REV	DATE	MODIFICATIONS

Typical

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01 - C1 - Cover Sheet
02 - C2 - Disclaimer - Site Readiness
03 - A1 - General Notes
04 - A2 - Equipment Layout
05 - A3 - Radiation Protection
06 - A4 - Radiation Protection Details (1)
07 - A5 - Radiation Protection Details (2)
08 - A6 - Equipment Details (1)
09 - A7 - Equipment Details (2)
10 - A8 - Delivery
11 - S1 - Structural Notes
12 - S2 - Structural Layout
13 - S3 - Structural Details (1)
14 - M1 - HVAC
15 - E1 - Electrical Notes
16 - E2 - Electrical Layout
17 - E3 - Electrical Elevations
18 - E4 - Power Requirements
19 - E5 - Electrical Details-Interconnections

GE HealthCare

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.
Pre Installation documents for GE HealthCare products can be accessed on the web at: *https://www.gehealthcare.com/support/manuals*

NM/CT 850 - NM/CT 860
FINAL STUDY

Drawn by	Verified by	Concession	GON/Quote	PIM Manual	Rev
RET	CPC	-	-	5789917-1EN	6

Format	Scale	File Name	Date	Sheet
A3	1/4"=1'-0"	EN-NUC-TYP-NMCT_850-860-NF.DWG	20/Sep/2024	01/21

DISCLAIMER

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.

THE UNDERSIGNED, HEREBY CERTIFIES THAT I HAVE READ AND APPROVED THE PLANS IN THIS DOCUMENT.		
DATE	**NAME**	**SIGNATURE**

CUSTOMER SITE READINESS REQUIREMENTS

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://www.gehealthcare.com/support/manuals*	

- 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 **DOC2949061** and Worksheet **DOC2949068** 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)
  - 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.

ENVIRONMENT

ALTITUDE

- Operating altitude: from -150 m [-492 ft] to 4100 m [13451 ft].

MAGNETIC FIELD SPECIFICATIONS

- In order to avoid interference on the system, the static field limits from the surrounding environment must be less than 1 Gauss in both the scan and the operator rooms.

Gantry :

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

Operator console, color monitor, magnetic media :

- Ambient static magnetic fields less than 10 Gauss.

MAXIMUM GANTRY AUDIBLE NOISE LEVEL

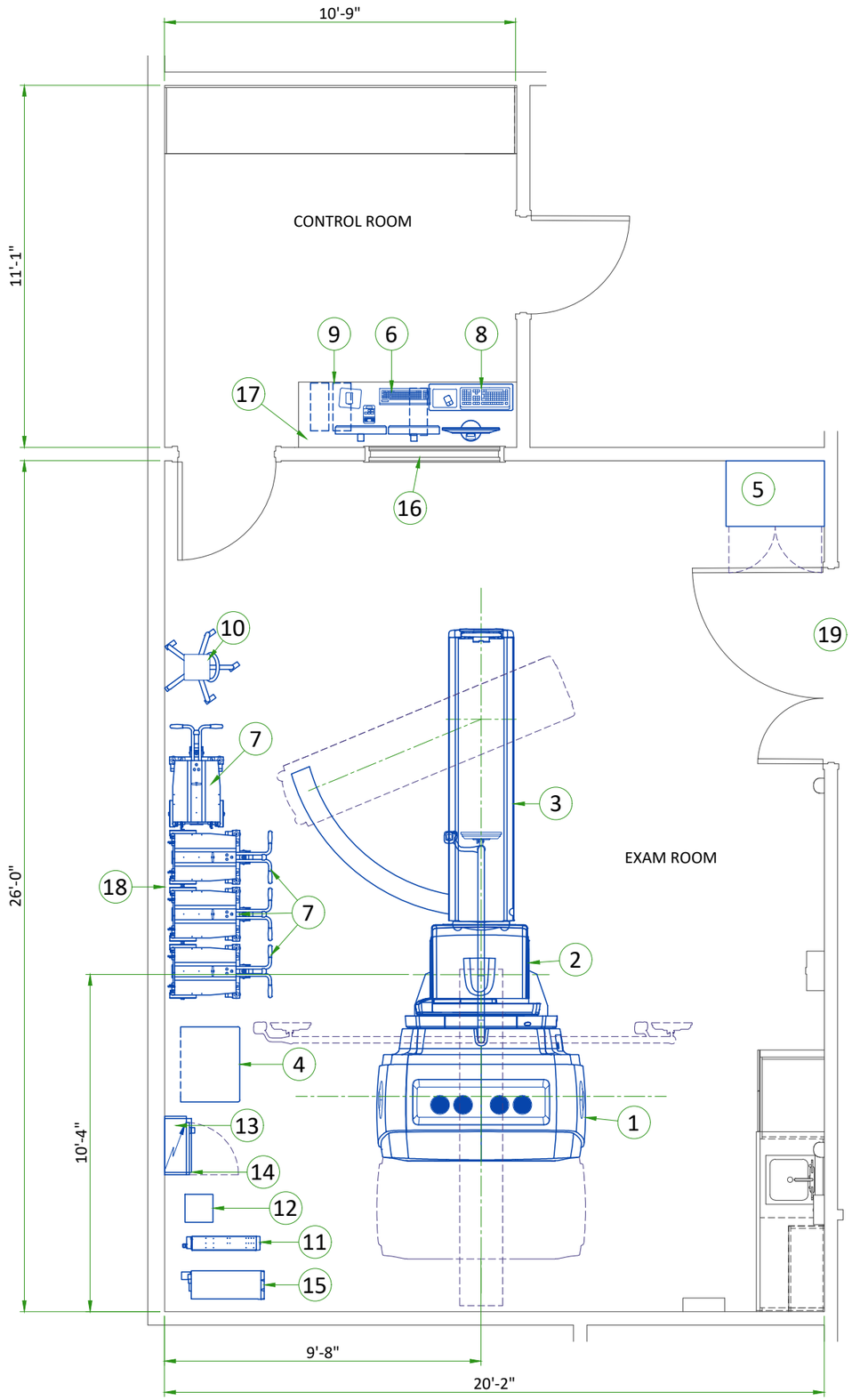
- The maximum ambient noise level is produced by the gantry during a CT scan acquisition.
- It is less than 70 dB when measured at a distance of one meter from the nearest gantry surface, in any direction.

BACKGROUND RADIATION

- When the system is calibrated, background radiation from surrounding areas may adversely affect calibration. Therefore all radiation sources must be suitable shielded, including:
  - Waiting/Injection areas
  - Radionuclide storage and preparation area (sometimes known as "Hot Lab")

VIBRATION SPECIFICATIONS

- The system components are sensitive to vibration in the frequency range of 0.5 to 20 Hz, depending on the amplitude of the vibration. It is the customer’s responsibility to contract a vibration consultant or qualified engineer to verify that these specifications are met and implement an appropriate solution.
- To minimize vibrations, the system must be installed on a solid floor, as far as possible from vibration sources (parking lots, roadways, heliports, elevators, hospital power plants... etc).



LEGEND

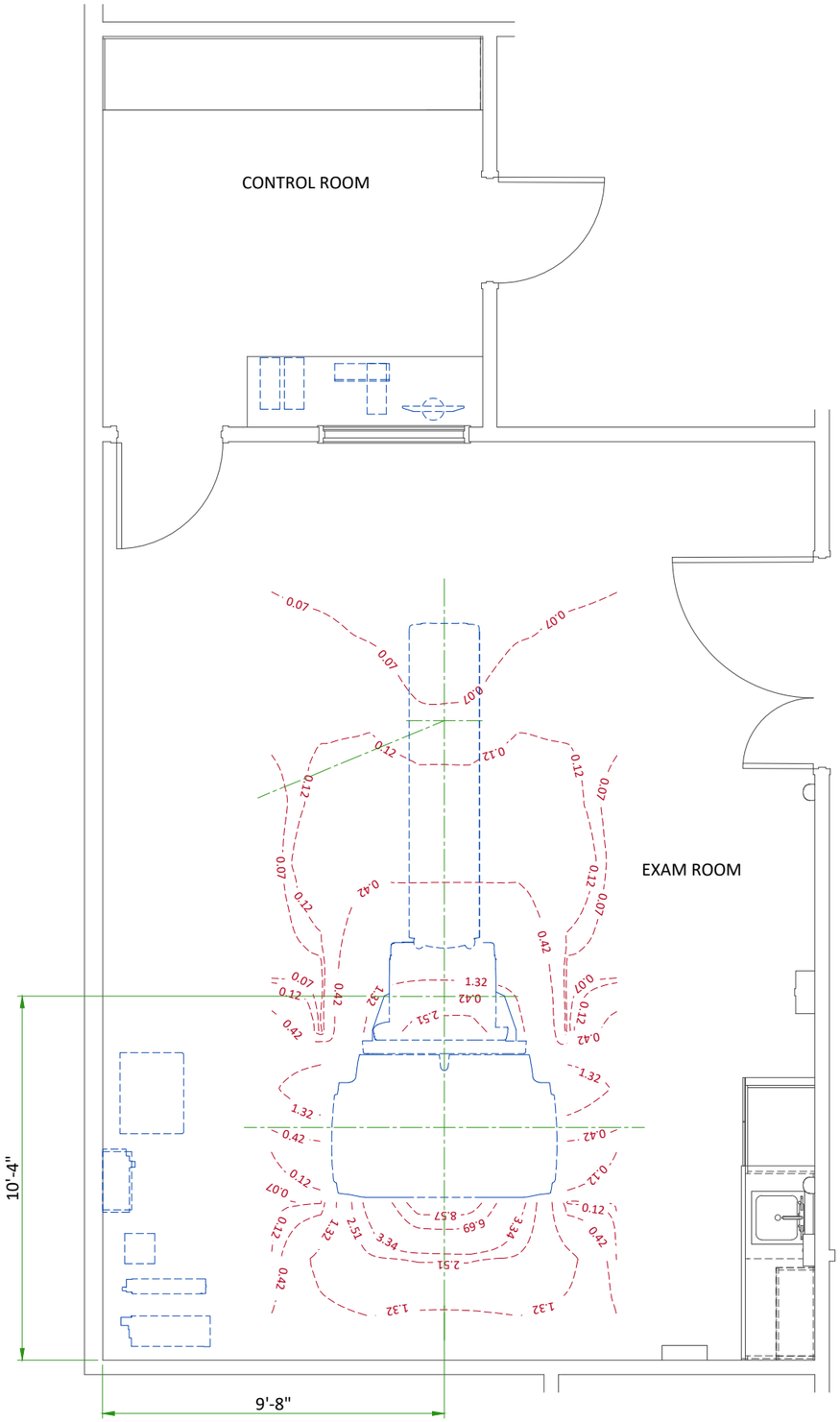
A	GE SUPPLIED	D	AVAILABLE FROM GE
B	GE SUPPLIED/CONTRACTOR INSTALLED	E	EQUIPMENT EXISTING IN ROOM
C	CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED	*	ITEM TO BE REINSTALLED FROM ANOTHER SITE

