



TANIT
Medical Engineering Services

REVOLUTION MAXIMA FINAL STUDY

A mandatory component of this drawing set is the GE Healthcare Pre Installation manual. Failure to reference the Pre Installation manual will result in

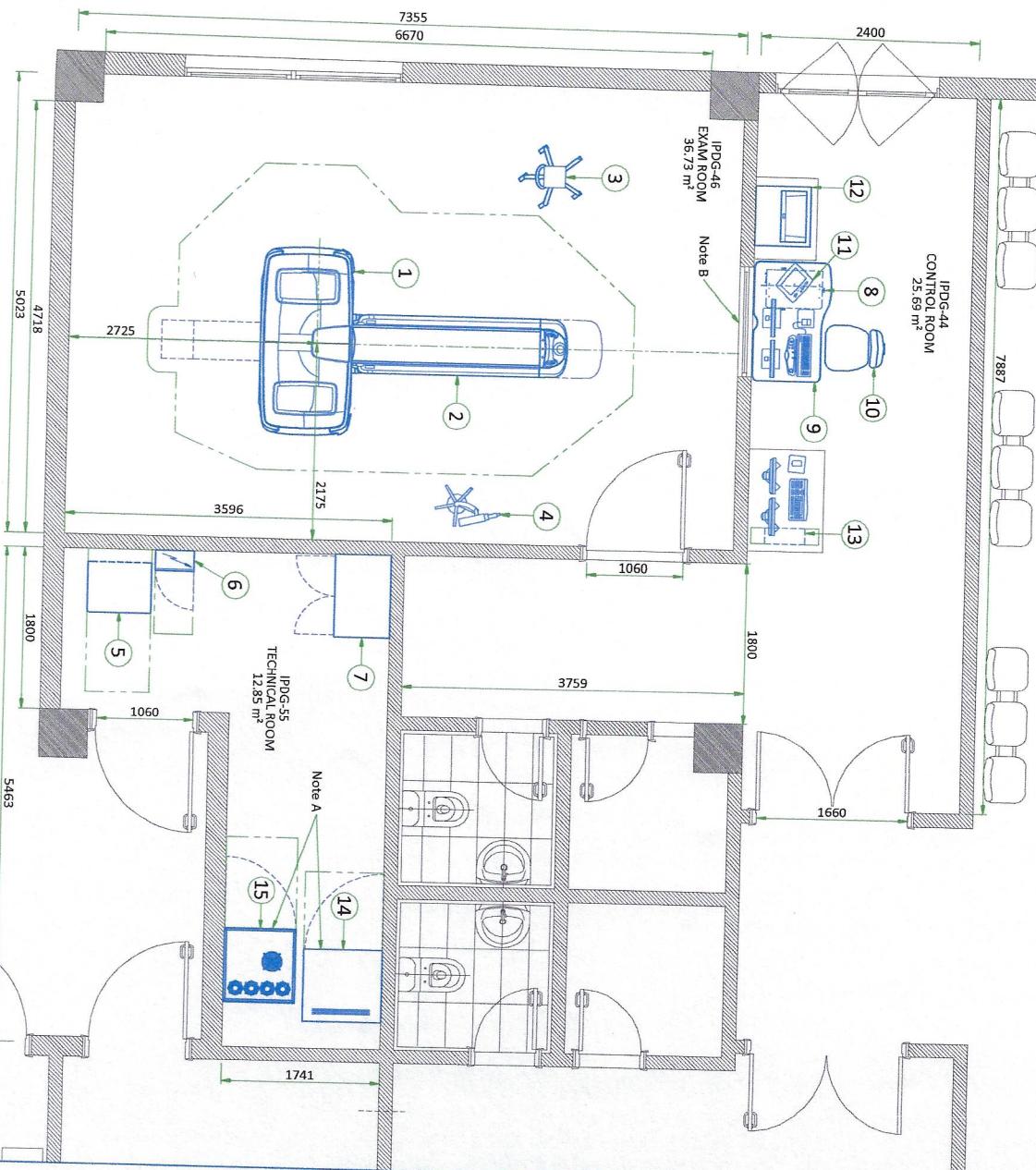
Pre Installation documents for incomplete documentation required for site design and preparation.

GE does not take responsibility for any damages resulting from changes made by others. Errors may occur by not referring to the complete set of final issue drawings. GE cannot accept responsibility for any damage due to the partial use of GE final issue drawings, however caused. All dimensions are in millimeters unless otherwise specified. Do not scale from printed pdf files. GE accepts no responsibility or liability for defective work due to scaling from these drawings.

| | | | | | |
|---|----------------------------------|---|-------------------------|-------------------|--------------|
| REV | DATE | Alternative version of CT-B329269-FIN-00-A (DC-409817) | | | |
| | | MODIFICATIONS | | | |
| 01 - Cover Sheet | 10 - Equipment Dimensions (2) | | | | |
| 02 - Equipment Layout | 11 - HVAC - Delivery | | | | |
| 03 - Structural - Electrical Layout | 12 - Disclaimer - Site Readiness | | | | |
| 04 - Floor Structural Details | | | | | |
| 05 - Radiation Protection Layout | | | | | |
| 06 - Radiation Protection Details | | | | | |
| 07 - Power Requirements - Power Distribution | | | | | |
| 08 - Environment - Interconnections | | | | | |
| 09 - Equipment Dimensions (1) | | | | | |
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| REVISION MAXIMA FINAL STUDY | | | | | |
| Drawn by | Verified by | Concession | S.O. (GON) | PIM Manual | Rev |
| I. Platonov | F. Kóczán | - | 5298241 | 5809942-1EN | 7 |
| Format | Scale | | File Name | Date | Sheet |
| A3 | 1:50 | | CT-B329269-FIN-01-A.DWG | 28/NOV/2023 | 01/12 |

