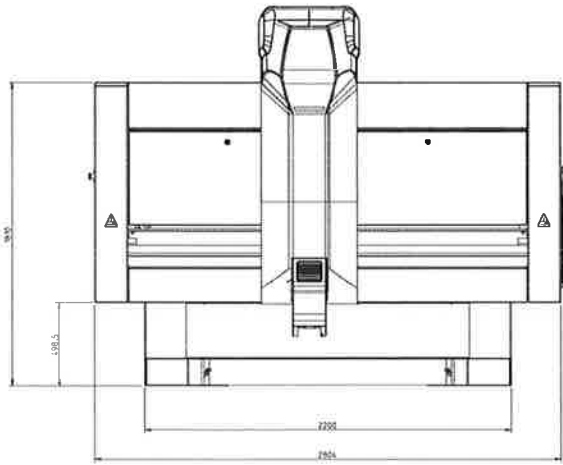
- Excellent image quality – Spatial resolution from 1.04 to 5.0 line pairs per mm can be selected, while exceptionally high contrast resolution of up to 16,000 grey levels is available.
- Large images – LODOX eXero-dr generates images of 1800mm in length by 680mm in width in AP position (or 70.86 inches by 26.77 inches) at comparable levels of quality (up to full body size in AP position), which means that the need for multiple radiographs is significantly reduced.
- Electronic information sharing – All radiographs produced by LODOX eXero-dr are available over highspeed networks using industry standard protocols via DICOM.

Our systems for forensics currently reside or are ordered in over 50 federal, state, and local forensic institutions across the US. You may find a list of our active installations here by going to www.lodox.com.

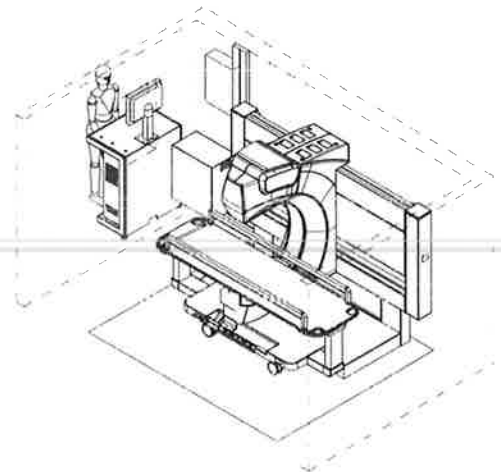
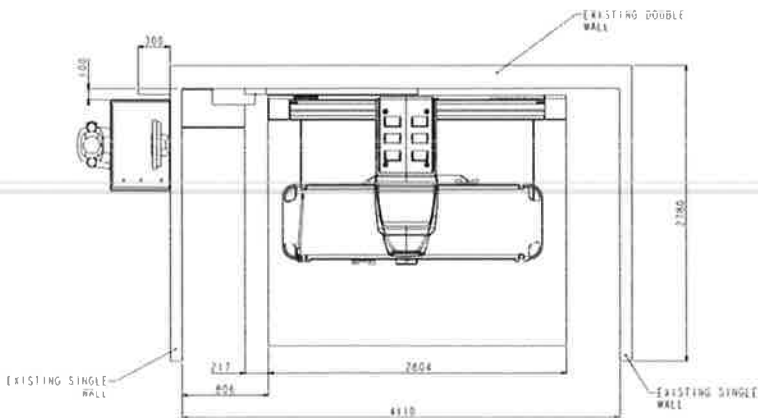
Please also refer to the attached documents on our system included with this proposal.

System Physicals, measurements, and basic layouts

The Lodox system operates within a minimum 10ft x 13.5ft area with minimum 8ft ceiling height (960 square feet) during manipulation of the C-arm into lateral while scanning. This does not include operator area as Operator Console (OC) can be located outside of the room or behind a leaded partition. There are several configuration and layouts depending on room available for location of the unit and its elements.



High Voltage Generator



Electrical requirements for the installation of a Lodox X-ray Machine

Each Lodox machine installation requires two special power supplies. One is for the stand power and the other is for the X-ray generator power.

- 1) Stand power – 208/120V single phase with a neutral and 20 amp two pole breaker or fused disconnect switch. The breaker or disconnect should be located at a convenient place within the procedure room.
- 2) X-ray generator power – This shall be a 480 volt three phase source capable of supporting 60KVA. A 100 amp breaker or fused disconnect shall be conveniently located near the x-ray generator cabinet. This supply requires an earth ground sized no smaller than one size smaller than the main conductors and does not require a neutral wire. It can be a Delta or a Wye configuration. The maximum line impedance should be .20 ohms.

Please follow the wire size chart below for the 480 volt line.

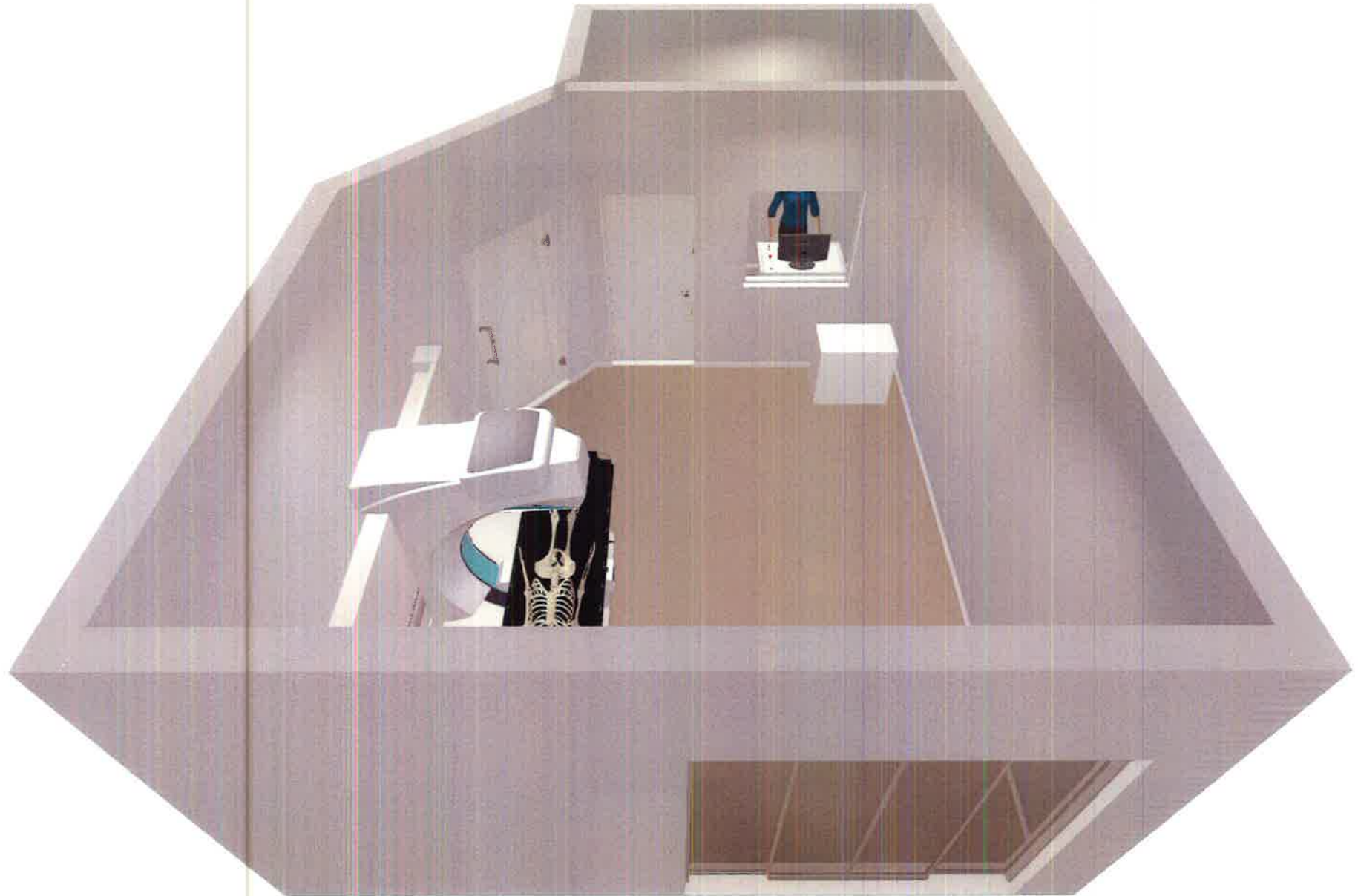
Distance from source	15M	30M	45M	60M
Wire size	AWG 2	AWG 1/0	AWG 2/0	AWG 4/0

- 3) Please provide convenience 120 volt 15A outlets in the procedure room and control room areas.
- 4) A network drop will be required near the operator's control console.
- 5) If an X-ray warning light is provided we prefer to power it from the x-ray generator and not from house power.