BY	ITEM	DESCRIPTION	MAX HEAT OUTPUT (BTU/h)	WEIGHT (lbs)	MAX HEAT OUTPUT (W)	WEIGHT (kg)
A	1	CT GANTRY	11942	2536	3500	1150
A	2	NM GANTRY (WITHOUT COLLIMATORS)	4504	4251	1320	1928
A	3	PATIENT TABLE	682	1228	200	557
A	4	POWER DISTRIBUTION UNIT (CT PDU)	2388	662	700	300
A	5	GE STORAGE CABINET	-	150	-	68
A	6	OPERATOR CONSOLE	256	28	75	12.9
A	7	COLLIMATOR CART	-	728	-	330
A	8	XELERIS 4DR WORKSTATION	2020	35	592	16
A	9	NM HOST	256	25	75	11.3
A	10	ECG MONITOR	-	7	-	3
A	11	6 kVA UPS	1501	106	440	48
A	12	TRANSFORMER FOR 6 KVA UPS	1000	77	293	35
B	13	MAIN DISCONNECT PANEL (MDP)	-	115	-	52.2
B	14	POWER INPUT DISTRIBUTION BOX (PIDB)	-	33	-	15
A	15	PARTIAL UPS	2832	265	830	120
C	16	LEAD GLASS VIEWING WINDOW				
C	17	COUNTER TOP FOR EQUIPMENT				
C	18	OPTIONAL WALL PROTECTION FROM COLLIMATOR CART				
C	19	MINIMUM OPENING FOR EQUIPMENT DELIVERY IS 1422 mm x 2083 mm [56 in x 82 in]* CONTINGENT ON A 2515 mm [99 in] CORRIDOR WIDTH				

* DOOR WIDTH CAN BE REDUCED TO 1100 mm [43.3 in] WITH THE DETECTOR DISMOUNT DELIVERY OPTION

EXAM ROOM HEIGHT	
FINISHED FLOOR TO SLAB HEIGHT	TBD
FALSE CEILING HEIGHT	8'-9"

For Accessory Sales: (866) 281-7545 Options 1, 2, 1, 2 or mail to: gehcaccessorysales@ge.com



RADIATION PROTECTION LAYOUT

SHIELDING REQUIREMENTS SCALING	
CHANGED PARAMETER (mAs)	**MULTIPLICATION FACTOR (new mAs/100)**
80 kV	0.24
100 kV	0.45
120 kV	0.71
140 kV	1.00
1.25 mm aperture	0.16
5 mm aperture	0.61
10 mm aperture	1.00

SHIELDING REQUIREMENTS:

Radiation shielding regulations differ from one country or state to another. It is the customer's responsibility to ensure that radiation protection and shielding comply with such regulations and requirements during site preparation and system installation and operation.
The system produces x-ray radiation and involves the use and storage of radionuclides. Appropriate barriers such as walls, lead-shielded glass, lead shields, etc. can be installed to protect staff from unnecessary exposure to radiation.
Patients become significant sources of radioactivity; therefore consideration should be given to maximize the distance between the patient and operator during the uptake and acquisition phases of scan procedures.
Scatter-room shielding requirements must be reviewed by a qualified radiological health physicist taking into consideration:

- Scatter radiation levels within the scan room
- Equipment placement
- Weekly projected workloads (#patient/day technique (kvp*ma))
- Materials used for construction of walls, floors, ceiling, doors, and windows
- Access to areas surrounding the Scan Room
- Equipment in areas surrounding the Scan Room (for example: film developer, film storage)

BACKGROUND RADIATION

When the system is calibrated, background radiation from surrounding areas may adversely affect calibration. Therefore all radiation sources must be suitably shielded, including:

- Waiting/Injection areas
- Radionuclide storage and preparation area (sometimes known as "hot lab")

As a general guideline, if the anticipated background radiation in the Scan Room will be higher than 0.1 mR/h (1 µGy/h), then lead shielding with sufficient thickness must be installed.

Shielding of the Scan Room includes walls, lead-shielded glass, lead shields, etc. and must be sufficient to protect staff from unnecessary exposure to radiation. The shielding requirements must be determined by a qualified radiological health physicist, taking into consideration:

- Local regulatory requirements
- Facility policy
- CT scatter radiation levels within the scanning room
- Patient location and level of radiation from patients after intake of radionuclides
- Equipment placement
- Materials used for construction of walls, floors, ceiling, doors, and windows
- Weekly projected work-loads (# patient/day technique (kvp*ma))
- Access to areas surrounding the Scan Room
- Equipment in areas surrounding the Scan Room (for example: film developer, film storage)
- Protection of operator room, included leaded window, walls and door

The illustarations on this page depicts measurable CT radiation levels within the scanning room while scanning a 32 cm CTDI phantom (body) and 20 cm water phantom (head) with the technique shown. The mAs, kV and aperture scaling factors shown in the table can be used to adjust exposure levels to the scan technique used at the site.

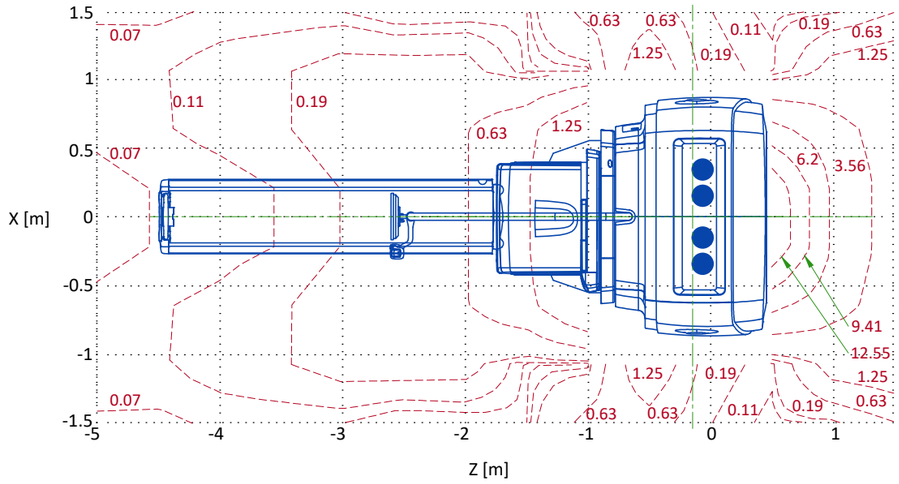
NOTE: Actual measurements can vary. All measurements have an accuracy of ±20% because of measurement equipment, technique, and system-to-system variation.
The units of measure used for radiation levels have been changed in this document, from mR (millirads) to µGy (micrograys). The conversion factor is : 1 mR = 8.69 µGy

The illustrations on this page were created using the following technique:

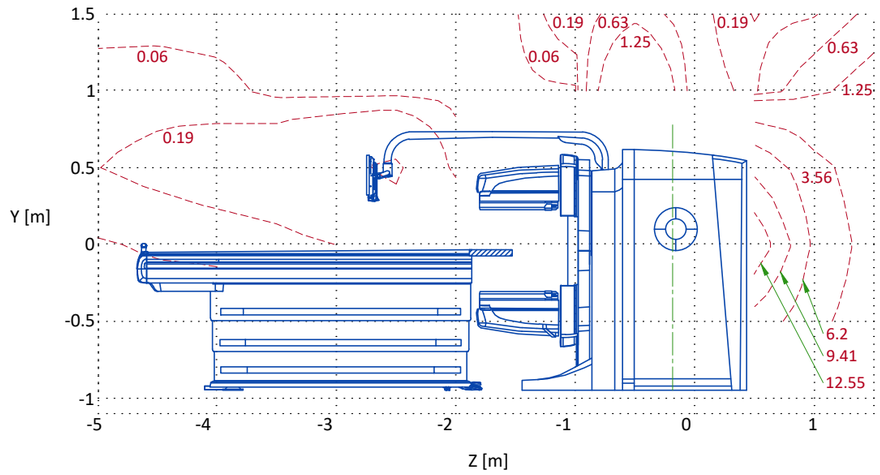
- 140kV, 100mA, 1 sec, 8x1.25 mm

RADIATION SCATTER - BODY PHANTOM

NOTE: 140 kV
100 mAs/scan
1 sec
8 x 1.25mm



Plan View

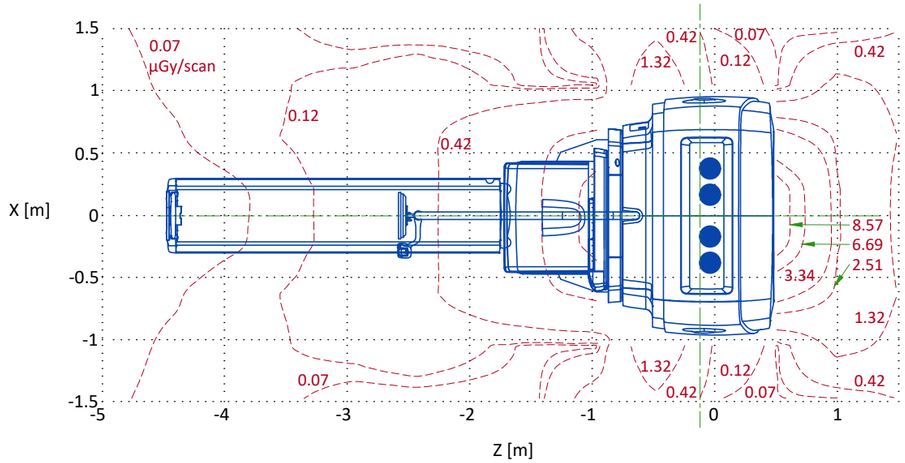


Elevation

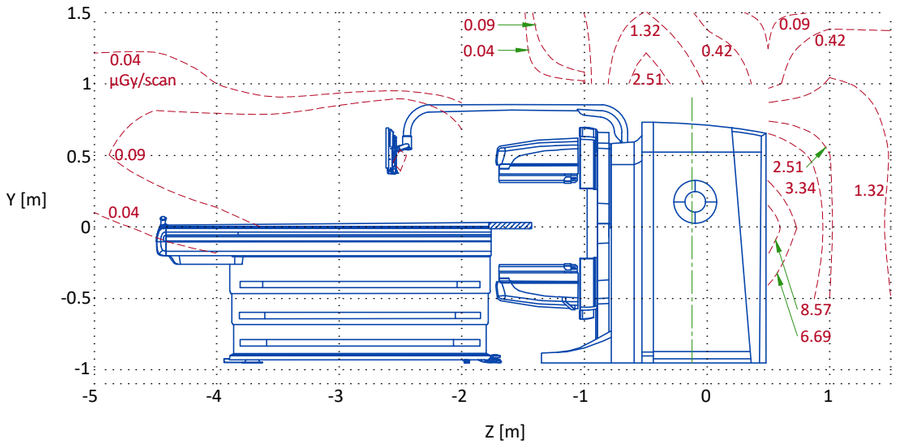
DETAIL NOT TO SCALE

RADIATION SCATTER - HEAD PHANTOM

NOTE: 140 kV
100 mAs/scan
1 sec
8 x 1.25mm



Plan View



Elevation

DETAIL NOT TO SCALE

RADIOACTIVE ISOTOPES

USING RADIOACTIVE ISOTOPES

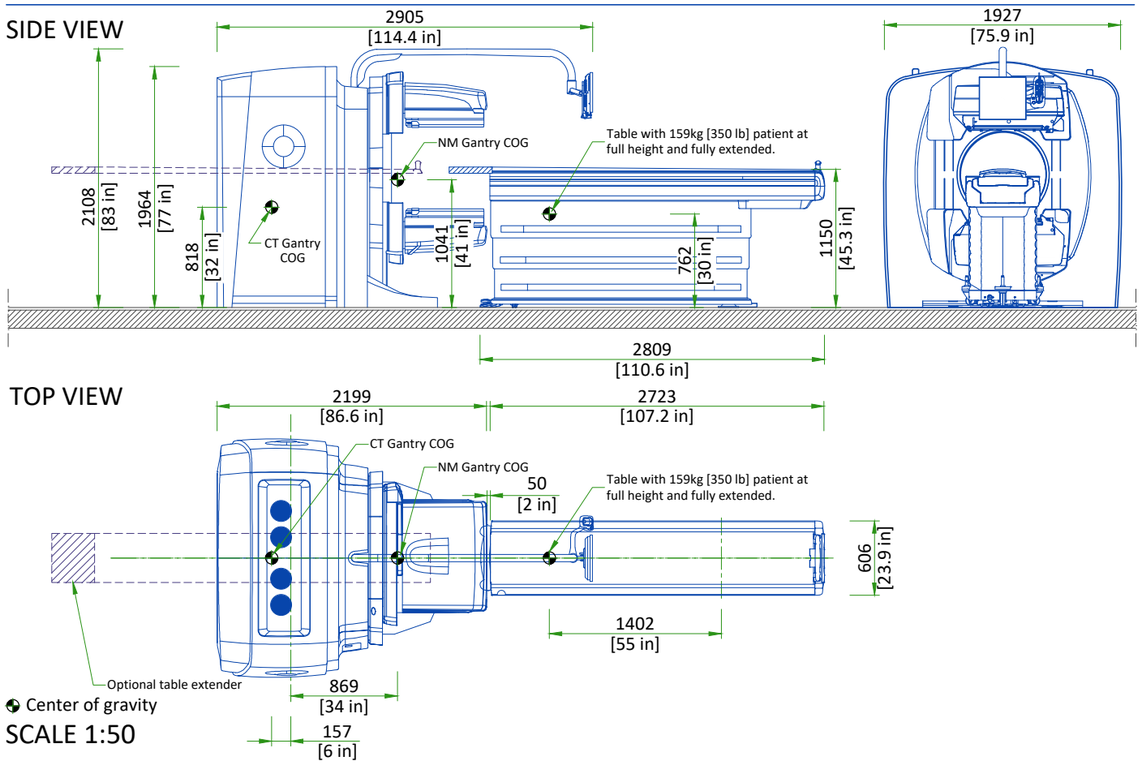
Since the system involves the use of radioactive isotopes, compliance with Nuclear Regulatory Commission regulations, or similar regulatory requirements (depending on the country), must be adhered to and all permissions obtained well in advance. It is recommended that regulatory compliance is arranged early in the site planning process.

It is essential that all preparations are completed so that required source materials can be obtained prior to installation, including calibration sources. Take into consideration that these sources may have fairly long delivery lead times, yet may also have a short half life, so that it may not be advisable to store them over long periods of time.

RADIOACTIVE ISOTOPES FOR SYSTEM CALIBRATION

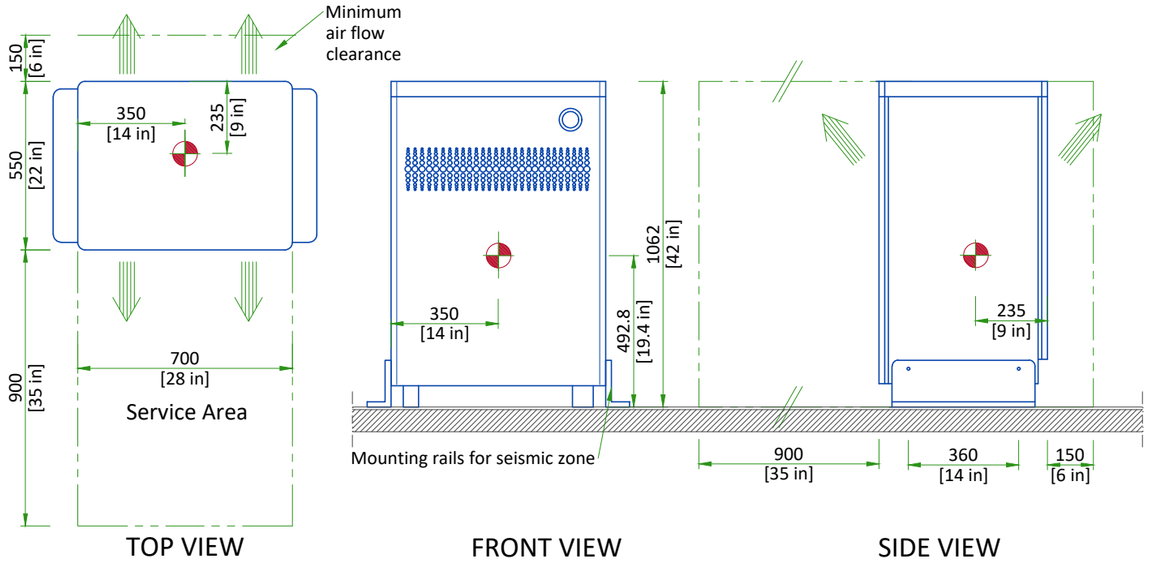
DESCRIPTION	
Basic calibration	Site has license for Tc^{99m}
	Tc^{99m} will be available during installation
Isotopes to be used at site are available for installation. Note: Specify age and strength	Co^{57} (Rectangular Flood Source)
	Tl^{201}
	I^{131}
	I^{123}
	In^{111}
	Ga^{67}
	Xe^{133} (inhalation gas)

GANTRY WITH PATIENT TABLE



SCALE 1:50

POWER DISTRIBUTION UNIT (PDU)

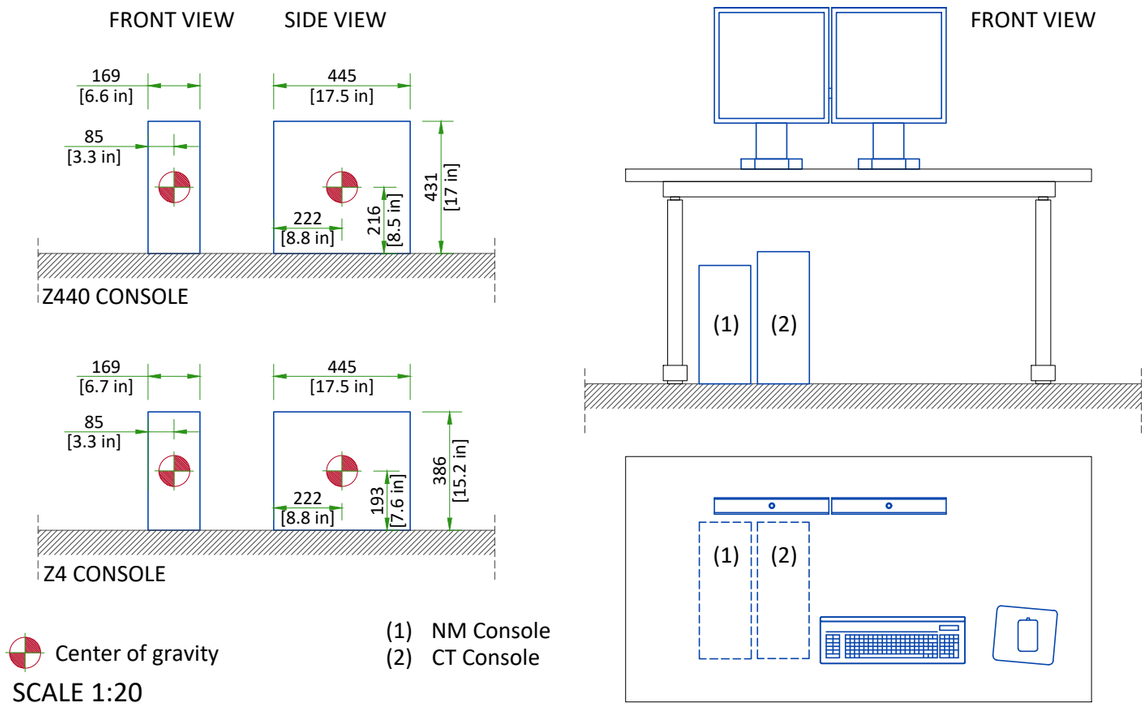


Center of Gravity

Indicates air flow (Convection)