EQUIPMENT LAYOUT

| ITEM | DESCRIPTION | DIMENSIONS LxWxH (mm) | WEIGHT (kg) |
|------|--------------------------------|--------------------------|----------------|
| 1 | GANTRY | - | 1558 |
| 2 | GT1700V TABLE | 2041x1314x1928 | 415 |
| 3 | ECG MONITOR | 650x2370x1046 | 415 |
| 4 | INJECTOR ON PEDESTAL | - | 3 |
| 5 | POWER DISTRIBUTION UNIT (PDU) | - | - |
| 6 | POWER DISTRIBUTION BOX (PDB) | 700x550x1062 | 370 |
| 7 | GE STORAGE CABINET | 225x424x929 | 33 |
| 8 | OPEN CONSOLE | 610x914x1067 | 68 |
| 9 | AURORA SW5 TABLE | 572x405x576 | 64.2 |
| 10 | OPERATOR'S CHAIR | 1300x850x850 | 40 |
| 11 | INJECTOR CONTROL | - | - |
| 12 | DV4700 LASER IMAGER | 660x610x470 | 54 |
| 13 | ADVANTAGE WORKSTATION (AW) | 445x169x386 | 31.7 |
| 14 | BATTERY CABINET FOR RIELLO UPS | - | - |
| 15 | RIELLO UPS MHT 120 kVA | - | - |

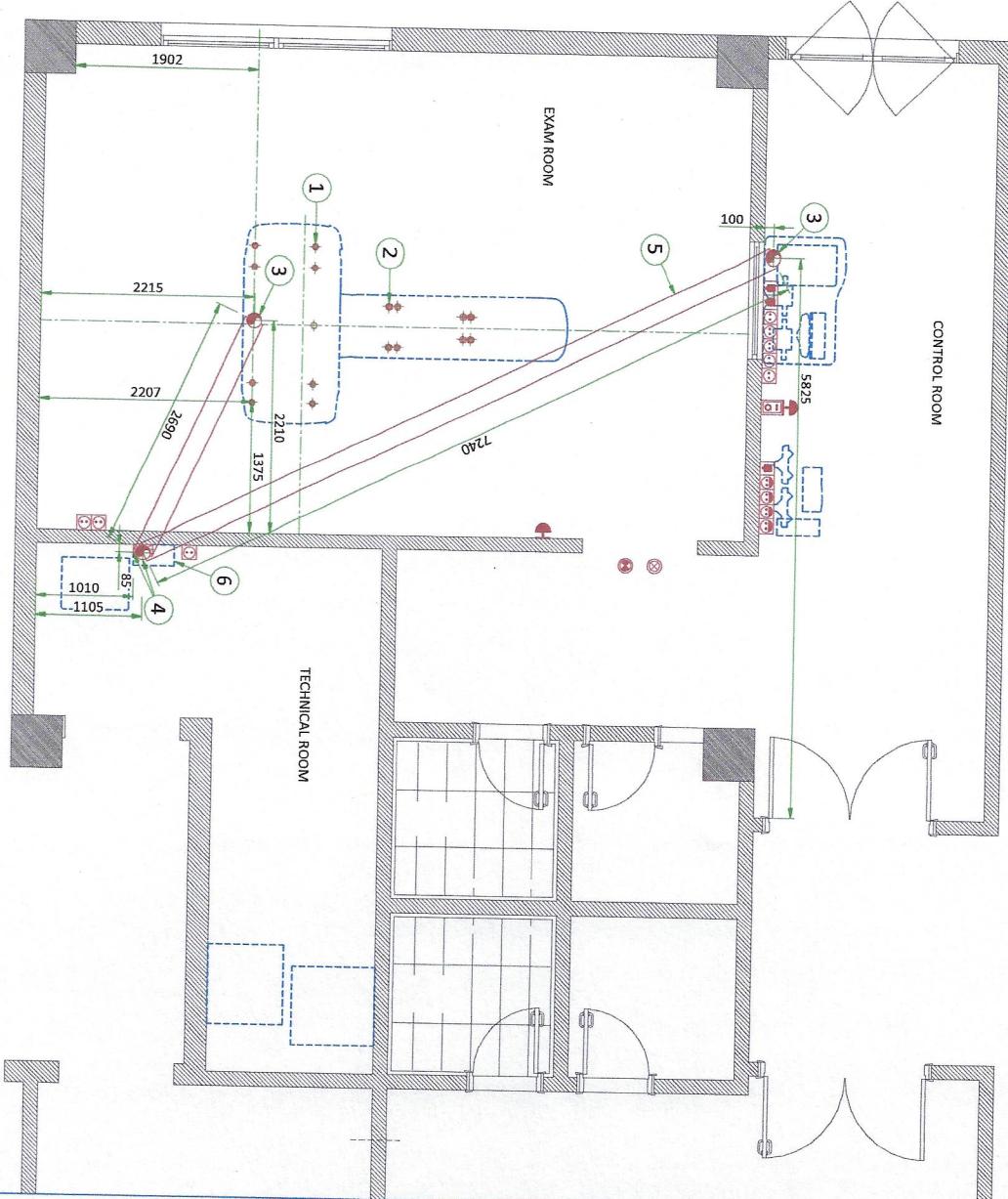


| WALL - ACCORDING TO RECEIVED DRAWING | |
|---|--------|
| STRUCTURE - ACCORDING TO RECEIVED DRAWING | |
| EXAM ROOM HEIGHT | |
| FINISHED FLOOR TO SLAB HEIGHT | 3.30 m |
| FAUX CEILING HEIGHT | 2.90 m |
| Notes: | |
| A) Heat dissipation: 8.3 kW | |
| B) Modified window | |