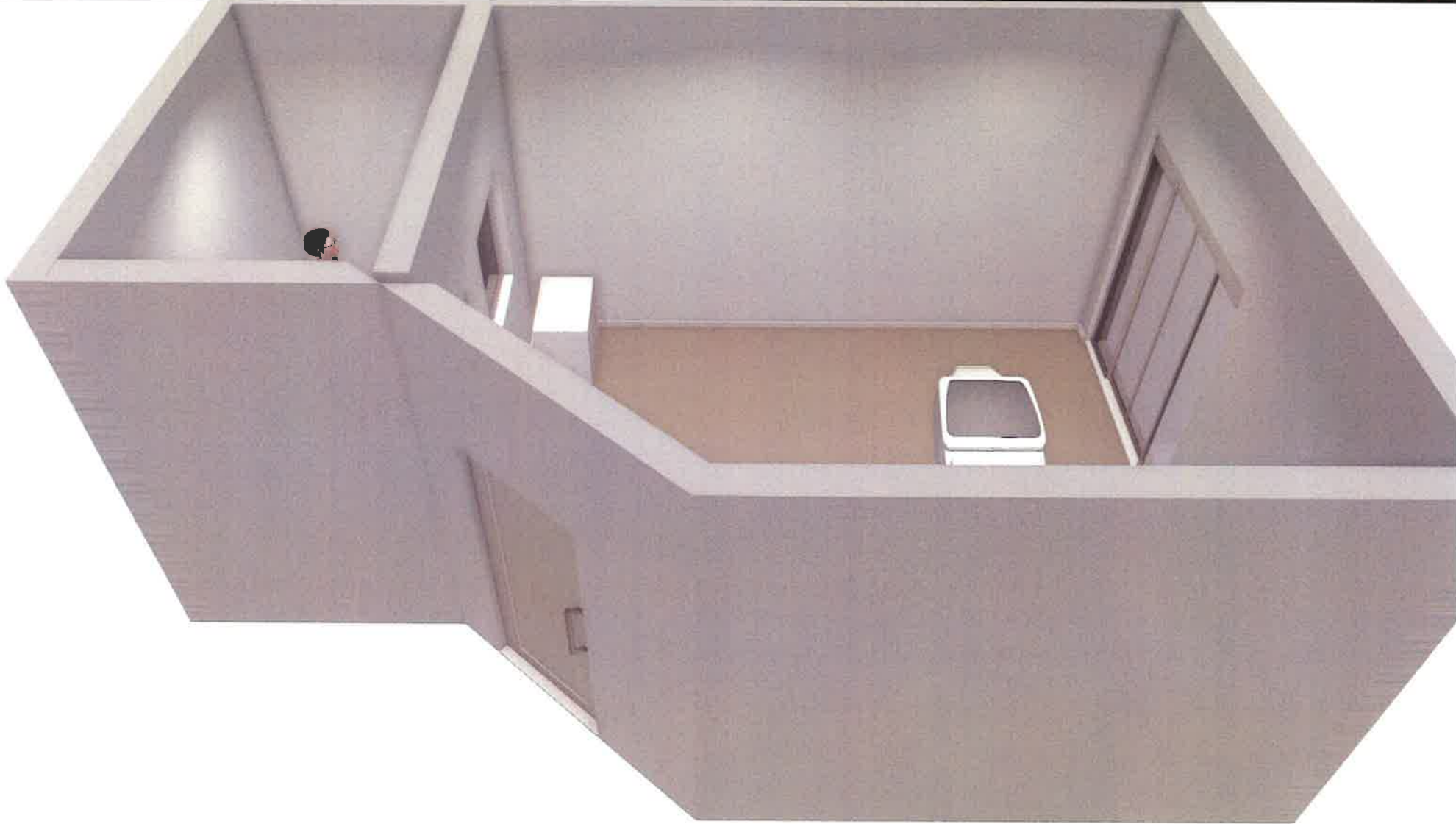
APPROXIMATION OF FLOOR AND PLANNING AREA

Floor Plan measurements are approximate and are for illustrative purposes only. While we do not doubt the floor plans accuracy, we make no guarantee, warranty or representation as to the accuracy and completeness of the floor plan. You or your advisors should conduct a careful, independent investigation of the property to determine to your satisfaction as to the suitability of the property for your space requirements.



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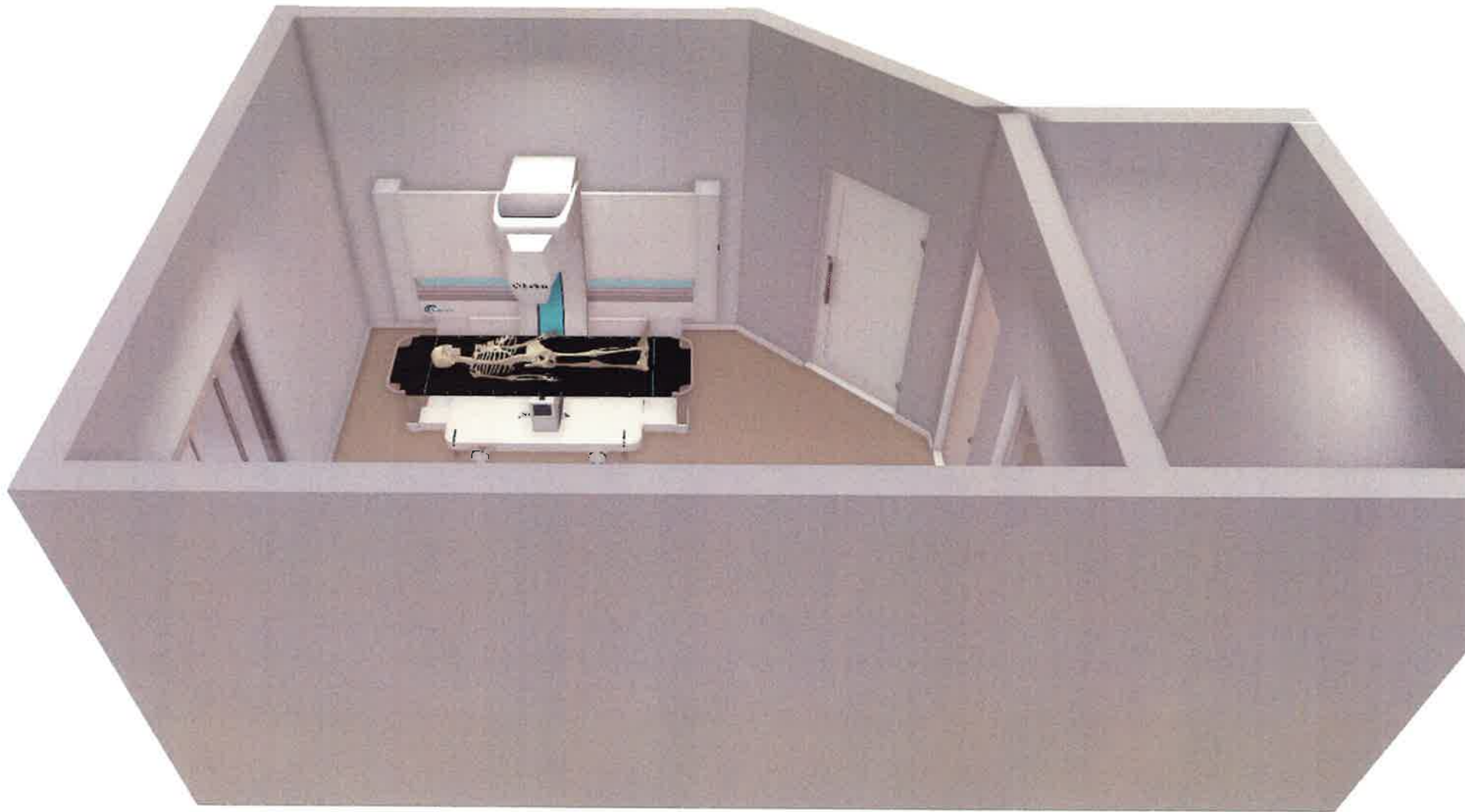
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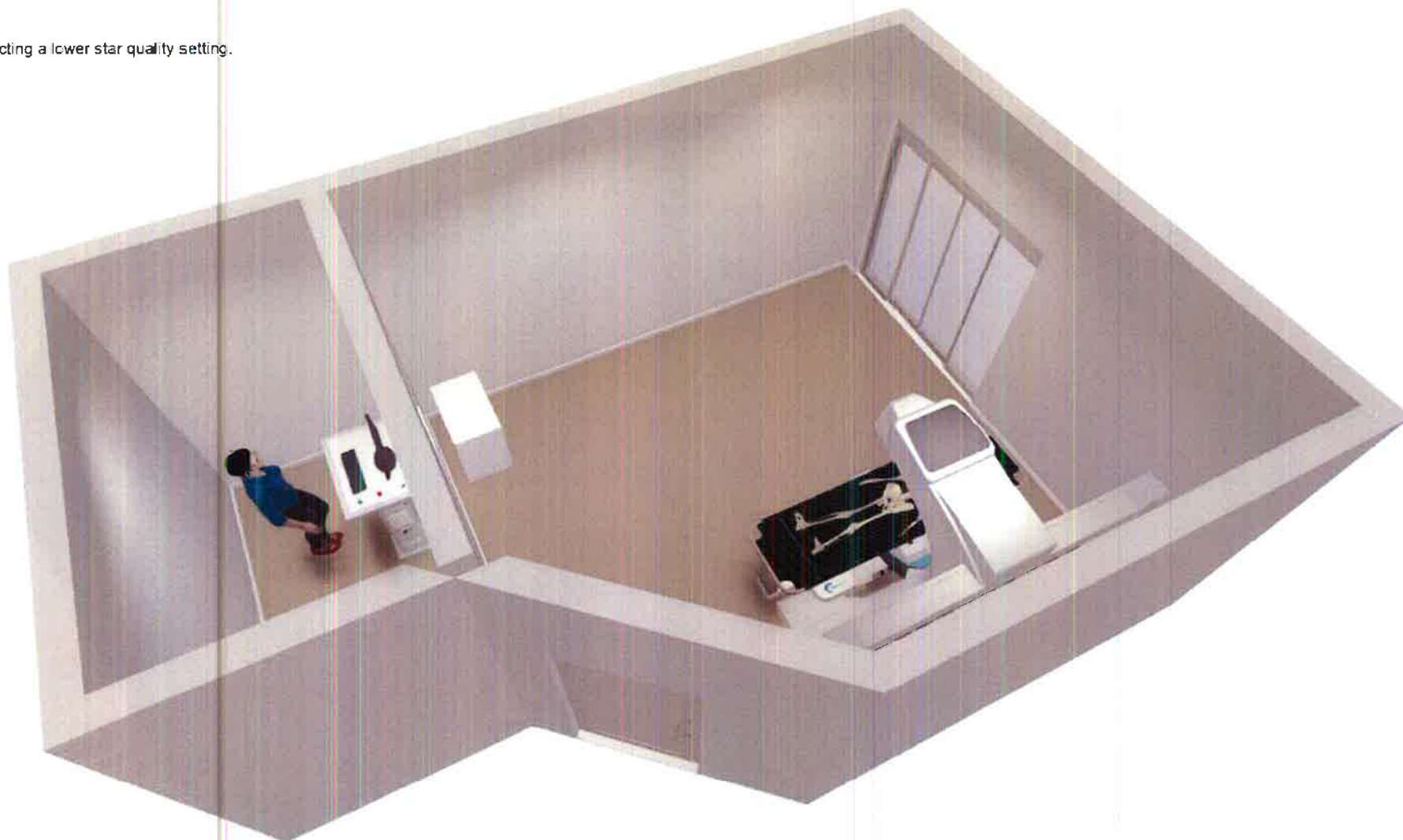
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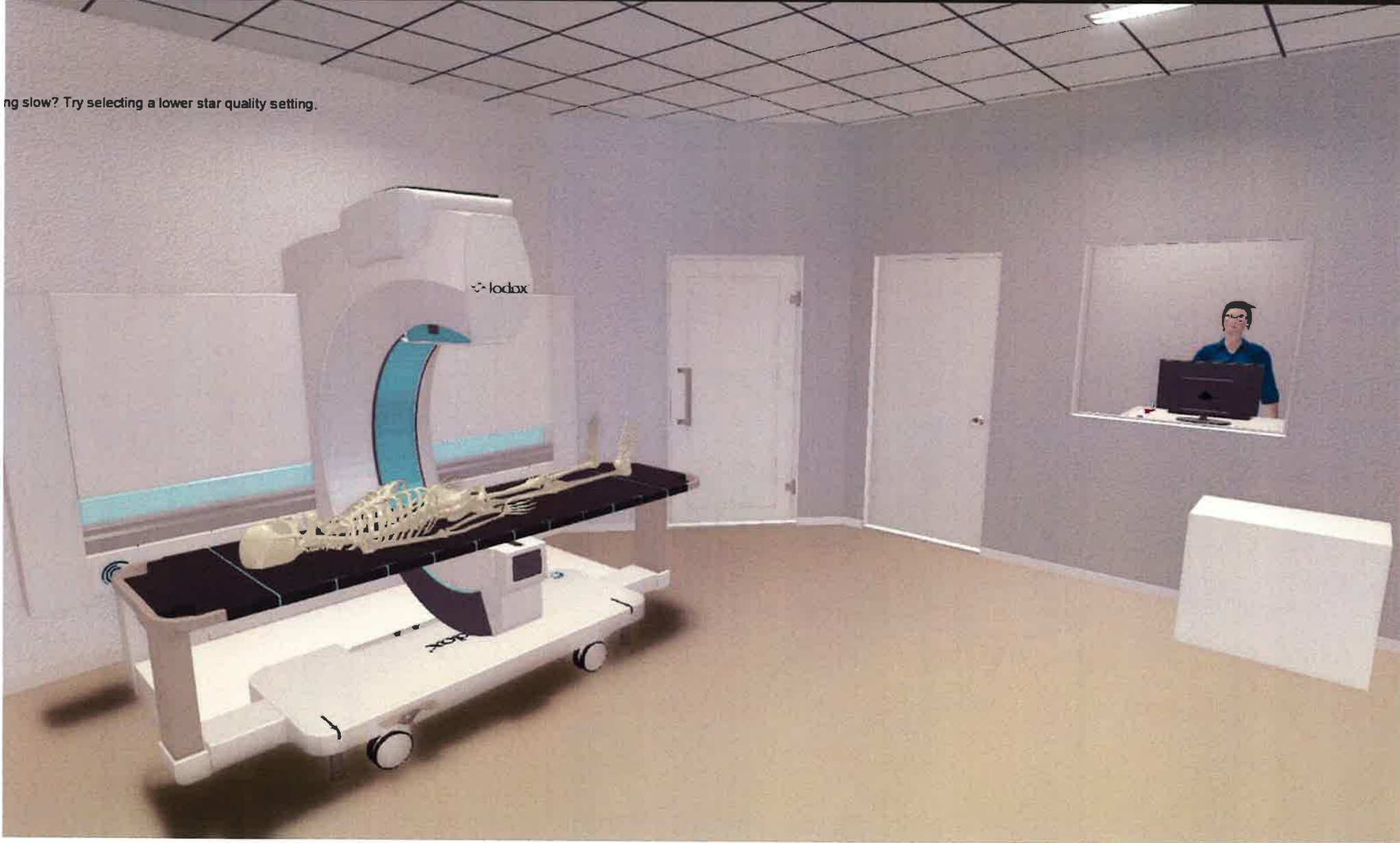
ng slow? Try selecting a lower star quality setting.