SCALE 1:20

CUSTOMER SUPPLIED TABLE AND CT CONSOLE

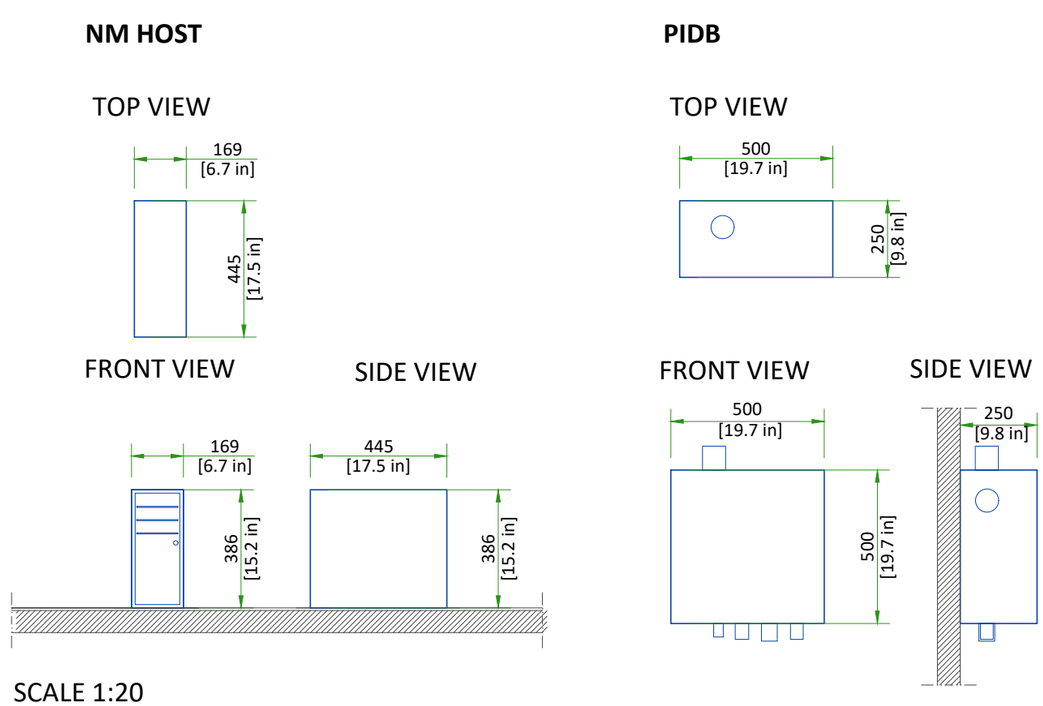


Center of gravity

(1) NM Console
(2) CT Console

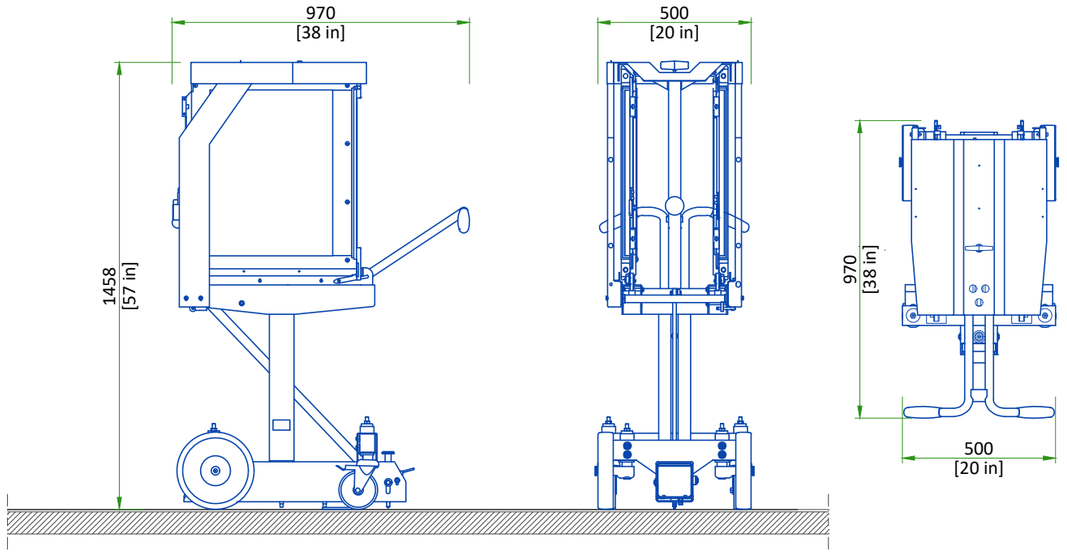
SCALE 1:20

NM HOST AND POWER INPUT DISTRIBUTION BOX (PIDB)