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STRUCTURAL-ELECTRICAL LAYOUT

| ITEM | QTY | DESCRIPTION |
|------|-----|---|
| 1 | | Gantry anchoring (see Structural Details) |
| 2 | | Table anchoring (see Structural Details) |
| 3 | | Ø150 cable inlet through floor slab |
| 4 | | Ø150 cable inlet through floor slab and 200x100 vertical duct for PDB cabling (h=1.1m) |
| 5 | | 200x50 cabinet tray under floor slab |
| 6 | | Power Distribution Box (PDB) |
| | | |
| | | Electrical outlet 10/16A, 230V + G |
| | | |
| | | RJ45 network socket |
| | | |
| | | System emergency off (SO), (recommended height 1.35m-1.85m above floor) |
| | | |
| | | X-Ray ON lamp (L1) - 24V |
| | | |
| | | System ON light (U) - 24V |
| | | |
| | | System remote control (Y) locked when power OFF "ON" and "OFF" impulse buttons with indicator lamps red/ON / green/OFF located at 1.50m above floor |
| | | |
| | | Electrical outlet: 10/16A, 230V/G, on uninterruptible power supply (if available) |
| | | |
| | | Cable tray under floor slab |

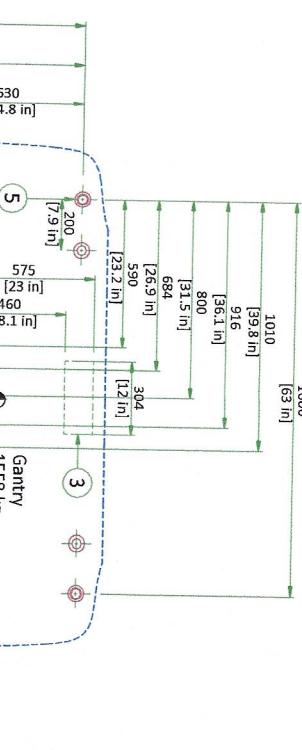


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ANCHORING/LOADING DISTRIBUTION TO THE FLOOR

FLOOR REQUIREMENTS

GE SUPPLIED TABLE/GANTRY ANCHORS



NOTES:

- The distance from central line of anchor to the edge of concrete basement of Gantry/Table should not be less than 178 mm [7 in].
- Torque anchor to 54 Nm (40 ft-lb)

FINISHED FLOOR REQUIREMENTS

- Installation requires a finish floor in the scan room and control rooms.
- The floor surface in the scan room directly under the gantry and table must be level.
- The floor levelness tolerance of the floor surface that the gantry and table will rest on is 6 mm [1/4 in] over a 3048 mm [10 ft] distance.
- Shims should not be used to compensate for a floor that does not meet this requirement.
- Eight or more floor covering openings that are 102 mm [4 in] in diameter are made to ensure the table and gantry rest on a solid surface.
- These floor penetrations can be sealed if required.
- These requirements apply to all installation types.

NOT TO SCALE

TYPICAL CABLE MANAGEMENT

PIPE UNDER FLOOR

(Typical grommeted opening
(opening and grommet material
provided by customers contractor))