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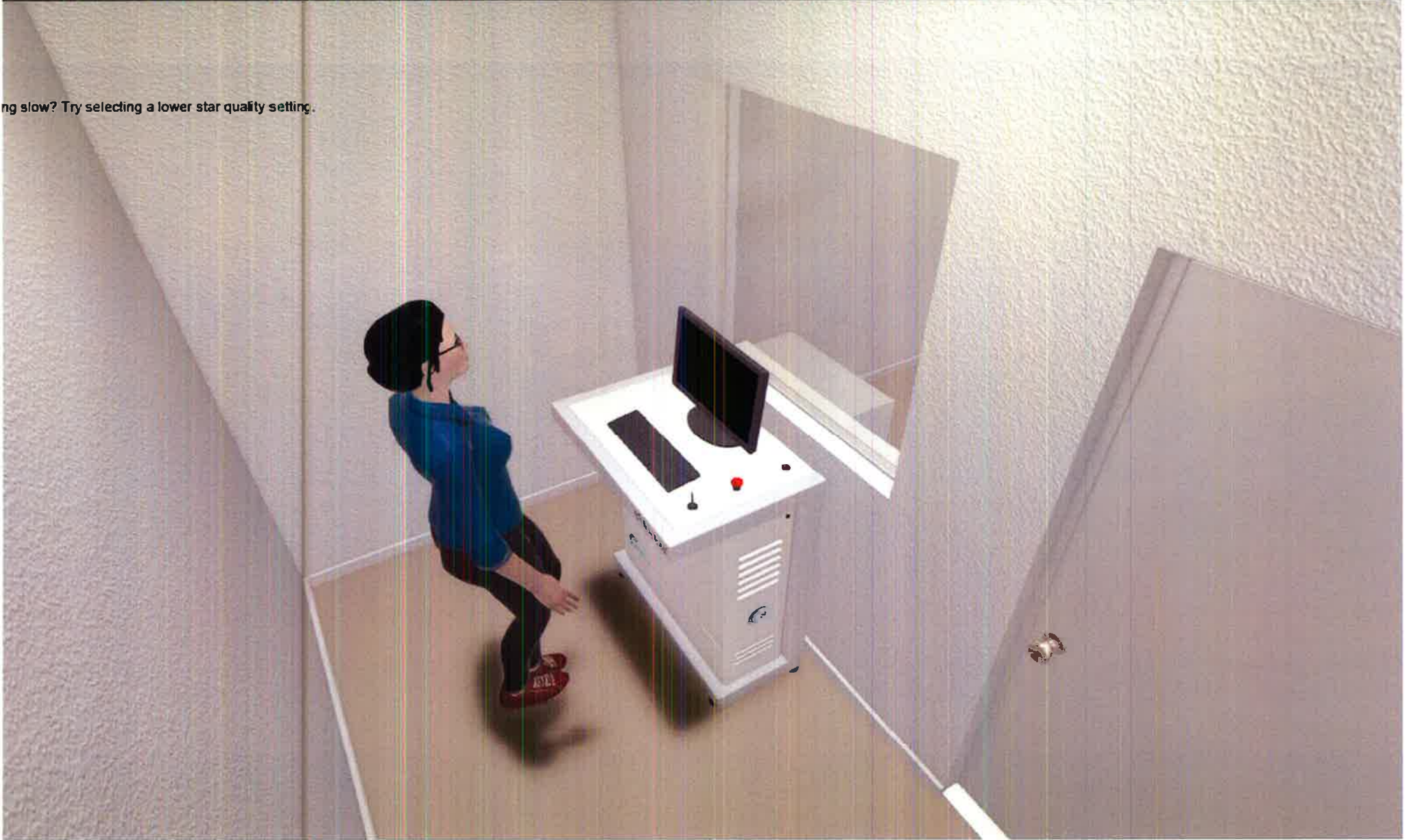
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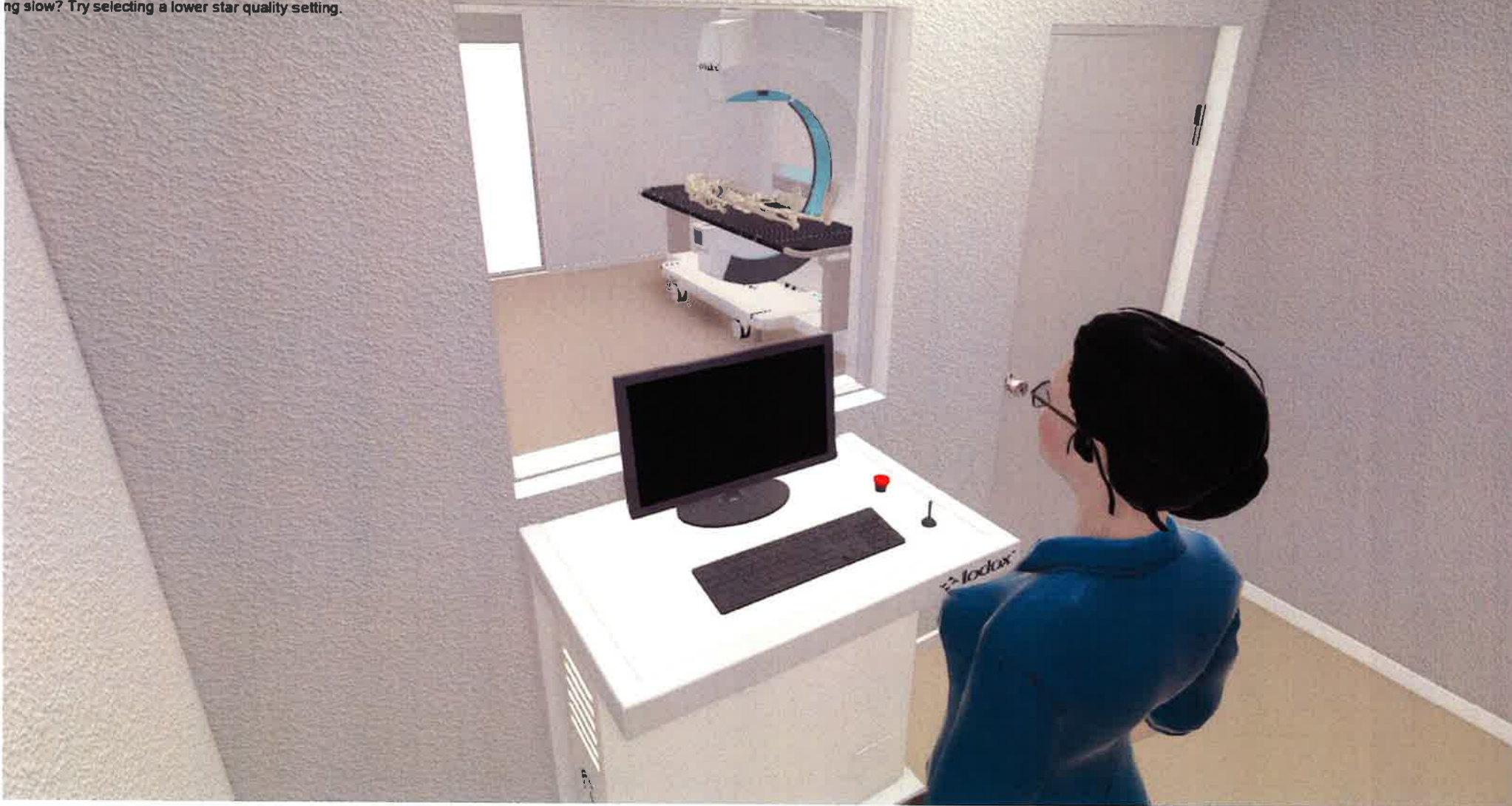
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Objects