SCALE 1:20

COLLIMATOR CARTS

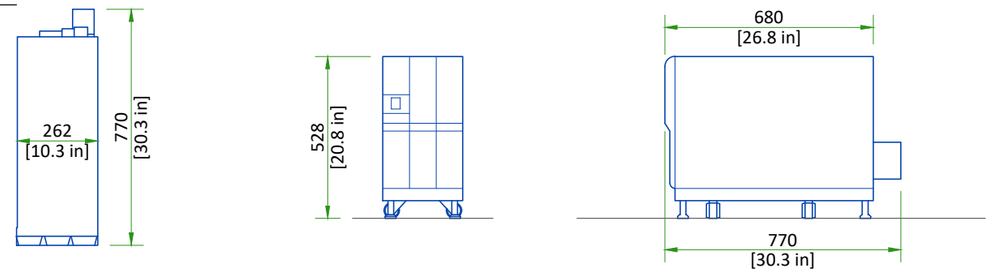


SIDE VIEW | FRONT VIEW | TOP VIEW

SCALE 1:20

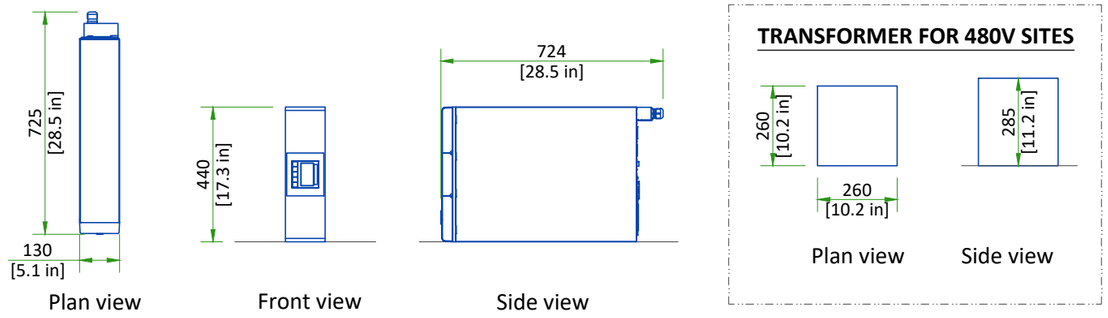
PARTIAL UNINTERRUPTIBLE POWER SUPPLY

CT PARTIAL UPS



Plan view | Front view | Side view

NM PARTIAL UPS

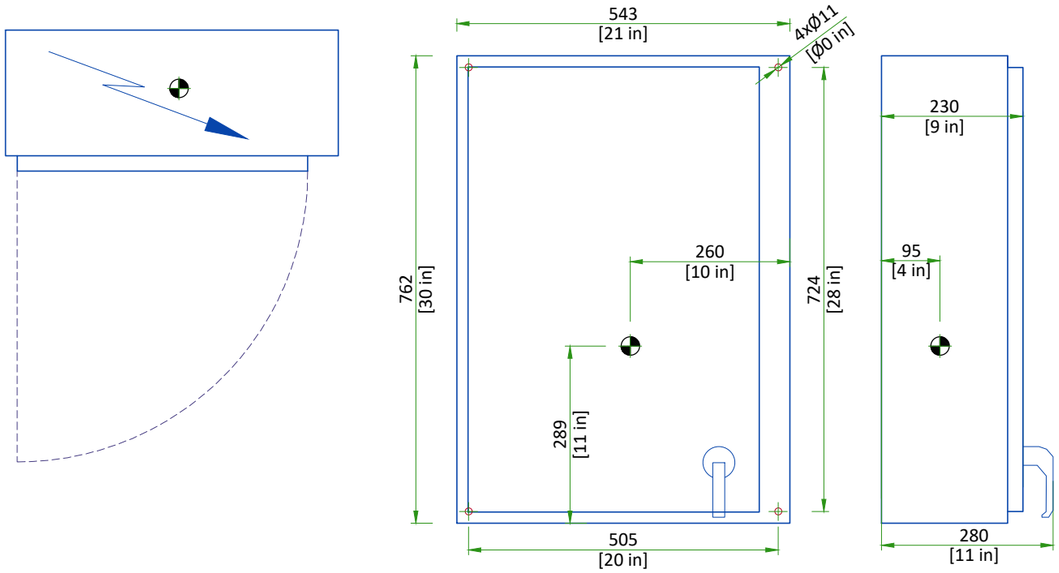


Plan view | Front view | Side view | Plan view | Side view

SCALE 1:20

MAIN DISCONNECT PANEL

TOP VIEW | FRONT VIEW | SIDE VIEW



Center of gravity

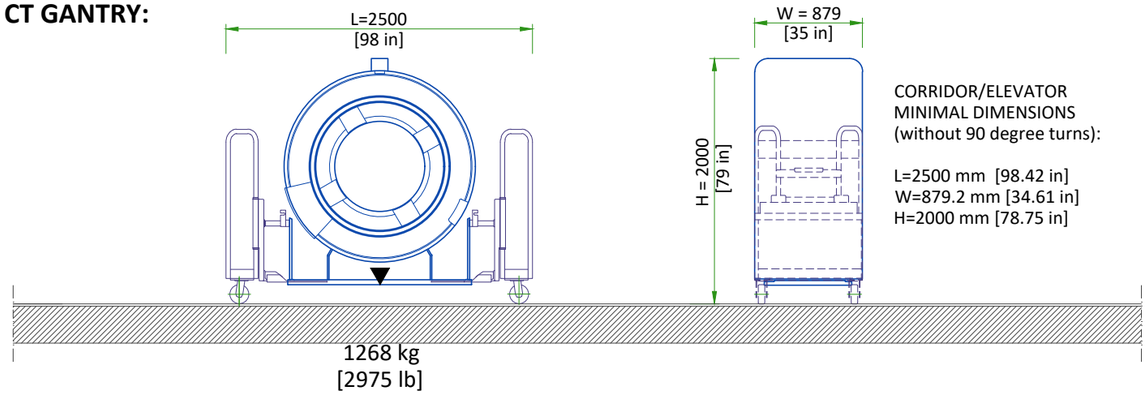
SCALE 1:10

DELIVERY DETAILS

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.

CT GANTRY:

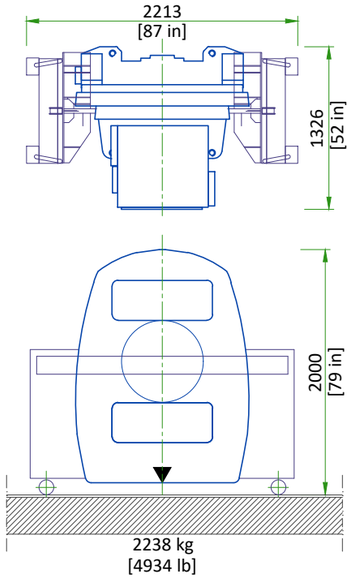


PATIENT TABLE: CORRIDOR/ELEVATOR MINIMAL DIMENSIONS (without 90 degree turns):

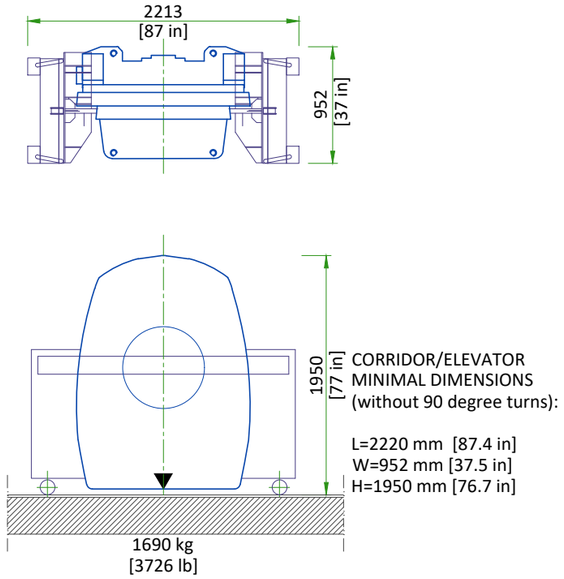
L=2809 mm [110.6 in] W=1000 mm [39.4 in] H=1400 mm [55.1 in] Weight: 557 kg [1228 lb]

NM GANTRY:

WITH DETECTORS MOUNTED



WITHOUT THE DETECTORS (OPTION)



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

NOT TO SCALE

DELIVERY

THE CUSTOMER/CONTRACTOR SHOULD:

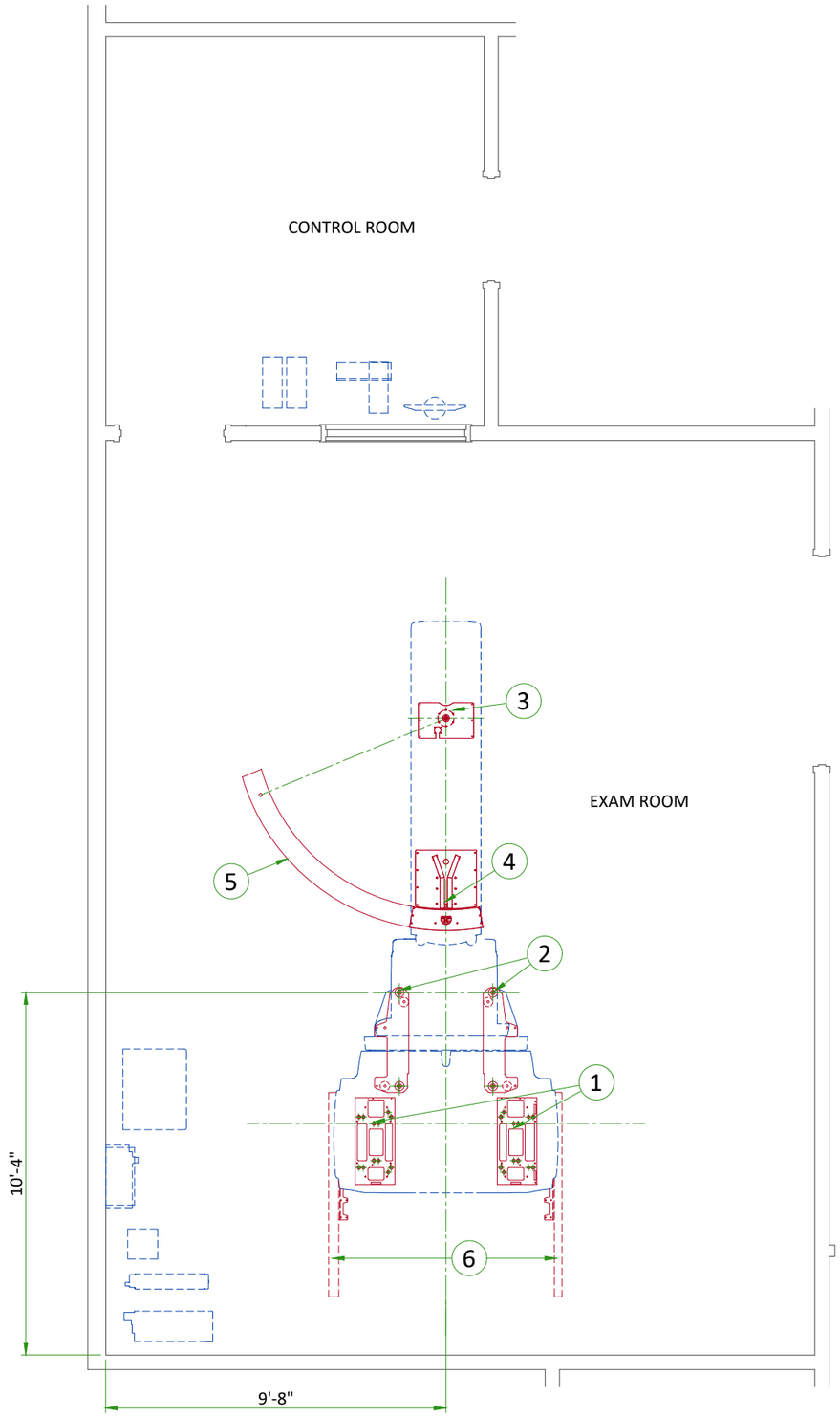
- Provide an area adjacent to the installation site for delivery and unloading of the GE equipment.
- Ensure that the dimensions of all doors, corridors, ceiling heights are sufficient to accommodate the movement of GE equipment from the delivery area into the definitive installation room.
- Ensure that 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.