VERTICAL DUCT ON WALL

Dividers as required
per local code

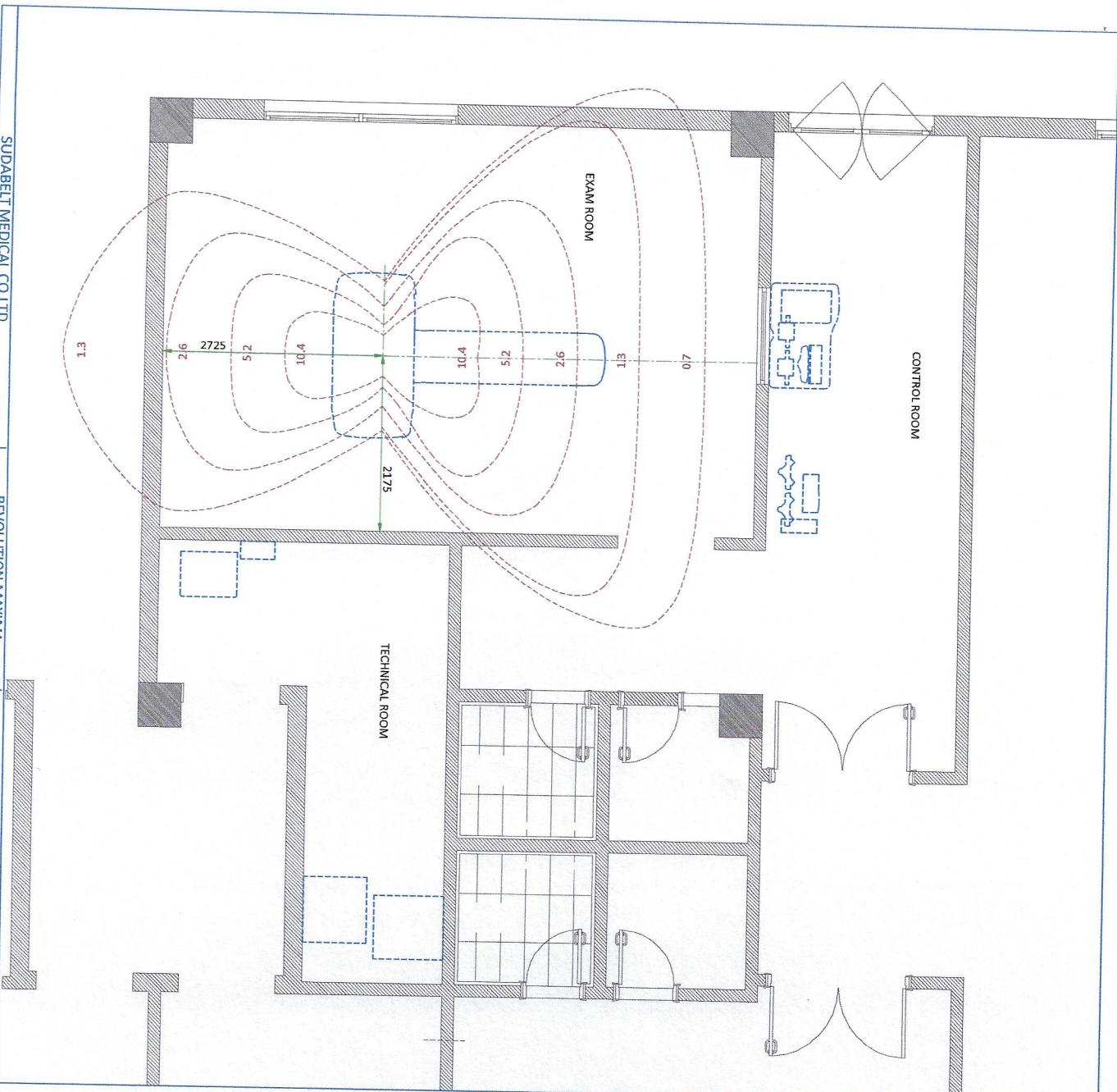
Removable coverplate

- (1) Scan center line
- (2) Longitudinal axis
- (3) Cable inlet area
- (4) Gantry anchoring points
- (5) First anchor to be drilled "Anchor A"
- (6) Table anchoring points
- (7) Front levelling screw
- (8) Center of gravity
- Main anchoring points
- Backup anchoring points

SCALE 1:20

NOT TO SCALE

RADIATION PROTECTION LAYOUT



SHIELDING REQUIREMENTS:

Engage a qualified radiological health physicist to review your scan room shielding requirements, taking into consideration:

- Scatter radiation levels within the scanning room.
- Equipment placement.
- Weekly projected work loads (number of patients/day technique (kVp*mA))
- Materials used for construction of walls, floors, ceiling, doors, and windows.
- Activities in surrounding scan room areas (e.g., film developer, film storage)
- Room size and equipment placement within the room relative to room size.

The illustrations on this page depict measured radiation levels within the scanning room, while scanning a 32 cm CTD phantom with the technique shown:

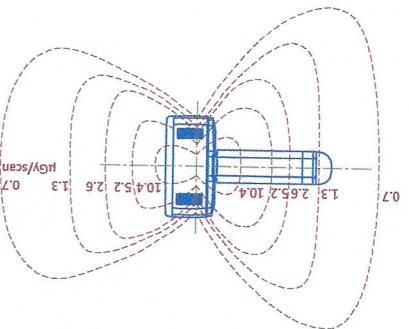
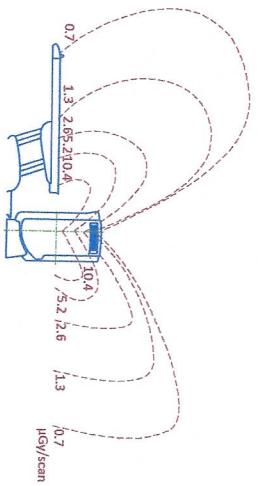
- 140 kV
 - 100 mA
 - 1 sec.
 - 40 mm
- Use the mAs, kV and aperture scaling factors in the table shown here to adjust exposure levels to the scan technique used at the site.

NOTE: Actual measurements can vary. Expected deviations equals $\pm 15\%$, except for the 5 mA and 1 mm techniques, where variations may be greater (up to a factor of 2), due to the inherent deviation in small values. The maximum deviation anticipated for tube output equals $\pm 40\%$.

| CHANGED PARAMETER (mAs) | MULTIPLICATION FACTOR (new mAs/100) |
|-------------------------|-------------------------------------|
| 80 kV | 0.24 |
| 100 kV | 0.45 |
| 120 kV | 0.71 |
| 140 kV | 1.00 |
| 1 mm aperture | 0.20 |
| 3 mm aperture | 0.22 |
| 5 mm aperture | 0.27 |
| 10 mm aperture | 0.38 |
| 15 mm aperture | 0.48 |
| 20 mm aperture | 0.59 |
| 30 mm aperture | 0.79 |
| 40 mm aperture | 1.00 |

RADIATION SCATTER - HEAD PHANTOM

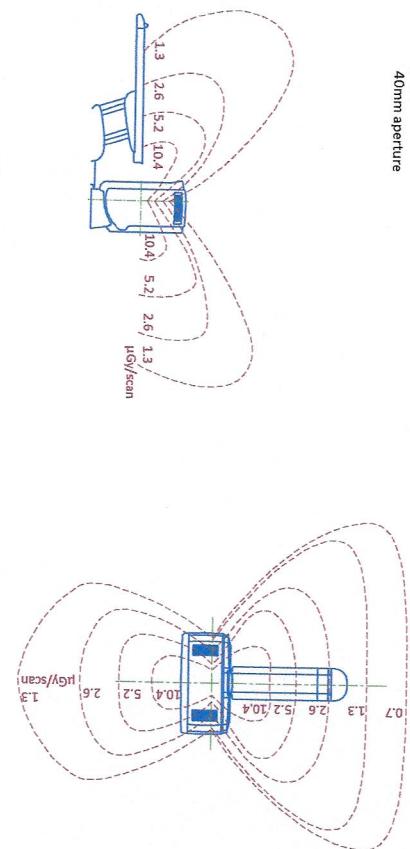
NOTE:
140 kV
100 mA/scan
1 sec
40mm aperture



RADIATION SCATTER - BODY PHANTOM

APPROX.
0" 50"
0.5 1.0m

Plan View



Elevation

Plan View

APPROX.
0" 50"
0.5 1.0m

POWER REQUIREMENTS

| | | |
|-----------------------------------|---|------|
| POWER SUPPLY | 3 PHASES+N+G 200/220/240/380/400/420/440/460/480 V ± 10% | |
| FREQUENCIES | 50/60 Hz ± 3 Hz | |
| MAXIMUM POWER DEMAND | 75 kVA | |
| AVERAGE (CONTINUOUS) POWER DEMAND | 20 kVA | 0.85 |

- Power supply should come into a main disconnect panel (MDP) containing the protective units and controls.
- The section of the supply cable should be calculated in accordance with its length and the maximum permissible voltage drops.
- There must be discrimination between supply/cable protective device at the beginning of the installation (main low-voltage transformer side) and the protective devices in the MDP.