Quantity



	Quantity
eXero-dr OC Color	1
eXero-dr Scanner	1
eXero-dr Trolley Color	1
Skeleton Prone	1



saving lives through innovative solutions



Lodox Systems North America, LLC
143 Burton Street
Painesville, Ohio
44077

866-61-LODOX (56369)

TO: Snohomish County Medical Examiner's Office
J. Matthew Lacy, MD
Chief Medical Examiner
9509 29th Ave W
Everett, WA 98204
Phone- 425-438-6205
Email: John.Lacy@co.snohomish.wa.us
Quote Bid# 22-005SB 2022-2024
Quotation No: 20220412AH1
Date: 12-Apr-2022
Sales Consultant: Adam Harris

Lodox Systems North America, LLC is pleased to submit the following Quotation offering to sell the Lodox Systems Products described herein at the prices stated. The Lodox Standard Terms and Conditions apply. This Quotation is valid ONLY until April 14, 2024. A signed hardcopy Non-Contingent Purchase Order must be in the possession of Lodox.

Table with 4 columns: S/N, Quantity, Description, Price. Row 1: ASP600, 1, NEW Forensic-specific eXero-dr Critical Imaging System Full Body X-ray System For Rapid Assessment Forensic Pathology, \$ 498,000.00. Row 2: 1, Additional Logistics, rigging materials, and extended installation time for onsite personnel (+3-5 days) of installation (w/ C-Arm and ASP base disassembly) to accommodate a 40" x78" min. door opening, \$ 12,000.00. Total system price delivered and installed \$ 510,000.00.

Authorized Buyer:

Accepted by:

Signature
Title
4/12/2022
Date

Signature (Adam Harris)
Sales Manager, North America
Title
4/12/2022
Date

This Quotation is not binding until it is signed by an officer of LODOX SYSTEMS NORTH AMERICA, LLC / Lodox Systems (PTY) LTD ("LODOX"), or by an officer of a dealer under LODOX contract (AUTHORIZED).

S/N	Quantity	Description	Price
eXero-DR	1	<p>Standard Configuration Features:</p> <ul style="list-style-type: none"> ▶ Flexible-Format Digital Radiography (DR) Image Formation <ul style="list-style-type: none"> * Allows a wide variety of high resolution image acquisition, ranging from the size of a "Whole-Body", to the size of a "Hand". * Field of View is Adjustable from 100mm x 100mm to a maximum 680mm x 1800mm for full body. Images can be made of any body part without moving the patient. ▶ Compliance <ul style="list-style-type: none"> * FDA Approved: FDA (510k) No. K013999 Acc# 0310920 * ISO Approved: CE Mark, ISO 13485:2003 ISO 9001:2000 ▶ High Resolution Digital Imaging Performance <ul style="list-style-type: none"> * Contrast Resolution : >16000 grey levels (14 bits) - After log compression * Fundamental pixel size: 60 μm (1x1 binning) * Maximum Size single image:1800 mm * 680 mm (full body size, measured at lowest table height) * Base resolution mode : 1.04 lp/mm at 8x8 pixel binning. 0.48mm pixel size. Max 48000 grey levels. Maximum size = full body (image size 1536 x 8000 pixels) * Standard resolution mode : 1.4 lp/mm at 6x6 pixel binning. 0.36mm pixel size. Max 36000 grey levels. Maximum size = full body (image size 2048 x 8000 pixels) * High resolution mode : 2.1 lp/mm at 4x4 pixel binning. 0.24mm pixel size. Max 24000 grey levels. Maximum size = full body (image size 3070 x 8000 pixels) * Very High resolution mode : 4.2 lp/mm at 2x2 pixel binning. 0.12mm pixel size. Max 12000 grey levels. Maximum size = half of full body size (900mm x 680mm)(image size 6141 x 8000 pixels). * Ultra high resolution mode : 5.0 lp/mm (Measured) - 8.33 lp/mm (Theoretical) at 1x1 pixel binning. Maximum size = 480mm (quarter & half speed only) (image size 12288 x 8000 pixels) Max 6000 grey levels. This mode is designed mainly for extremity imaging applications and less dense body area in general. ▶ System Throughput Performance <ul style="list-style-type: none"> * Linear scanning rate (3 settings): 35 mm/s, 70mm/s, and 140mm/s \pm 5% * Instantaneous frame rate (The time taken for the X-ray beam to transverse any one point, or how long any point is exposed to X-rays): 11 - 80 milliseconds. * Time to complete a full field scan: <13 seconds * Time from "end-of-scan" until a diagnostic image becomes available on the DVS screen: <15 seconds (Normal resolution image on a stand-alone 100Mbits/s Ethernet Base-T network. * Best case time between two successive x-rays on the same patient: 28 seconds (Provided heat capacity of X-ray tube <20%) ▶ Patient Imaging & Positioning Flexibility 	<p><i>Included</i></p> <p><i>Included</i></p>

S/N	Quantity	Description	Price
TRL601	1	<p>0 to 90 degrees. The supine or prone patient can be X-rayed in any radial angle from AP (or PA) to beyond the Supine (or Prone) lateral positions.to 90 degrees.</p> <p>* The supine or prone patient can be X-rayed in any radial angle from AP (or PA) to lateral positions. Integrated smart trolley elevates according to c-arm position</p> <p>► Environmental</p> <p>* Temperature: +10 to + 25o Celsius</p> <p>* Humidity: 40% to 75% Non-Condensing</p> <p>* Atmospheric Pressure: 70kPa - 106kPa</p> <p>► Bariatric SmartTrolley / Gurney (Imaging Table)</p> <p>The trolley /gurney top height can be adjusted vertically by 0 to 340mm via a foot</p> <p>* operated switches, either end can be individually adjusting to allow Trendelenburg angles up to +/- 10 degrees.</p> <p>Trolley automatically raises and lowers to accommate the</p> <p>* rotary motion of the C-arm when moving AP-Lateral and back.</p> <p>* Dimensions: 2240 x 740 x 825 (L x W x H)</p> <p>* Patient X-ray Capacity: 300 kgs / 660 lbs.</p>	<i>1 Included</i>
CNS600	1	<p>► System Console (DVS and OC) Dual Purpose (Operator console and viewing station)</p> <p>(Includes MON021 & CMP030)</p> <p>* eXero-dr User Interface: tab-based and simple operation.</p> <p>* Sets all X-ray technical parameters, via Preset Anatomical Programming or Manual Operation</p> <p>* Controls Linear and Rotary C-Arm Motion via on-screen control and easy-to-use joystick controller</p> <p>* Initiates and terminates X-ray exposures via easy-to-use joystick controller</p> <p>* Flexible Floor Mounted Cabinet Design can also house HV X-ray Generator</p>	<i>Included</i>
MON021	1	<p>Monitor</p> <p>* A NEC P232W monitor or equivalent will be supplied</p> <p>* 23" (203" viewable image size) Colour LCD, active matrix, thin film transistor (TFT), liquid crystal display.</p> <p>* Resolution: 1920 x 1080</p> <p>* 250 cd/m2 white luminance typical</p> <p>* 1000:1 contrast ratio - typical</p>	<i>Included</i>
CMP030	1	<p>Workstation Computer</p> <p>* System Computer: Based on at least a dual core processor such as the Intel Pentium 4/D/Core 2 Duo and enhanced graphics engine.</p> <p>* Operating System: Windows 10</p> <p>* Disk Drive Capacity: Dual 1TByte (minimum) in "ghost copy" configuration for quick system recovery and back-up.</p>	<i>Included</i>