DIMENSIONS OF DELIVERY WITH DOLLY TRANSPORT EQUIPMENT

EQUIPMENT	DIMENSIONS		WEIGHT
CT GANTRY	LENGTH	2500 mm [98.4 in]	1268 kg [2795 lb]
	WIDTH	879 mm [34.6 in]	
	HEIGHT	2000 mm [79 in]	
NM GANTRY WITH THE DETECTORS	LENGTH	2213 mm [87.1 in]	2238 kg [4934 lb]
	WIDTH	1326 mm [52.2 in]	
	HEIGHT	2000 mm [78.75 in]	
NM GANTRY WITHOUT THE DETECTORS	LENGTH	2213 mm [87.1 in]	1690 kg [3726 lb]
	WIDTH	952 mm [37.5 in]	
	HEIGHT	1950 mm [76.7 in]	
TABLE	LENGTH	2809 mm [110.6 in]	557 kg [1228 lb]
	WIDTH	1000 mm [39.4 in]	
	HEIGHT	1400 mm [55 in]	

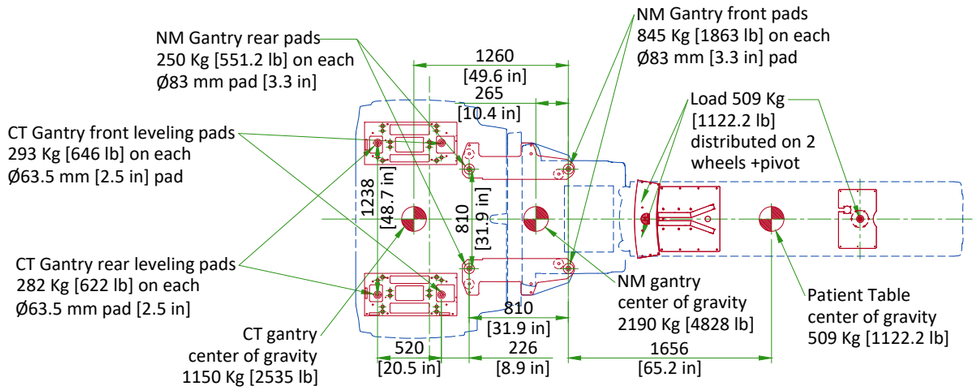
STRUCTURAL NOTES

- All units that are wall mounted or wall supported are to be provided with supports where necessary. Wall supports are to be supplied and installed by the customer or his contractors. See plan and detail sheets for suggested locations and mounting hole locations.
- Floor slabs on which equipment is to be installed must be flat and level to specifications.
- Dimensions are to finished surfaces of room.
- For seismic regions ensure supports span three members.
- Customers contractor must provide all penetrations in post tension floors.
- Customers contractor must provide and install any non-standard anchoring. Documents for standard anchoring methods are included with GE equipment drawings for geographic areas that require such documentation.
- Customers contractor must provide and install hardware for "through the floor" anchoring and/or any bracing under access floors. This contractor must also provide floor drilling that cannot be completed because of an obstruction encountered while drilling by the GE installer such as rebar etc.
- It is the customer's responsibility to perform any floor or wall penetrations that may be required. The customer is also responsible for ensuring that no subsurface utilities (e.g., electrical or any other form of wiring, conduits, piping, duct work or structural supports (i.e. post tension cables or rebar)) will interfere or come in contact with subsurface penetration operations (e.g. drilling and installation of anchors/screws) performed during the installation process. To ensure worker safety, GE installers will perform surface penetration operations only after the customer's validation and completion of the "GE surface penetration permit"



ITEM	DESCRIPTION
	(GE SUPPLIED / CONTRACTOR INSTALLED)
1	CT Gantry baseplate
2	NM Gantry baseplate
3	Table Anchor plate
4	Collimator exchange plate
5	Swing plate
6	Floor penetrations not allowed in temporary service rail area.

LOADING DISTRIBUTION



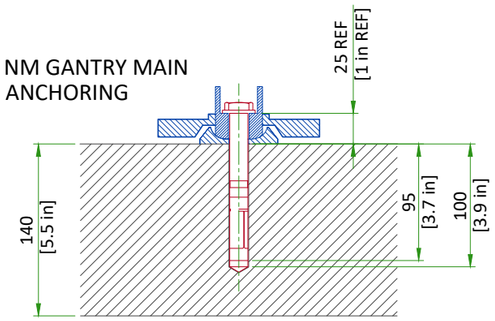
Center of gravity

SCALE 1:50

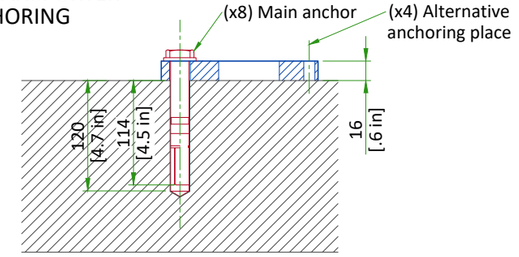
CT Gantry weight: 1150 Kg [2535 lb]
NM Gantry weight: 2190 Kg [4828 lb]
(with HEGP collimators mounted)
Table weight: 557 Kg [1228 lb]

FLOOR SPECIFICATIONS

NM GANTRY MAIN ANCHORING



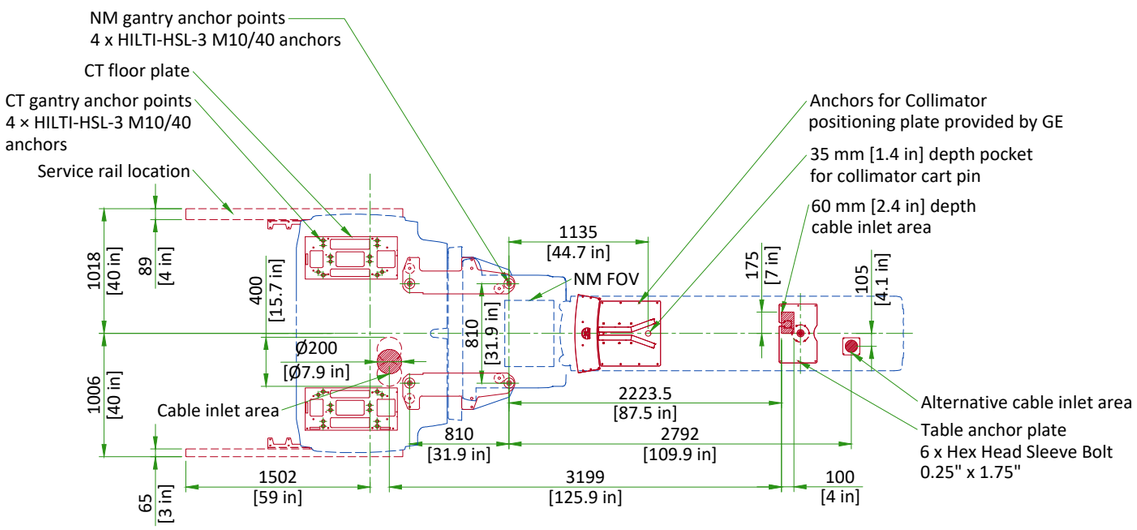
CT TRANSPORTER ANCHORING



NOT TO SCALE

- Floor leveling area: 595 cm x 334 cm [19 ft-6 inx11 ft] (covering the entire planned area of table and gantry surface).
- Slope less than 13 mm [0.5 in] over 4300 mm [160 in], if slope is between 13 mm [0.5 in] and 30 mm [1.18 in] refer to PIM for additional requirements.
- Flatness: the surface must be smooth, with deviations of no more than 5 mm [0.2 in] over 1500 mm [59 in] in any direction.
- Floor surface: a single poured surface.
- Floor strength: in order to enable mounting of the system floor anchors, concrete floors must have a minimum cube strength of fc=4350 psi. (30 MPa) at 28 days (curing time) for 25/30 concrete
- Floor thickness: the system's floor anchors are designed for use only on concrete floors that meet the minimal 140 mm [5.5 in] concrete floor requirements
- It is the customer/contractor responsibility to have appropriate tests performed to determine and measure concrete strength.

ANCHORING TO THE FLOOR



SCALE 1:50

MAIN ANCHORING POINT
ALTERNATIVE ANCHORING POINT

TEMPERATURE AND HUMIDITY SPECIFICATIONS

IN-USE CONDITIONS

	EXAM ROOM			CONTROL ROOM		
Temperature	Min	Recommended	Max	Min	Recommended	Max
	18°C [64°F]	22°C [72°F]	26°C [79°F]	18°C [64°F]	22°C [72°F]	26°C [79°F]
Temperature gradient	**≤ 3°C/h [≤ 5°F/h]**			**≤ 3°C/h [≤ 5°F/h]**		
Relative humidity (1)	30% to 60%			30% to 60%		
Humidity gradient	**≤ 5%/h**			**≤ 5%/h**		
Altitude	-150 m [-492 ft] to 4100 m [13451 ft]					

STORAGE CONDITIONS

Temperature	+4°C [+40°F] to +27°C [+80°F]
Temperature gradient	**≤ 3°C/h [≤ 5°F/h]**
Relative humidity (1)	20% to 60%
Humidity gradient	**≤ 5%/h**
Air pressure	700 hPA to 1060 hPa

(1) non condensing

AIR RENEWAL

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

ROOM	DESCRIPTION	HEAT DISSIPATION (kW)	HEAT DISSIPATION (BTU/hr)
		MAX	MAX
Exam Room	NM Gantry	1.320	4500
	CT Gantry	3.500	11945
	Patient table	0.200	682
	TOTAL	**5.020**	**17127**
Exam/Technical Room*	Power distribution unit (CT PDU)	0.700	2389
	Liebert GXT4 (CT UPS)	0.830	2828
	Eaton 6 kVA UPS (NM UPS)	0.440	1500
	Transformer for Eaton 6kVA UPS	0.293	1000
	TOTAL	**2.263**	**7717**
Control Room	CT acquisition station (computer only)	0.075	256
	NM Aquisition station (with monitors)	0.075	256
	Xeleris workstation (computer with 2 monitors)	0.075	256
	TOTAL	**0.225**	**768**

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

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.

ELECTRICAL NOTES

1. All wires specified shall be copper stranded, flexible, thermo-plastic, color coded, cut 10 foot long at outlet boxes, duct termination points or stubbed conduit ends. All conductors, power, signal and ground, must be run in a conduit or duct system. Electrical contractor shall ring out and tag all wires at both ends. Wire runs must be continuous copper stranded and free from splices.