SUPPLY CHARACTERISTICS

- Power input must be separate from any others which may generate transients (elevators, air conditioning, radiology rooms equipped with high speed film changers...).
- All equipment (lighting, power outlets, etc...) installed with GE system components must be powered separately.
- Phase imbalance 2% maximum.
- Transients must be less than 1500V peak. (on a 400V line)

GROUND SYSTEM

- System of equipotential grounding.
- Equipotential: The equipotential link will be by means of an equipotential bar. This equipotential bar should be connected to the protective earth conductors in the ducts of the non GE cableways and to additional equipotential connections linking up all the conducting units in the rooms where GE system units are located.

CABLES

- Power and cable installation must comply with the distribution diagram.
- All cables must be isolated and flexible, cable color codes must comply with standards for electrical installation.
- The cables from signalling and remote control (Y, SEO, L...) will go to MDP with a pigtail length of 1.5m, and will be connected during installation. Each conductor will be identified and isolated (screw connector).

CABLEWAYS

- The general rules for laying cableways should meet the conditions laid down in current standards and regulations, with regard to:
- Protecting cables against water (cableways should be waterproof).
 - Protecting cables against abnormal temperatures (proximity to heating pipes or ducts).
 - Protecting cables against temperature shocks.
 - Replacing cables (cableways should be large enough for cables to be replaced).
 - Metal cableways should be grounded.



POWER DISTRIBUTION

For Main Supply (3 phases) Feeder and Ground wire size Refer to Table2

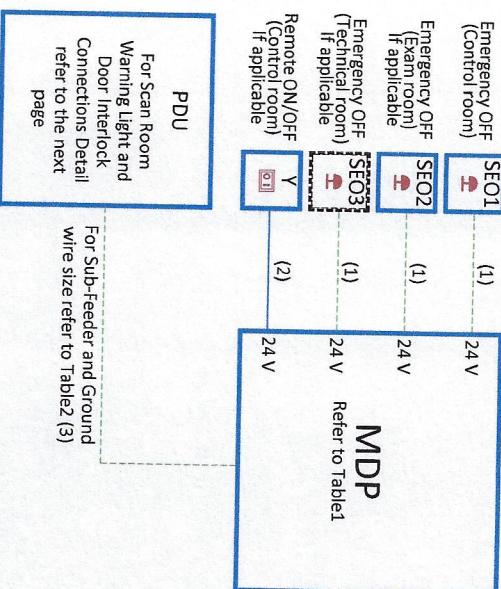


Table1:

| GE Supplied Main Disconnect Panel (MDP) | | |
|---|--------------|------|
| Region | CAT number | Amps |
| Global except EMEA(440~480 V) | E4502BB | 90 |
| Global except EMEA(380~420 V) | E4502BC | 110 |
| EMEA(380~420 V) | E45021BB (3) | 125 |

Table2:

Feeder Table

The information below assumes the use of copper wire, rated 75°C and run in steel conduit. All ampacity is determined in accordance with the National Electrical Code (NFPA 70, Table 310-15 (2002)). The ampacity of the circuit protection device listed above determines the minimum feeder size, except where total source regulation limits require a larger size. If the wire size does not match the above lists, please select the nearest wire size as per to local standards

| Feeder length from Power Substation to MDP - ft. (m) | Minimum Wire Size, AWG or MCW (mm ²)/VAC | | | | | |
|--|--|-------------|-------------|------------|-----------|-----------|
| | 200 VAC | 220 VAC | 240 VAC | 380 VAC | 400 VAC | 420 VAC |
| 50 (15) | 1 (45) | 2 (35) | 3 (30) | 4 (22) | 4 (22) | 4 (22) |
| 100 (30) | 1 (0) (55) | 1 (0) (55) | 1 (45) | 4 (22) | 4 (22) | 4 (22) |
| 150 (46) | 3 (0) (85) | 2 (0) (70) | 2 (0) (70) | 4 (22) | 4 (22) | 4 (22) |
| 200 (61) | 4 (0) (100) | 4 (0) (100) | 3 (0) (85) | 2 (3) (5) | 3 (3) (0) | 4 (22) |
| 250 (76) | 5 (0) (125) | 5 (0) (125) | 4 (0) (100) | 2 (3) (5) | 2 (3) (5) | 4 (22) |
| 300 (91) | 6 (0) (170) | 5 (0) (125) | 1 (45) | 1 (45) | 2 (3) (5) | 3 (3) (0) |
| 350 (107) | 7 (0) (215) | 6 (0) (170) | 5 (0) (125) | 1 (0) (55) | 1 (45) | 2 (3) (5) |
| 400 (122) | 7 (0) (215) | 6 (0) (170) | 2 (0) (70) | 1 (0) (55) | 1 (45) | 1 (45) |
| Sub-Feeder length from MDP to PDU - ft (m) | 3.2 (0.7536) | 1 (45) | 2 (35) | 3 (30) | 4 (22) | 4 (22) |