S/N	Quantity	Description	Price
GEN001	1	<ul style="list-style-type: none"> * User Interface: 2 Button + scroll Mouse Driven Windows Graphic Interface * High Speed Proprietary Image Processor/DVS software * Image Processing Features include: <ul style="list-style-type: none"> * Zoom/Pan/Rotate; Contrast / Brightness; Edge Enhancement; Histogram Equalization; Palette Function; Invert * Database Server Module * DICOM 3.0 Network Interface * Send / Receive / Print / Worklist Retrieve patient demographics only * DICOM 3.0 Input interface is required on the printer side. * Lodox eXero-dr Local Archive System * Lodox eXero-dr Data Management Software / DVD Recorder Package <p>X-ray System</p> <p>Radiation Type The eXero-dr emits ionized X-radiation by a precise narrow fan-beam scanning</p> <ul style="list-style-type: none"> * across the patient that progressively creates diagnostic quality images at very low dose rates. <p>Direct Absorbed Dose Maximum entrance dose for a full-body X-ray is 0.12 mGy (absorbed dose 99μSv).</p> <ul style="list-style-type: none"> * For typical procedures, approximately 25% (conservative), on average, of equivalent conventional system doses are emitted. <p>Leakage Radiation The maximum leakage radiation measured 1 meter from the X-ray focal spot in any direction is less than 20 uGy per hour @ 145kV 250mA.</p> <p>X-Ray Generator</p> <ul style="list-style-type: none"> * Peak Power 64 KW * Voltage Range 50kVp - 145 kVp * Voltage Rise Time 2mS (10 to 90%) * Voltage Stability < 4% * Voltage Ripple 0.5% * Current Range 32mA to 400mA * Exposure Time 0.6s to 16s * Operating frequency 40kHz 	<i>Included</i>
TUB002	1	<p>X-ray Tube</p> <ul style="list-style-type: none"> * 3.5 Million HU, Rotating Anode CI type FDA/CE approved 	<i>Included</i>
		<p>Detector</p> <ul style="list-style-type: none"> * Proprietary Solid State Detector Technology (similar to spiral/helical CI scanner detector technology) <p style="padding-left: 40px;">X-ray to light conversion</p> <ul style="list-style-type: none"> * Rarex Green Fast ("Gadox" = GdOS2:Tb) <p>► Radiographic Aids</p> <ul style="list-style-type: none"> * Bolus Material - Comfort shaped for Lateral C-Spine Imaging 	<i>Included</i>
BOL001	1		

S/N	Quantity	Description	Price
	1	System: Year One (1) - Twelve (12) Months Parts (tube pro-rata) and Labour. (See Lodox Terms & conditions below for further details)	<i>Included</i>
	1	<u>Standard Installation:</u> System installation and commissioning Included. All site renovations are the responsibility of the Buyer. The provision of suitable site services including air-conditioning and electrical power are the responsibility of the buyer Clinical Engineering Training is included	<i>Included</i>
	1	<u>Standard Clinical Applications Training is included:</u> Three (3) days Included. <u>Estimated Delivery</u> 180 days from date of order	<i>Included</i>



Lodox Warranty Statement and Conditions

LIMITED WARRANTIES; LIMITATION OF LIABILITY: All Product(s) manufactured by LODOX SYSTEMS (PTY) LTD. or LODOX NA, LLC (Seller) are warranted against substantial defects in materials and workmanship for twelve (12) months from date of first clinical use. For all Product configurations, warranty is contingent upon the availability of a suitable VPN system located at the customer site. All glassware (x-ray tubes) are warranted for twelve (12) months on pro-rated OEM factory warranty basis from date of first clinical use. Consumables, such as CD's, etc., are not covered by this warranty. Future additional accessories or upgrade packages for the Product(s) are subject to warranty provisions in effect at the time of their purchase. Other goods, such as hard copy imaging devices and other "pass through" accessories, marketed by but not manufactured by Seller, are subject only to those warranty provisions as provided by said manufacturer. Warranty service during the applicable warranty period will be performed by the Seller's authorized Service Agent without charge to End-User during the normal business hours of Seller's authorized Service Agent.

This warranty service is to include parts and the labor from the Seller's authorized Service Agent. Seller reserves the right to determine, and shall disallow claims for, defects caused by End-User's modification, abuse, misuse, excessive ambient temperatures (90o F), or other abnormal conditions of operation. Seller shall repair or replace, at its option, Seller manufactured Product(s) which prove to be defective during the warranty period that are returned to Seller. Spare Part(s) are warranted for ninety (90) days after shipment or for the remainder of the Product(s) warranty, whichever is longer.

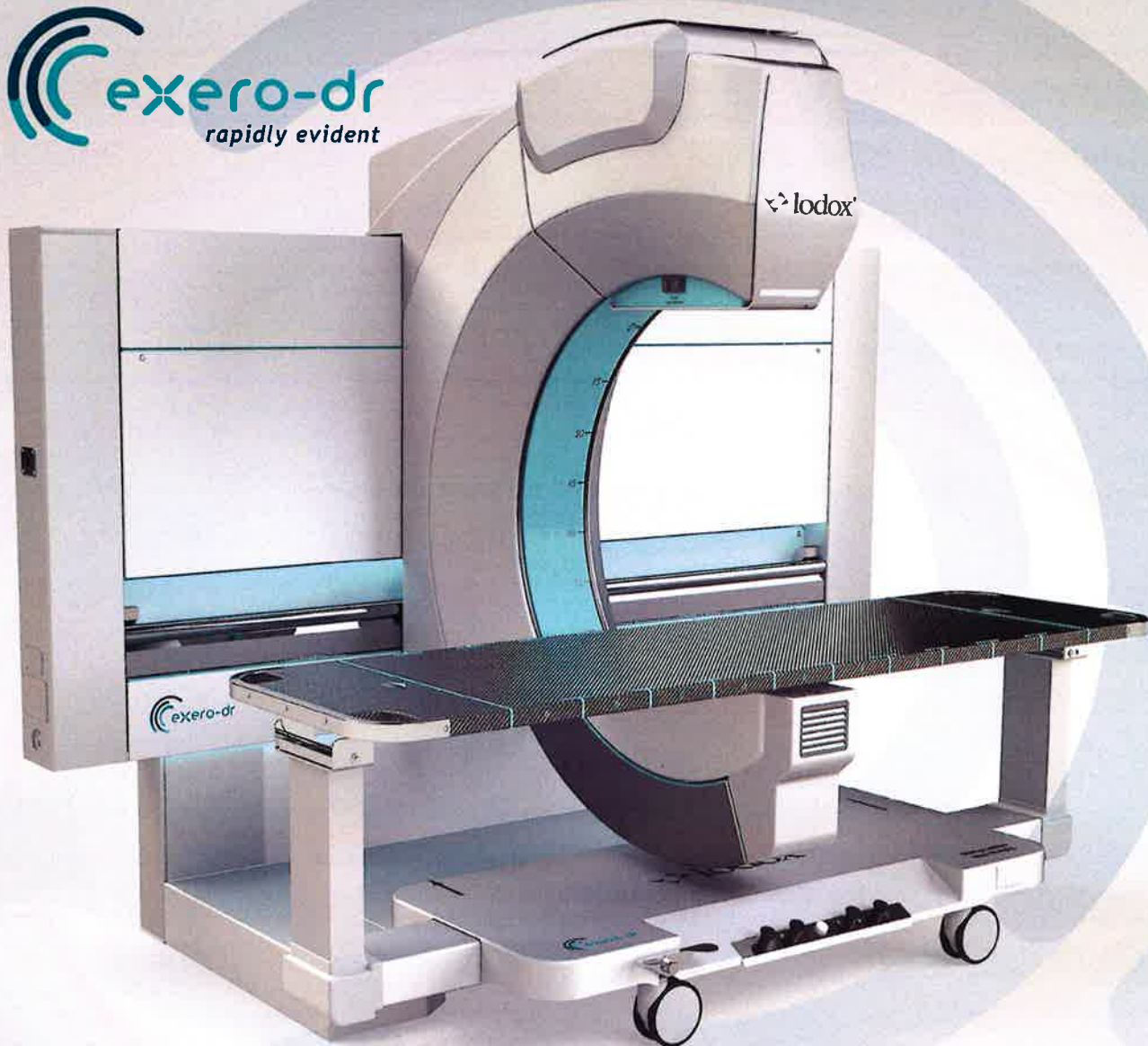
Product(s) provided by Seller are designed for operation only with Seller provided software within UL, FDA, CSA, & VDE guidelines. Seller assumes no liability for any non-compliance with these guidelines or operational failures that may result from use of non-Seller provided software for purposes inconsistent with the intent of the Product(s), and this warranty does not cover such failures. This warranty shall not apply to Product(s) which have been subject to misuse, negligence, or accident or which have been repaired or altered in an unauthorized manner or used for purposes for which they were not designed. This warranty shall not apply to a situation where failure of Product(s) is due to a defect in plans or specifications supplied to Seller by Seller's approved Intermediary or End-User. The obligation of Seller under this warranty is limited to the repair or replacement of the defective Product(s) that Seller shall determine, to its satisfaction, to have been defective at the time of manufacture. Seller shall not be

Lodox NA LLC – 143 Burton St. Painesville, OH 44077 – Phone: (866) 615-6369 – email: serviceNA@lodox.com

liable for any special, direct, indirect, incidental or consequential damages including claims for delay, loss of profits, or labor.