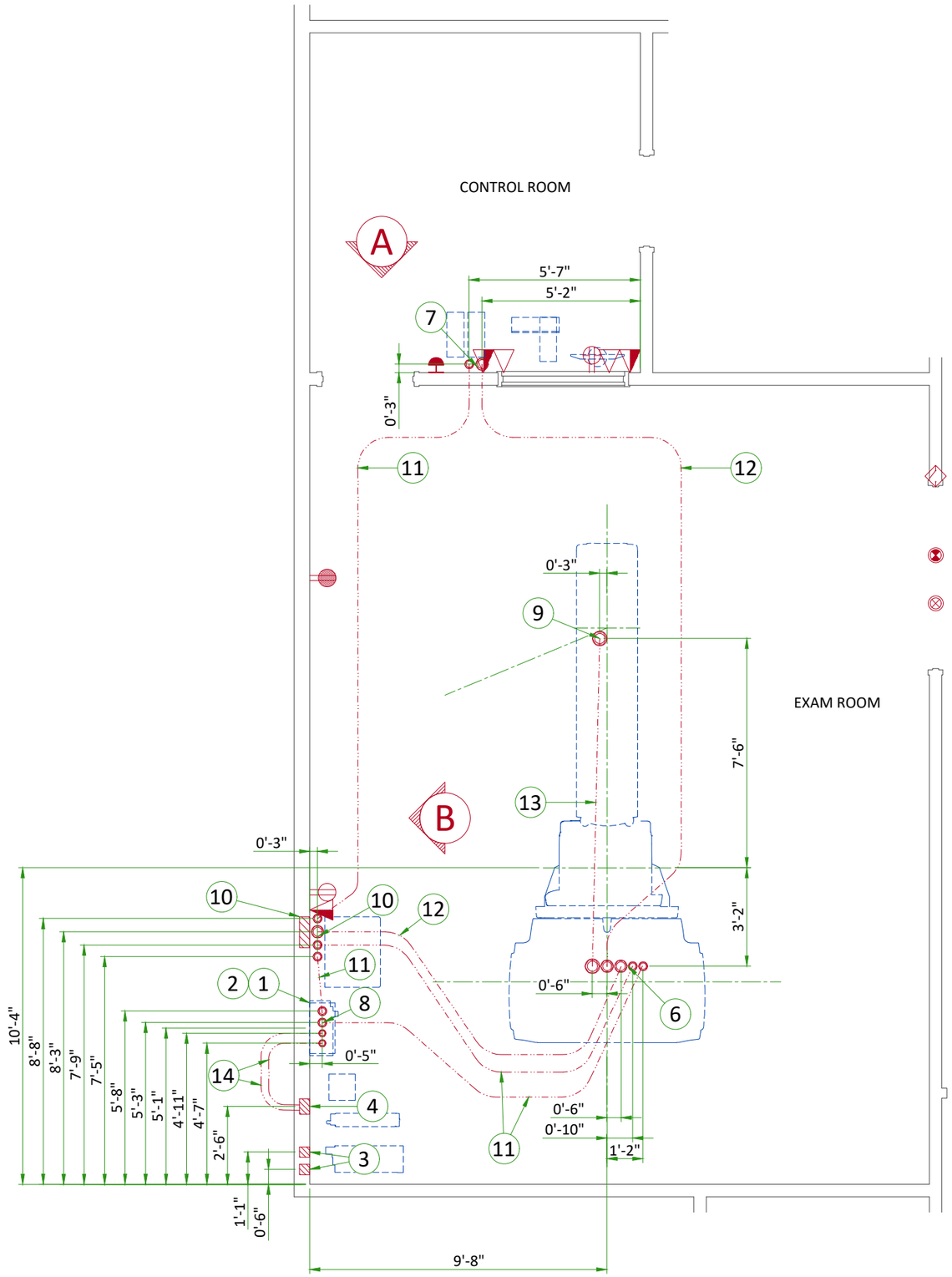
1.1. Aluminum or solid wires are not allowed.

2. Wire sizes given are for use of equipment. Larger sizes may be required by local codes.
3. It is recommended that all wires be color coded, as required in accordance with national and local electrical codes.
4. Conduit sizes shall be verified by the architect, electrical engineer or contractor, in accordance with local or national codes.
5. Convenience outlets are not illustrated. Their number and location are to be specified by others. Locate at least one convenience outlet close to the system control, the power distritbution unit and one on each wall of the procedure room. Use hospital approved outlet or equivalent.
6. General room illumination is not illustrated. Caution should be taken to avoid excessive heat from overhead spotlights. Damage can occur to ceiling mounting components and wiring if high wattage bulbs are used. Recommend low wattage bulbs no higher than 75 watts and use dimmer controls (except MR). Do not mount lights directly above areas where ceiling mounted accessories will be parked.
7. Routing of cable ductwork, conduits, etc., must run direct as possible otherwise may result in the need for greater than standard cable lengths (refer to the interconnection diagram for maximum usable lengths point to point).
8. Conduit turns to have large, sweeping bends with minimum radius in accordance with national and local electrical codes.
9. A special grounding system is required in all procedure rooms by some national and local codes. It is recommended in areas where patients might be examined or treated under present, future, or emergency conditions. Consult the governing electrical code and confer with appropriate customer administrative personnel to determine the areas requiring this type of grounding system.
10. The maximum point to point distances illustrated on this drawing must not be exceeded.
11. Physical connection of primary power to GE equipment is to be made by customers electrical contractor with the supervision of a GE representative. The GE representative would be required to identify the physical connection location, and insure proper handling of GE equipment.
12. GEHC conducts power audits to verify quality of power being delivered to the system. The customer's electrical contractor is required to be available to support this activity.

- All junction boxes, conduit, duct, duct dividers, switches, circuit breakers, cable tray, etc., are to be supplied and installed by customers electrical contractor.
- Conduit and duct runs shall have sweep radius bends
- Conduits and duct above ceiling or below finished floor must be installed as near to ceiling or floor as possible to reduce run length.
- Ceiling mounted junction boxes illustrated on this plan must be installed flush with finished ceiling.
- All ductwork must meet the following requirements:

1.Ductwork shall be metal with dividers and have removable, accessible covers.
2.Ductwork shall be certified/rated for electrical power purposes.
3.Ductwork shall be electrically and mechanically bonded together in an approved manner.
4.PVC as a substitute must be used in accordance with all local and national codes.

- All openings in raceway and access flooring are to be cut out and finished off with grommet material by the customers contractor.
- General contractor to insert pull cords for all cable run conduits between the equipment room and the operators control room.
- 10 foot pigtails at all junction points.
- Grounding is critical to equipment function and patient safety. Site must conform to wiring specifications shown on this plan.

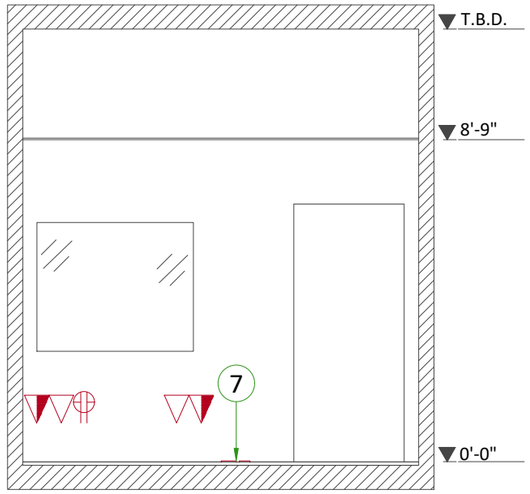


Item	Electrical Layout Item List
1	Main disconnect panel (MDP)
2	Power Input Distribution Box (PIDB)
3	4" x 4" x 4" [100 x 100 x 100] box (CT UPS)
4	6" x 6" x 4" [150 x 150 x 100] box (NM UPS)
5	Suitable bushings & locknuts (PIDB)
6	Suitable bushings & locknuts (Gantry)
7	Suitable bushings & locknuts (Operator's console)
8	Suitable bushings & locknuts (Power Distribution Unit)
9	Conduit flush with finished floor (table)
10	12" x 16" x 4" [300 x 400 x 100] box (Power Distribution Unit)
11	2 1/2" [64] conduit below floor
12	3 1/2" [89] conduit below floor
13	4" [102] conduit below floor
14	2" [51] conduit below floor

ITEM	QTY	Electrical Outlet Legend Customer/contractor supplied and installed items unless otherwise specified. Height above floor determined by local codes unless otherwise specified.
		ESTOP or EMO Pushbutton (same routing as console)
		Warning light
		Warning light controller
		Door switch
		Duplex hospital grade, dedicated wall outlet 120-v, single phase power
		Duplex hospital grade, dedicated outlet 120-v, single phase outlet same feeder circuit as Main Disconnect Panel
		Duplex hospital grade, dedicated outlet 120-v, single phase outlet 20 amp
		Dedicated telephone line(s)
		Network outlet
		Duplex hospital grade, dedicated wall outlet 120-v, single phase power

Additional Conduit Runs (Contractor Supplied and Installed)

From (Bubble # / Item)	To (Bubble # / Item)	Qty	Size	
			In.	mm
3 Phase Power	1 Main Disconnect Panel	1	As req'd	As req'd
1 Main Disconnect Panel	Emergency Off	1	1/2	13
	2 Power input distribution box	1	2	50
10 CT PDU	Door Switch	1	1/2	13
	Warning Light Control	1	1/2	13
Warning Light		1	1/2	13
1 Phase Power		1	As req'd	As req'd
1 Main Disconnect Panel	3 CT UPS	1	3/4	20
10 CT PDU		1	2	50



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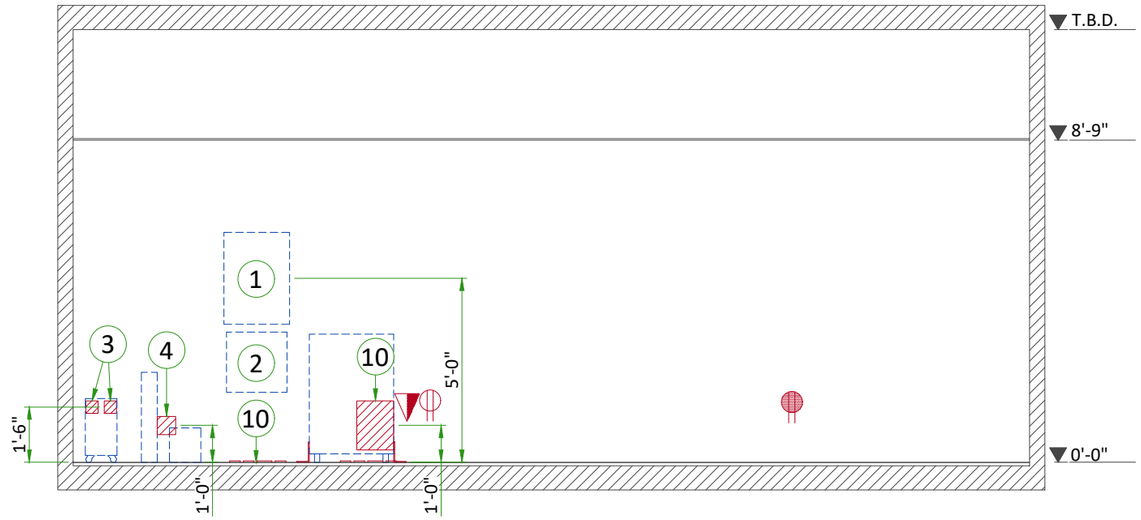