Grounding

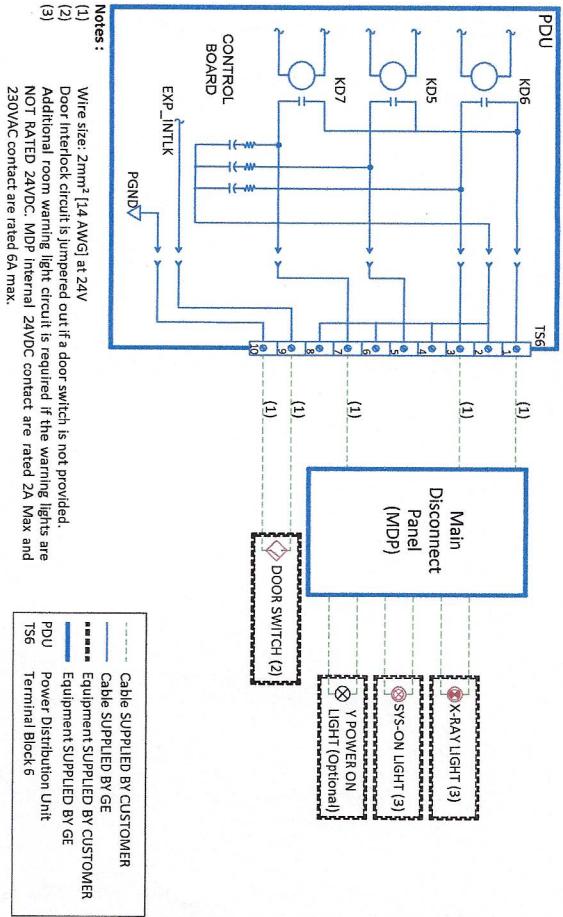
Run a dedicated 1/0 [50 mm²] or larger insulated copper ground wire from the power source to the MDP and from MDP to the PDU. Run the ground wire in the same raceway with the three-phase wires.

Notes :

- Wire size: 4x2mm² [14AWG] and 1x2mm² [14AWG] GND
- Power cable: 3 Meter/10' multi-conductor, 24V DC
- GE supplied MDP option E45021BB includes a 10 meter long power cable (H07RN-F) with wire size 4x50mm² and a 50 meter long control cable with wire size 2x1.5mm²

SCAN ROOM WARNING LIGHT AND DOOR INTERLOCK

INTERCONNECTIONS



ENVIRONMENT

ALTITUDE

- The system shall meet all functional and performance specifications when placed in a room that is at an elevation of -150 m to 2,400 m [-492 ft to 7,875 ft] above sea level. For different altitudes refer to the PIM.

MAGNETIC FIELD SPECIFICATIONS

- Limit the magnetic interference to guarantee specified imaging performance.

GANTRY:

- Ambient static magnetic fields less than 1 Gauss.
- Ambient AC magnetic fields less than 0.01 Gauss peak.

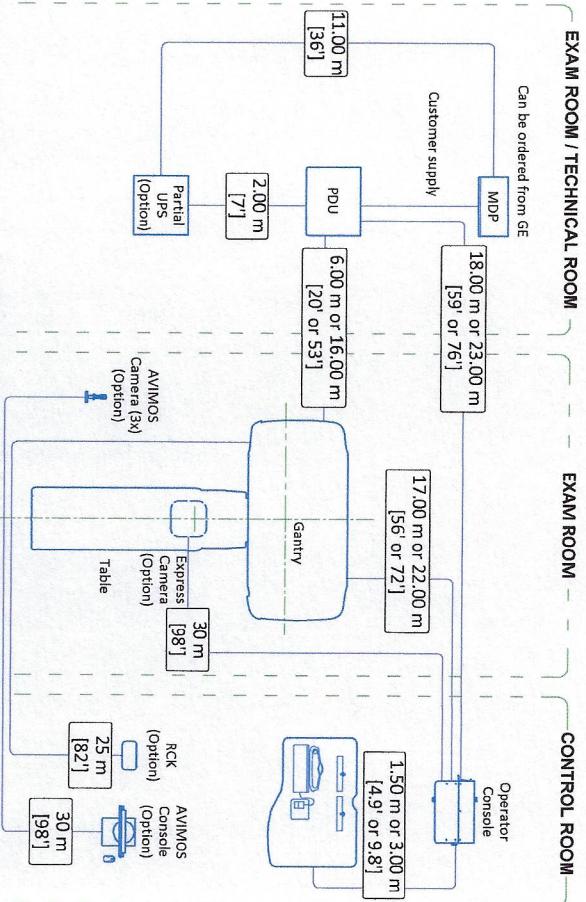
OPERATOR CONSOLE:

- Ambient static magnetic fields less than 10 Gauss.

SYSTEM COMPONENT NOISE LEVEL

- Maximum Gantry Audible Noise Level:** The maximum ambient noise level is produced by the gantry during a CT scan acquisition. It is less than 70 dBA when measured at a distance of 1 m [3.3 ft] from the nearest gantry surface, in any direction.
- Maximum Console Audible Noise Level:** The maximum ambient noise levels is less than or equal to 54 dBA when measured 1 m [3.3 ft] up and 1 m [3.3 ft] away from the console at an ambient temperature of 26°C [79°F].

CONNECTIVITY REQUIREMENTS



Your new GE Healthcare imaging modality will require local and remote connectivity to enable our full range of digital support:

- Local connectivity - This allows your system to connect to local devices such as PACS and modality worklist.
- We will require network information to configure the system(s), and a live ethernet port(s) prior to the delivery of the system(s).
- Remote connectivity - Your GE Healthcare service warranty includes InSite™ (applicable to InSite capable products), a powerful broadband-based service which enables digital tools that can help guard your hospital against equipment downtime and revenue loss by quickly connecting you to a GE Healthcare expert.