Seller makes no warranty whatsoever regarding site installation by Buyer. THE FOREGOING LIMITED WARRANTIES (1) ARE INAPPLICABLE IF BUYER (SELLER'S INTERMEDIARY OR END-USER), IN ANY UNAUTHORIZED MANNER, ALTERS OR TAMPERS WITH THE PRODUCT, AND (2) ARE APPLICABLE ONLY TO OPERATION OF THE PRODUCT IN STRICT CONFORMITY WITH SELLER'S DEVICE MASTER CONTROL LIST FOR SUCH PRODUCT, A COPY OF WHICH CAN BE SUPPLIED TO THE BUYER ON DEMAND. THE DURATION OF THE WARRANTY PERIOD SHALL NOT BE EXTENDED DUE TO REPAIRS OR DELIVERY OF REPLACEMENT PARTS THAT MAY INTERRUPT THE UP-TIME OF THE PRODUCT(S). THE FOREGOING LIMITED WARRANTIES WITH RESPECT TO PRODUCTS AND PARTS ARE EXCLUSIVE AND IN LIEU OF ANY AND ALL OTHER WARRANTIES OF QUALITY OR PERFORMANCE, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY AND ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE OR OTHERWISE. ALL SUCH WARRANTIES (OTHER THAN THOSE SPECIFICALLY SET FORTH ABOVE) ARE EXPRESSLY DISCLAIMED.

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UNCOVER FORENSIC RADIOLOGY

Full-body, high-speed digital radiology solution
for forensic pathology centres.

The eXero-dr assists the forensic pathologist in autopsy examinations by reducing the time taken to examine a body.¹ Rapid localisation of foreign bodies (such as bullets) in multiple views can be beneficial in criminal examinations.² Fast, high quality imaging may be especially useful in the case of religious groups that require expedited burial¹ and mass fatality situations. The full-body, low-radiation format makes Lodox imaging safer and easier for staff¹ and could improve the workflow in busy forensic pathology laboratories.² Lodox has proven to be invaluable in Forensic Medicine.¹

FORENSIC APPLICATIONS

- Skeletal and poly-trauma
- Ballistic injuries and projectiles
- Hazardous objects
- Victim identification
- Prostheses
- Presence and positioning of medical devices
- Natural pathology
- Sudden unexpected death of an infant
- Child abuse
- Burnt and decomposed bodies
- Air embolism
- Diseases such as tuberculosis
- Medico-legal death investigations



FULL BODY

The eXero-dr full-body images present a comprehensive clinical picture, reducing guesswork, offering peace of mind, and better guiding cause-of-death determination. The full-body image replaces a number of smaller views, making it easier to locate and identify injuries, foreign bodies and identifying features. A pathologist's clinical judgement and forensic acumen is supplemented, making the eXero-dr system an invaluable resource.



HIGH SPEED

Throughput in a facility is increased by reducing the time required for full body examination.¹² Use of the Lodox reduces the total time required for full body coverage by approximately 87% (translating to 7 Lodox full body examinations vs. 1 on conventional radiography).³ Facility workflow is further improved by targeting or, in certain cases, obviating the need for an autopsy. This makes eXero-dr especially useful in mass casualty situations.

EASE OF USE

Dramatically reduced X-ray scatter makes Lodox technology safer for operation and surrounding pathology staff.^{1,4} Straightforward operation makes Lodox easy for staff to use,¹ with minimal specialized training or effort required. Flexible scan size and automated rotation of the scanning arm means less onerous manipulation of bodies for staff.

REFERENCES:

1. Knobel GJ, Flash G, Bowie GF. Lodox Statscan proves to be invaluable in forensic medicine. *S Afr Med J* 2006; 96(7):593 -594
2. Douglas TS, Fentoni-Muir N, Kawana K, Ngema Y, Liebenberg L. Radiological findings at a South African forensic pathology laboratory in cases of sudden unexpected death in infants. *S Afr J Radiol* 2012; 16(1): 4-6
3. Deyle S, Wagner A, Benneker LM, Jeger V, Eggli S, Bonel HM, Zimmermann H, Exadaktylos AK. Could full-body digital X-ray (LODOX Statscan) screening in trauma challenge conventional radiography? *J Trauma* 2009; 66(2): 418 - 422
4. Exadaktylos AK, Benneker LM, Jeger V, Martinoli L, Bonel HM, Eggli S, Potgieter H, Zimmerman H. Total-body digital X-ray in trauma. An experience report on the first operational full body scanner in Europe and its possible role in ATLS. *Injury* 2008; 39(5): 525 - 529

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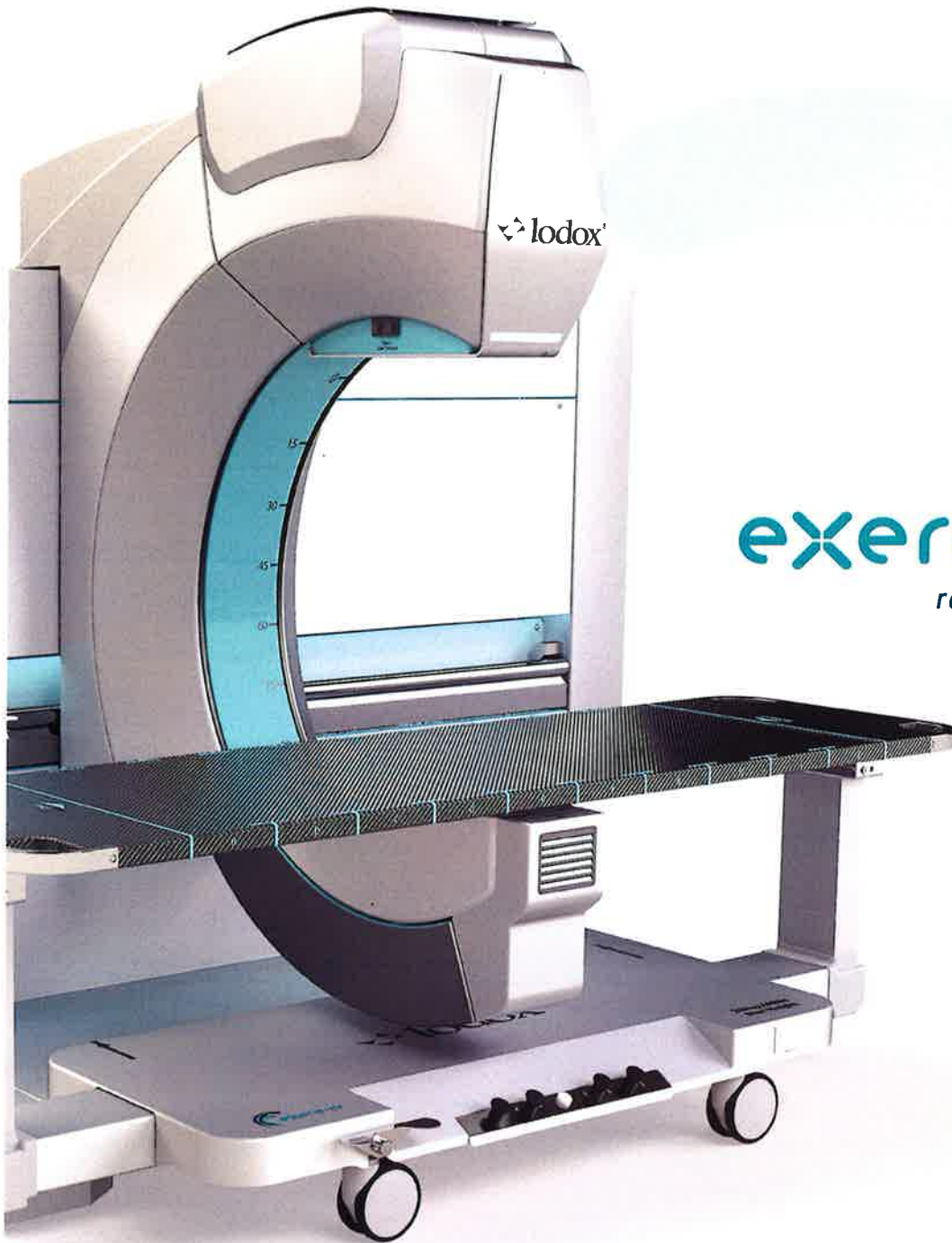
www.lodox.com | info@lodox.com