B

POWER REQUIREMENTS

POWER SUPPLY

POWER SUPPLY	**3 PHASES+N+G 380 to 480 VAC ± 10%**
FREQUENCIES	**50/60 Hz ± 3 Hz**
MAXIMUM POWER DEMAND	**40 kVA**
AVERAGE (CONTINUOUS) POWER DEMAND	**8.8 kVA**
POWER FACTOR	**0.85 (120kV, 200 mA)**

- 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 difference 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.
- Maximum voltage variation at full load = 6% (Including line impedance).
- Transients must be less than 1500 V peak. (on a 400 V line)
- Inrush current can withstand up to 10 times the recommended circuit breaker rating that could be reached during system power up, due to the system main transformer.

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.
- Resistance between gantry ground and facility earth ground at the MDP must not exceed 0.5 Ohm.
- Total resistance between the gantry ground and earth must not exceed 2 Ohm.

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 signaling and remote control (Y, SEO, L...) will go to MDP with a pigtail length of 1.5 m, 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

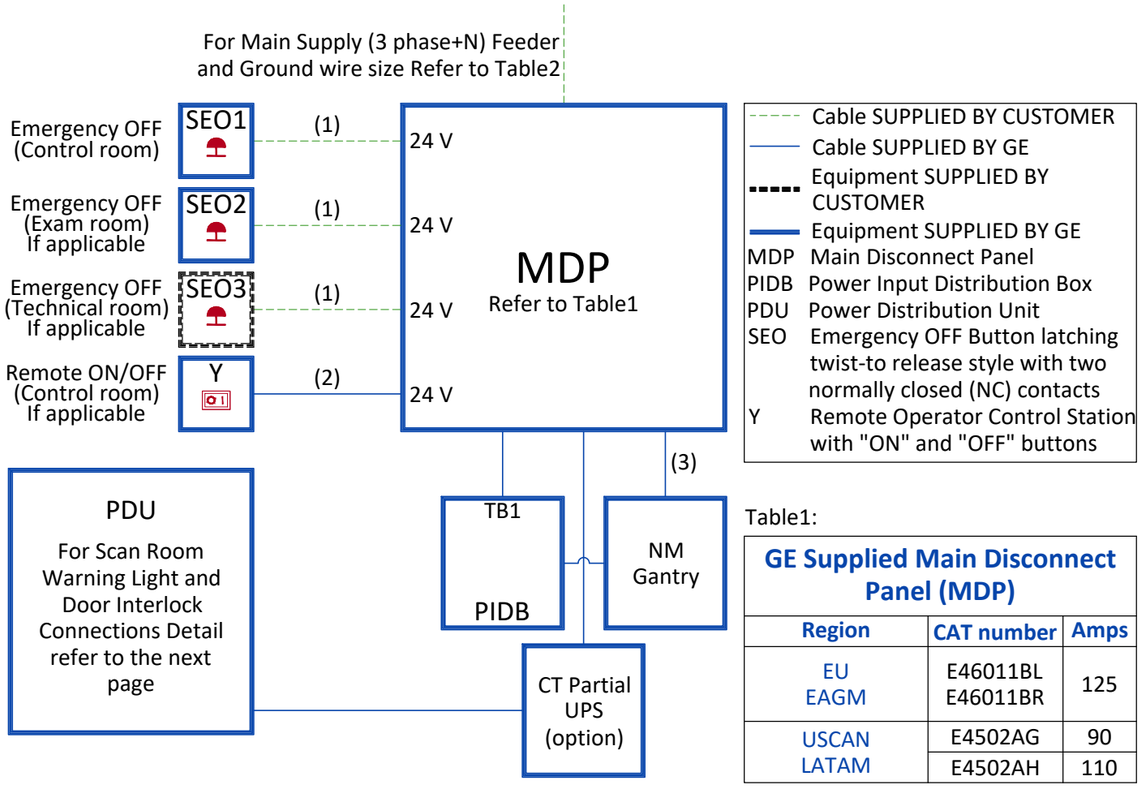


Table1:

GE Supplied Main Disconnect Panel (MDP)		
Region	**CAT number**	**Amps**
EU EAGM	E46011BL E46011BR	125
USCAN LATAM	E4502AG	90
	E4502AH	110

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 310-16 (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 below list, 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 MCM (mm²)/VAC					
	380 VAC	400 VAC	415/420 VAC	440 VAC	460 VAC	480 VAC
50 (15)	4 (22)	4 (22)	4 (22)	4 (22)	4 (22)	4 (22)
100 (30)	4 (22)	4 (22)	4 (22)	4 (22)	4 (22)	4 (22)
150 (46)	3 (30)	4 (22)	4 (22)	4 (22)	4 (22)	4 (22)
200 (61)	3 (30)	3 (30)	3 (30)	3 (30)	4 (22)	4 (22)
250 (76)	1 (45)	2 (35)	2 (35)	3 (30)	3 (30)	3 (30)
300 (91)	1 (45)	1 (45)	1 (45)	2 (35)	2 (35)	3 (30)
350 (107)	1/0 (50)	1/0 (50)	1 (45)	1 (45)	1 (45)	2 (35)
400 (122)	2/0 (70)	1/0 (50)	1/0 (50)	1 (45)	1 (45)	1 (45)

Grounding

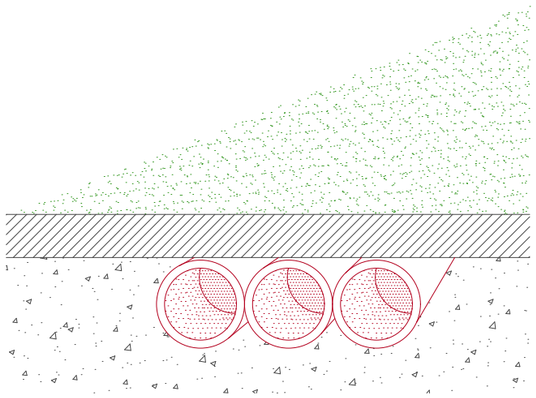
Run a dedicated 1/0 [50 mm²] or larger insulated copper ground wire from the power source to the MDP and from MDP to the PDU. Run the ground wire in the same raceway with the three-phase wires.

Notes :

(1) Wire size: 4x2mm² [14AWG] and 1x2mm² [14AWG] GND
(2) Power control cable: 3 m [10 ft], multi-conductor, 24V DC
(3) Additional ground wire is supplied by GE if NM UPS option is installed

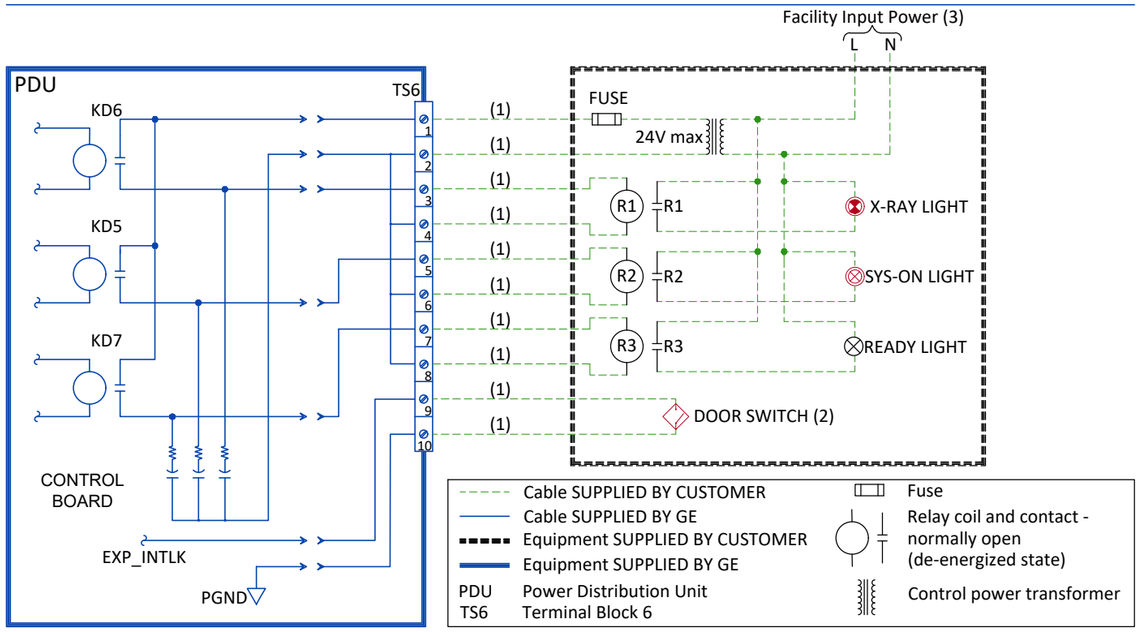
TYPICAL CABLE MANAGEMENT

CONDUIT IN THE FLOOR



NOT TO SCALE

SCAN ROOM WARNING LIGHT AND DOOR INTERLOCK



Notes :

(1) Wire size: 2mm² [14 AWG] at 24V

(2) Door Interlock circuit is jumpered out if a door switch is not provided.

(3) Grounding not shown on the detail, but must comply with local codes.

INTERCONNECTIONS