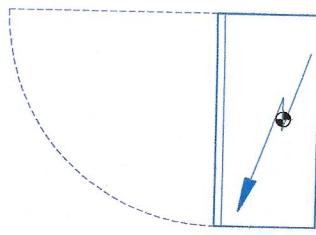
Depending on product family and software version, imaging systems can be connected in one of the following methods:

1. TLS over TCP Port 443 (Preferred method for new products) via:
 - a. DNS resolution
 - b. Customer-provided Proxy or
 - c. GE Proxy (Available in some regions)
2. Site-to-Site IPsec (VPN tunnel)

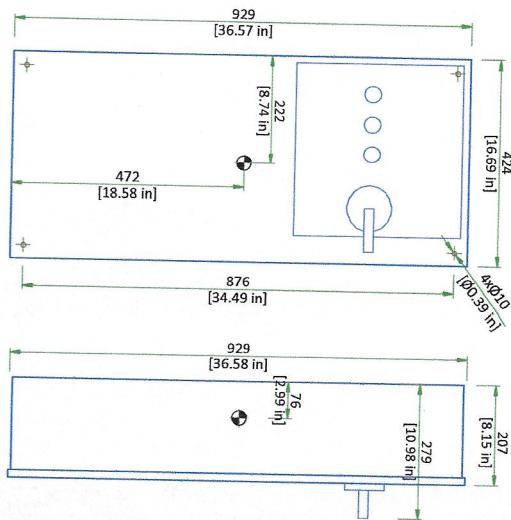
Please provide the GE project manager with the contact information for the resource that can provide information required to set up these connections. GEHC will send out communication to these contacts, which will include the project's Connectivity requirements, and a Connectivity form. This form will need to be completed and returned to GEHC prior to delivery of the system to ensure the system is tested and connectivity is enabled prior to the completion of the installation.

MAIN DISCONNECT PANEL

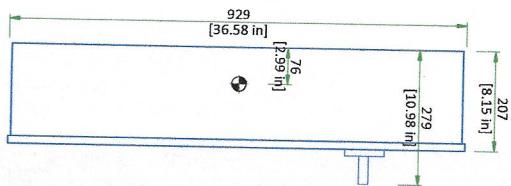
TOP VIEW



FRONT VIEW



SIDE VIEW



Center of gravity
SCALE 1:10


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TEMPERATURE AND HUMIDITY SPECIFICATIONS

DELIVERY

IN-USE CONDITIONS

| | EXAM ROOM | | | CONTROL ROOM | | | TECHNICAL ROOM | | |
|-----------------------|-----------|-------------|------|--------------|-------------|------|----------------|-------------|------|
| | Min | Recommended | Max | Min | Recommended | Max | Min | Recommended | Max |
| Temperature | 18°C | 22°C | 26°C | 18°C | 22°C | 26°C | 18°C | 22°C | 26°C |
| Relative humidity (1) | 64°F | 72°F | 79°F | 64°F | 72°F | 79°F | 64°F | 72°F | 79°F |

STORAGE CONDITIONS

| | |
|-----------------------|---------------|
| Temperature | 0°C to +30°C |
| Temperature gradient | 32°F to +65°F |
| Relative humidity (1) | ≤ 55°F/h |
| Humidity gradient | up to 70% |

Storage longer than 6 months is not recommended.

(1) Non-Condensing

According to local standards.

NOTE:
In case of using air conditioning systems that have a risk of water leakage, it is recommended not to install it above electric equipment or to take measures to protect the equipment from dropping water.

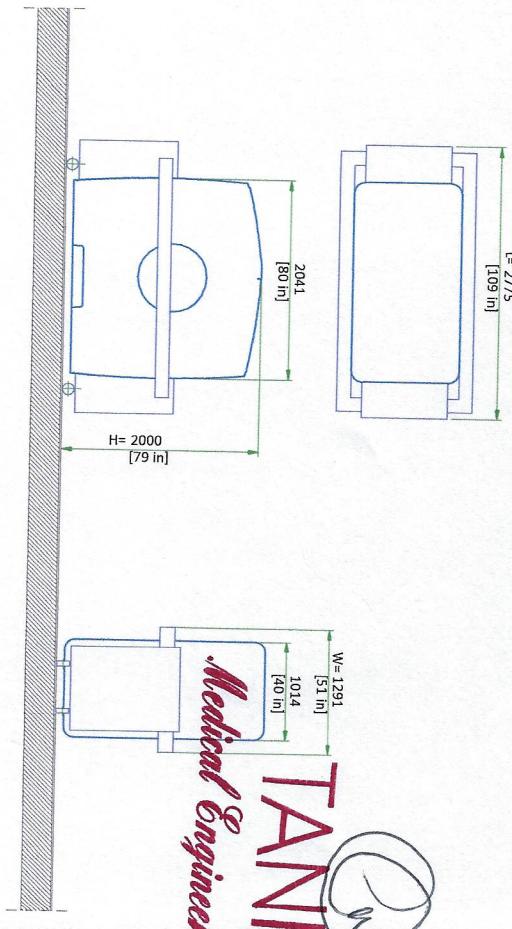
HEAT DISSIPATION DETAILS

| ROOM | DESCRIPTION | Max (kW) (BTU) |
|-----------------|--|----------------------|
| Gantry | | |
| Exam Room | GT1700V/GT2000 Table | 5.48 18700 |
| | TOTAL | 0.3 1030 |
| | | 5.78 19730 |
| Technical Room* | | |
| | Power Distribution Unit | 1.0 3400 |
| | TOTAL | 1.00 3400 |
| Control Room | Operator console | 0.84 2860 |
| | LCD monitor [Total amount of 2 monitors] | 0.1 340 |
| | AW Workstation | 1.0 3412 |
| | TOTAL | 1.94 6512 |

*Technical Room is not mandatory, the placements of these elements are recommended in the Exam Room.