MKT-19-0045-A



eXero-dr Product Specifications

Full-body, high-speed digital radiology with low emission and scatter radiation

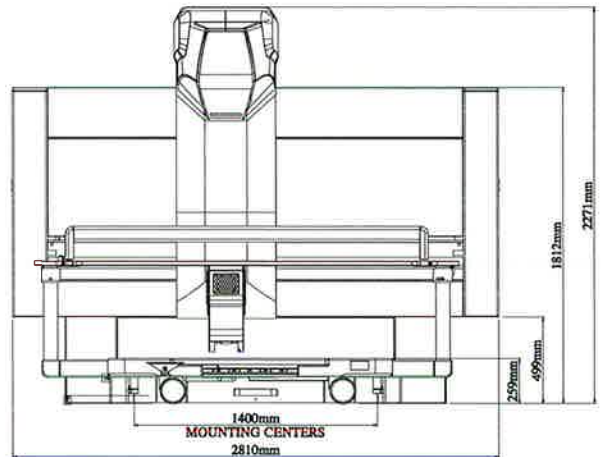


eXero-dr
rapidly evident

eXero-dr Product Specifications



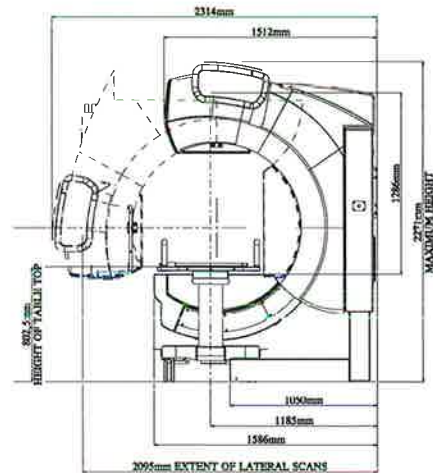
Diagram 1:
a) AP Position (0°)



b) Length



Diagram 2:
a) Lateral Position (90°)



b) Width

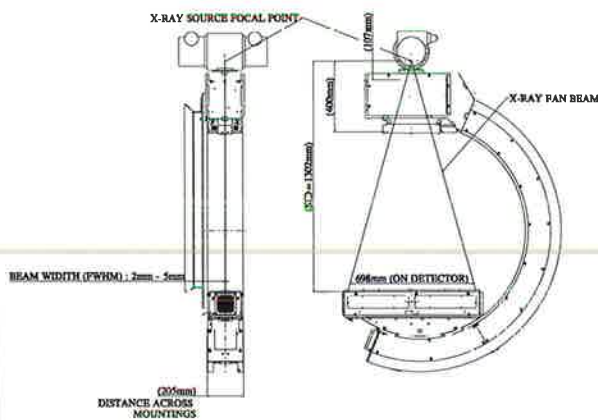


Diagram 3:

Diagram 3 illustrates the fixed, non-adjustable positions of the X-ray tube and the charged coupled device detector that is located at either ends of the C-arm. The X-ray tube and detector are positioned perpendicular with a fixed source image distance (SID) of 1302 mm.

eXero-dr Product Specifications

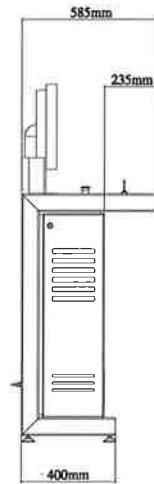


Diagram 4: User Interface (UI)

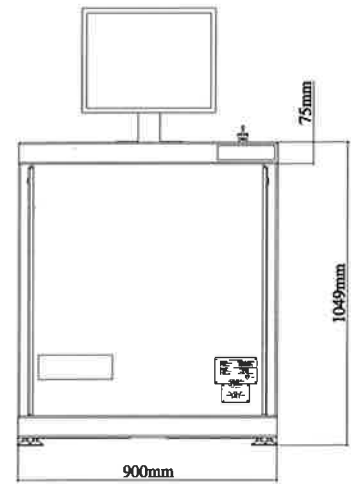


Diagram 5:

a) Operating Console (OC)



b) Width

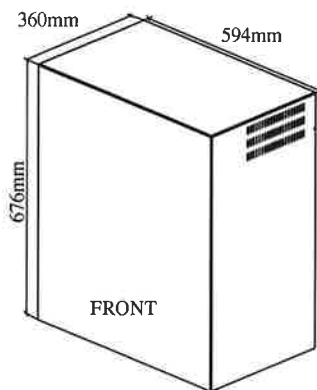


c) Length

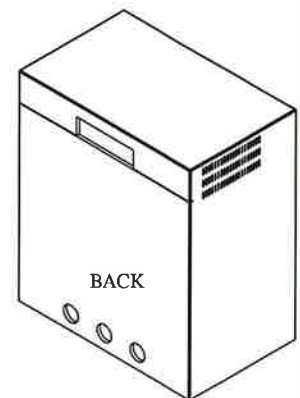


Diagram 6:

a) High Voltage Generator (HVG)



b) Front



c) Back

eXero-dr Product Specifications

IMAGE QUALITY

Contrast resolution:	> 16 000 grey levels (14 bits) - After log compression
Fundamental pixel size:	60 μ m (1x1 binning)
Maximum size:	1 800 mm x 680 mm (70.9" x 26.8") (full body size, measured at lowest table height on table top)

Resolution	Resolution (lp/mm)	Binning	Pixel size (μ m)	Contrast (Grey levels)	Max Symmetrical Rad Field
Ultra resolution	5.0	1x1	60	6 000	560 mm x 680 mm
Very high resolution	4.2	2x2	120	12 000	1120 mm x 680 mm
High resolution	2.1	4x4	240	24 000	1 800 mm x 680 mm
Standard resolution	1.4	6x6	360	36 000	1 800 mm x 680 mm
Base resolution	1.1	8x8	480	48 000	1 800 mm x 680 mm

Table 1: Spatial Resolution Mode²

SCANNER THROUGHPUT

Linear scanning rate or speed (3 settings):	35 mm/s, 70 mm/s, and 140 mm/s
Beam width (FWHM @ 1000mm from focal spot):	1.4 - 2.8 mm
Instantaneous frame rate (X-ray exposure duration at any one point):	22 - 88 milliseconds small slit
Full field scan time (AP):	<13 seconds (nominally 12.98 s at normal speed)
Time from "end-of-scan" until a diagnostic image becomes available on the DVS screen:	<15 seconds (normal resolution image on a stand-alone 100 Mbps/s ethernet base-T network)
Best case time between two successive X-rays on the same body:	78 seconds (provided heat capacity of X-ray tube < 20%)

IMAGE FLEXIBILITY

Radial angles:	0 to 90 degrees. The supine or prone body can be X-rayed in any radial angle from AP (or PA) to the supine lateral positions.
Caudal-cranial / Cranio-caudal angles:	0 to 10 degrees. Projections can easily be accomplished by angling imaging transversely tabletop as needed.
Longitudinal angles:	The trolley (gurney) top height can be adjusted vertically by 802.5 to 1 142.5 mm. Adjusting only one side of the trolley gives Trendelenburg angles up to \pm 10 degrees.

MACHINE DIMENSIONS

Weight:	1 500 kg / 3 307 lbs
Maximum dimensions:	L x W x H: 2 810 mm x 2 276 mm x 2 271 mm (110.6" x 89.6" x 89.4")
Room height requirement:	2 450 mm (96.5")
Operation envelope:	L x W x H: 2 834 mm x 2 322 mm x 2 322 mm (111.6" x 91.4" x 91.4")
Ideal room area:	L x W 6 000 mm x 3 000 mm (236.2" x 118.1")

DIGITAL VIEWING STATION (DVS)

Monitor:	High luminance (>250 Cd/m ²); high contrast (1 000:1); 1 920 x 1 080 pixels; size of 23" Medically rated DICOM compliant LCD available as an optional extra.
DICOM Compliant LCD:	Luminance 800 Cd/m ² (Typ), DICOM calibrated luminance 500 Cd/m ² , contrast 400:1 (typ); 2 048 x 1 536 pixels, size of 23"
Type:	DVS software is functionally integrated into the operator's workstation. Imaging software allowing image recall, database access, zoom, pan, rotate, lucid image enhancement, anatomical measurement capability and window/level control. (Optional standalone viewing workstations can be installed at convenient viewing locations)
Image storage:	500 GB Hard disk (minimum), includes a standard DVD writer
Image backup:	1 TB Hard disk (minimum), configurable

DETECTOR SYSTEM

Detector:	Proprietary ultra-low noise TDI CCD detector
X-ray to light conversion:	Gadox - GdOS ₂ :Tl

SMART TROLLEY

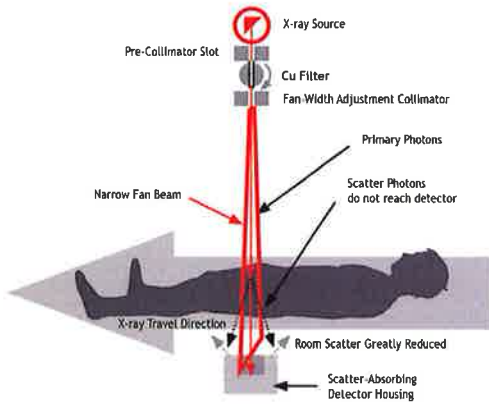
Dimensions:	L x W x H: 2 448 mm x 704 mm x 803 mm (96.4" x 27.7" x 31.6")
Weight capacity & positioning:	300 kg (660 lbs). Height can be adjusted from 807.5 to 1 147.5 mm. Allows Trendelenburg angles \pm 10 degrees. Automatically rises and lowers to accommodate C-arm movement when shifting from AP to lateral orientation.
Body loading / unloading:	Brake function - lock trolley in desired position.
Tabletop attenuation (aluminium equivalence):	Bariatric (300 kg): 1.5 mm (max)

NETWORK

Network data rate:	100 Mbps (minimum)
Network cables:	CAT 5e

eXero-dr Product Specifications

RADIATION SCATTER



- Lodox LSSR scanning system is a unique technology employing proprietary X-ray beam controlling mechanism, and linear scanning technique.
- The Lodox X-ray beam is highly collimated by a narrow slit and a fan-width adjustment collimator into a laser-like fan beam of primary X-ray photons which spreads out in only one direction (i.e. width).
- The narrow beam and high-quality primary photons reduce the number of X-rays scattered by the body, so no post-patient anti-scatter grid is required.
- In addition, the detector is fitted into a scatter-absorbing housing, which is designed to eliminate almost all remaining scatter before detection, increasing the signal to noise ratio in the detected image.
- The inherently higher quality image means that a significantly lower patient exposure is required to achieve diagnostic-quality images.
- The lower exposure and collimated, narrow fan-beam also significantly reduce scattered radiation throughout the room.
- The X-ray tube, X-ray fan beam, collimating slit and detector all move together along a linear scanning path, collecting X-ray information to produce X-ray images of 100 mm x 100 mm (3.9" x 3.9") up to 1 800 mm x 680 mm (70.9" x 26.8").