GANTRY DELIVERY

| EQUIPMENT | DIMENSIONS | | WEIGHT |
|---------------|------------|---------------------|---------------------|
| GANTRY | LENGTH | 2775 mm [109 in] | 109 in |
| | WIDTH | 1291 mm 51 in | 1835 kg 4049 lbs |
| GT1700V TABLE | HEIGHT | 79 in 2489 mm | 98 in |
| | LENGTH | 762 mm 30 in | 575 kg 1270 lbs |
| | WIDTH | 1143 mm | 45 in |
| | HEIGHT | | |



- The gantry is shipped on a dolly equipped with elevating casters (normal shipping configuration).

NOT TO SCALE

THE CUSTOMER/CONTRACTOR SHOULD:

- Provide an area adjacent to the installation site for delivery and unloading of the GE equipment.
- Ensure that the dimensions of all doors, corridors, ceiling heights are sufficient to accommodate the movement of GE equipment from the delivery area into the definitive Installation room.
- Ensure that access routes for equipment will accommodate the weights of the equipment and any transportation, lifting and rigging equipment.
- Ensure that all necessary arrangements for stopping and unloading on public or private property not belonging to the customer have been made.

DELIVERY

DISCLAIMER

CUSTOMER SITE READINESS REQUIREMENTS

GENERAL SPECIFICATIONS

- GE is not responsible for the installation of developers and associated equipment, lighting, cassette trays and protective screens or derivatives not mentioned in the order.
- The final study contains recommendations for the location of GE equipment and associated devices, electrical wiring and room arrangements. When preparing the study, every effort has been made to consider every aspect of the actual equipment expected to be installed.
- The layout of the equipment offered by GE, the dimensions given for the premises, the details provided for the pre-installation work and electrical power supply are given according to the information noted during on-site study and the wishes expressed by the customer.
- The room dimensions used to create the equipment layout may originate from a previous layout and may not be accurate as they may not have been verified on site. GE cannot take any responsibility for errors due to lack of information.
- Dimensions apply to finished surfaces of the room.
- Actual configuration may differ from options presented in some typical views or tables.
- If this set of final drawings has been approved by the customer, any subsequent modification of the site must be subject to further investigation by GE about the feasibility of installing the equipment. Any reservations must be noted.
- The equipment layout indicates the placement and interconnection of the indicated equipment components. There may be local requirements that could impact the placement of these components. It remains the customer's responsibility to ensure that the site and final equipment placement complies with all applicable local requirements.
- All work required to install GE equipment must be carried out in compliance with the building regulations and the safety standards of legal force in the country concerned.
- These drawings are not to be used for actual construction purposes. The company cannot take responsibility for any damage resulting therefrom.

CUSTOMER RESPONSIBILITIES

- It is the responsibility of the customer to prepare the site in accordance with the specifications stated in the final study. A detailed site readiness checklist is provided by GE. It is the responsibility of the customer to ensure all requirements are fulfilled and that the site conforms to all specifications defined in the checklist and final study. The GE Project Manager of installation (PMI) will work in cooperation with the customer to follow up and ensure that actions in the checklist are complete, and if necessary, will aid in the rescheduling of the delivery and installation date.
- Prior to installation, a structural engineer of record must ensure that the floor and ceiling is designed in such a way that the loads of the installed system can be securely borne and transferred. The layout of additional structural elements, dimensioning and the selection of appropriate installation methods are the sole responsibility of the structural engineer. Execution of load bearing structures supporting equipment on the ceiling, floor or walls are the customer's responsibility.

RADIO-PROTECTION

- Suitable radiological protection must be determined by a qualified radiological physicist in conformation with local regulations. GE does not take responsibility for the specification or provision of radio-protection.

REQUIRED MANUALS FOR SYSTEM PRE-INSTALLATION

| Description | Document Number* |
|--|---|
| Product specific Pre-installation Manual | Refer to cover page * documents can be accessed in multiple languages at https://customer-doc.cloud.gehealthcare.com/#cdp/dashboard |

- A mandatory component of this drawing set is the GE Healthcare Pre-installation manual. Failure to reference the Pre-installation manual will result in incomplete documentation required for site design and preparation.
- The items on the GE Healthcare Site Readiness Checklist: [DOC1809666](#) are REQUIRED to facilitate equipment delivery to the site. Equipment will not be delivered if these requirements are not satisfied.
- Any deviation from these drawings must be communicated in writing to and reviewed by your local GE Healthcare installation project manager prior to making changes.

- Make arrangements for any rigging, special handling, or facility modifications that must be made to deliver the equipment to the installation site. If desired, your local GE Healthcare installation project manager can supply a reference list of rigging contractors.
- New construction requires the following:
 1. Secure area for equipment,
 2. Power for drills and other test equipment,
 3. Restrooms.
- Provide for refuse removal and disposal (e.g. crates, cartons, packing)
- For CT systems it is required to minimize vibrations within the scan room. It is the customer's responsibility to contract a vibration consultant/ engineer to implement site design modifications to meet the GE vibration specification. Refer to the system Pre-installation manual for vibration specifications.

| | | |
|---|------------|--|
| THE UNDERSIGNED, HEREBY CERTIFIES THAT I HAVE READ AND APPROVED THE PLANS IN THIS DOCUMENT: | | |
| DATE | NAME | SIGNATURE |
| 14 - DEC. - 2023 | Kalyan Dey |  |

SUDABELT MEDICAL CO LTD

REVOLUTION MAXIMA

TANIT

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CT-B329259-FIN-01-A.DWG

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| Rev A | Date 28/NOV/2023 |

Disclaimer - Site Readiness

| 12/12