When X-rays are generated, they produce a spectrum of varying energy and flux. In many applications, particularly in general radiography, the lower end of the spectrum does not add any information to the X-ray image. In fact, these X-rays with lower energy are the ones that are blocked by the body, resulting in dose being deposited in the body without providing any imaging benefit.

Ideally, the lower end of the spectrum should be eliminated from the X-ray spectrum that is used to image the patient. This is done by adding a filter to the beam as it emerges from the X-ray source. Various metals of various thicknesses have different effects on the beam. However, they will all attenuate the X-ray beam and they will also block (filter out) some of the lower energy X-rays. This process of filtering the X-ray spectrum to remove low-energy X-rays is called beam hardening.

Typically, aluminium is used to harden the beam. A certain thickness of aluminium is already used in every eXero-dr to eliminate some of the low-energy X-rays. In addition, a very thin copper filter (0.1 mm) is installed in each machine and is used for exposures above 110 kV.

OUTPUT

Radiation type:	This equipment emits ionising radiation through an adjustable narrow slit collimator, thereby producing fan-beam scanning across the body. This slit is set to 0.4 mm (typically) or 1 mm (large bodies).		
Typical entrance dose:	Chest AP \pm 0.115 mGy. Medium Full Body AP \pm 0.12 mGy ¹ . For typical procedures less than 25% (on average) of equivalent conventional dose is needed.		
Scatter radiation:	Typical scatter dose measured at 1.5 metre from the center of the smart trolley for an averaged sized adult body at maximum workload (8 bodies per hour - 1 x AP Full Body & 1 x Upper Body LAT) is 0.116 mSv per hour ² .		
X-ray tube:	3 500 KHU with rotating anode.		
X-ray generator:	Peak power	64 kW	
	Voltage range	50 - 145 kVp	\pm (3% + 1 kVp)
	Voltage rise time	2 ms (10 to 90%)	
	Current range	32 mA to 400 mA	\pm (4% + 1 mA)
	Voltage ripple	0.5%	
	Exposure time	0.6 s to 16 s	\pm (2.5% + 10 ms)
	Operating frequency	40 kHz	

Generator power specifications:

Three-phase generator power			
64 kW			
Line Voltage	$I_{RMS}^{(1)}$	$Z_L \Omega^{(2)}$	Circuit Breaker Type ⁽³⁾
			B
400 Vac (380 Vac)	115 A	0.138 Ω	50 A
415 Vac	111 A	0.148 Ω	50 A
440 Vac	105 A	0.166 Ω	40 A
480 Vac	96 A	0.198 Ω	40 A
Differential Sensitivity (Earth Leakage / Ground Fault)	30 mA		
Minimum kVA required	80 kVA (Maximum kW x 1.25)		
⁽¹⁾ I_{RMS} (FOR THREE PHASE) = $(0.72 \times P) / VAC$ (I_{RMS} = Maximum instantaneous current based on 100 ms X-ray exposure)			
⁽²⁾ $Z_L \Omega$ = Maximum impedance of the distribution transformer			
⁽³⁾ Circuit Breaker (Differential, Thermomagnetic, Fuses and/or Contactor) Type "B" breaker: $M_b = (I_{RMS} \times 1.1) / 3$			
Feeder cable specification available on request.			

eXero-dr Product Specifications

Loading factors:

kV range is 50kV - 145kV, tolerance $\pm(3\% +1kV)$
 mA range is 32mA - 400 mA tolerance $\pm(4\%+1mA)$ in fixed steps as follows:

kV Range	50kV	60kV	70kV	80kV	90kV	100kV	110kV	120kV	130kV	135kV	140kV	145kV
mA Range	32mA	40mA	50mA	64mA	80mA	100mA	125mA	160mA	200mA	250mA	320mA	400mA

The exposure range is from 0,60 to 16.00 seconds (tolerance $\pm 5\%$)
 The maximum and minimum loading factors are dependent on the tube generator combination, available on request.

IMAGE VIEWING - Landscape or Portrait Image Display Capabilities

Image recall:	Images viewed by Previous, Next, Latest, Case number, Referring doctor etc.
Database:	Images in the database belonging to a study or case can be easily retrieved.
Zoom / Pan / Rotate / Aspect Ratio:	Real time "mouse wheel" zoom, pan, rotate, and aspect ratio adjustment all standard.
Image manipulation / Lucid image enhancement:	Windowing and levelling of grey scales automatically adjusted for optimal viewing. Initial "best view" with lucid enhanced image processing simultaneously adjusts for soft tissue and bone viewing.
Anatomical measurement capability:	Straight line and angle (eg. Cobb angles) measurements of any body part in any 2D projection.
Window / Levelling:	Allows the user to independently select the range of grey scales to be displayed.
Invert function:	Changes the view from a negative (white bone) to a positive (black bone) image.
Image size:	Variable dependent on exposure area, as well as resolution e.g. Full-body, standard resolution requires approximately 30 MB; largest possible image approximately 188 MB equates to 2 600 images on a 500 GB disk.

POWER REQUIREMENTS

eXero-dr ASP:	Single-phase / N / PE - 200 - 240 Vac (25 Δ) 50/60 Hz	
eXero-dr smart trolley:	Single-phase / N / PE - 200 - 240 Vac (16A) Optional 2 charge point from 110 Vac	
eXero-dr HVG:	Option 1 - 400 Vac (380 Vac) Three-phase / PE 400 Vac (380 Vac) 50 Hz ± 1 Hz	Option 2 - 480 Vac Three-phase / PE 480 Vac 60 Hz ± 1 Hz
HVG maximum power:	51 kW	
Minimum kVA required:	76.8 kVA	
RMS line current during exposure:	130 A	
Three phase circuit breaker rating:	60 A	
Single Phase circuit breaker rating:	20 A	
Maximum power line impedance:	0,135 Ω	
HVG standby consumption:	500 W	

AMBIENT ENVIRONMENT

Operating ambient temperature range:	+10°C to +25°C
Relative humidity:	40% - 75%
Atmospheric pressure:	700 hPa - 1 060 hPa
Ambient conditions:	Dust free, non-corrosive atmosphere
Estimated heat load:	10 000 Btu / h (2 500 kcal/h)
Recommend cooling capacity:	20 000 Btu / h (5 000 kcal/h) (dependent on room size)

- The Lodox eXero-dr should ideally be placed in a position where large fluctuations in temperature are avoided (i.e., if possible, not too close to an outside door, open window, etc.)
- The lighting in the Lodox eXero-dr area should be adequate, preferably of the fluorescent type, with no direct light source focused on the smart trolley in position. This will influence the brightness of the beam from the laser localizer.
- It is highly recommended that the DVS area be fitted with dimmable lights to ensure the highest level of image quality when diagnosing from the viewer.

eXero-dr Product Specifications

COMPLIANCE

ISO 13485:2016

MDSAP ISO 13485:2016

US FDA Pre-Market Clearance (510k) No. K013999 Accession #0310920



MEDICAL – FIELD INSTALLED APPLIED ELECTROMAGNETIC RADIATION EQUIPMENT
AS TO ELECTRICAL SHOCK, FIRE AND MECHANICAL HAZARDS ONLY
IN ACCORDANCE WITH

Base Standards: IEC 60601-1 Edition 3.1 (2012)
Additional standards: IEC 60601-1-3:2008 (Second Edition) + A1:2013
IEC 60601-1-6:2010 (Third Edition) + A1:2013
IEC 60601-2-54:2009 (First Edition) + A1:2015

For more information on other accreditations, please visit www.lodox.com

REFERENCES

1. Benjamin Irving, Radiation dose measurement and prediction for linear slit scanning radiography, 2008-07-11
2. A guide to understanding the radiological performance of the Lodox Statscan™ SYSTEM, GD-00-0004 C

Bid Opening Label

Complete the form below (or a reasonable facsimile thereof) and affix to the exterior lower left-hand corner of the submission package envelope.

Lodox NA, LLC

URGENT – SEALED PROPOSAL ENCLOSED

Do Not Delay – Deliver Immediately

Bid No.: X-Ray Imaging Solution, Forensic

Bid Title: 22-005B

Due Date: April 14th 2022 @ 11am Pacific

Supplier: Lodox NA, LLC



Mail To:

**Snohomish County Purchasing Division
Robert J Drewel Building, 6th Floor, MS 507
3000 Rockefeller Avenue
Everett, WA 98201**