REV	DATE	MODIFICATIONS

Typical

---

01 - C1 - Cover Sheet
02 - C2 - Disclaimer - Site Readiness Checklist
03 - A1 - General Notes
04 - A2 - Equipment Layout
05 - A3 - Radiation Protection
06 - A4 - Equipment Dimensions (1)
07 - A5 - Equipment Dimensions (2)
08 - A6 - Delivery
09 - S1 - Structural Notes
10 - S2 - Structural Layout
11 - S3 - Structural Details (1)
12 - S4 - Structural Details (2)
13 - M1 - HVAC
14 - E1 - Electrical Notes
15 - E2 - Electrical Layout
16 - E3 - Electrical Elevations
17 - E4 - Power Requirements
18 - E5 - Electrical Details - Interconnect

GE HealthCare

REVOLUTION VIBE/APEX ELITE
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 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*

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

Drawn by	Verified by	Concession	GON/Quote	PIM Manual	Rev
RET	CRM	-	-	5418654-1EN	27

Format	Scale	File Name	Date	Sheet
A3	1/4"=1'-0"	EN-CT-TYP-REVOLUTION_APEX-NF.DWG	05/May/2026	01/18

DISCLAIMER

GENERAL SPECIFICATIONS

- GEHC 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 GEHC 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 GEHC, 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. GEHC 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 GEHC 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 GEHC 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 GEHC. 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 GEHC 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. GEHC 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 Checklists listed below are REQUIRED to facilitate equipment delivery to the site. Equipment will not be delivered if these requirements are not satisfied.

REQUIRED SITE-READINESS CHECKLISTS FOR SYSTEM PRE-INSTALLATION	
Modality	**Document Number***
Computerized Tomography	DOC2949059
Radiology, Radiology and Fluouroscopy, Mammography, Bone Mass Densitometry	DOC2949063
All modality Customer/Contractor Worksheet	DOC2949068
*documents can be accessed in multiple languages at *https://www.gehealthcare.com/support/manuals*	

- 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.

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 3,000 m [-492 ft to 9,843 ft] above sea level.

MAGNETIC FIELD SPECIFICATIONS

- Limit the magnetic interference to guarantee specified imaging performance.

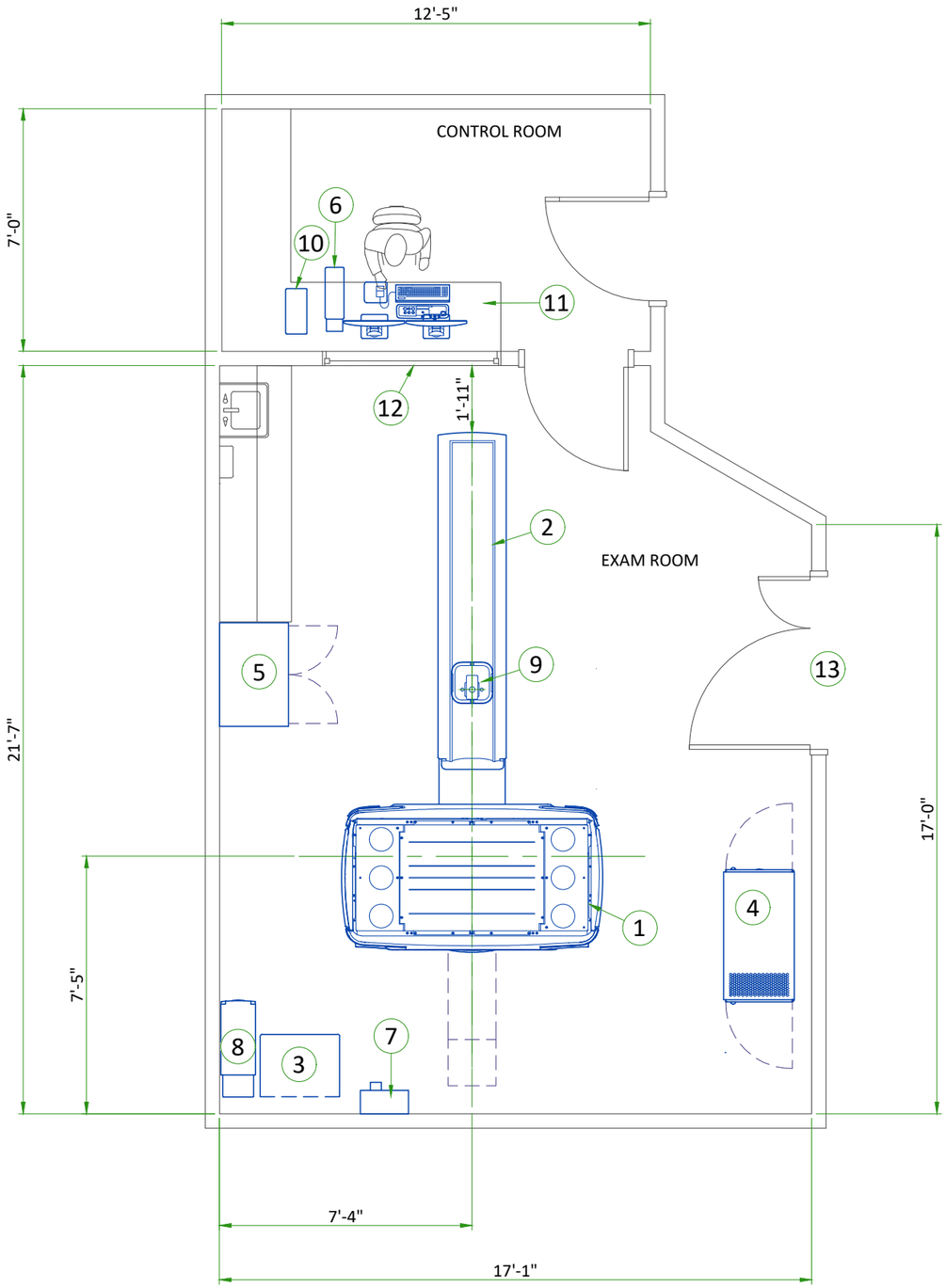
GANTRY:
- Ambient static magnetic fields less than 1 Gauss.
- Ambient AC magnetic fields less than 0.01 Gauss.

OPERATOR CONSOLE:
- Ambient static magnetic fields less than 10 Gauss.

SYSTEM CABINET:
- Ambient static magnetic fields less than 10 Gauss.

SYSTEM NOISE LEVEL

- The maximum noise level produced by the system in the scan room is less than 70 dBA at one meter [3.3 ft] from any surface of the system.



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	GANTRY	27125	5901	7950	2676.2
A	2	NG-2000SV TABLE	-	1499	-	680
A	3	POWER DISTRIBUTION UNIT (NGPDU-92)	1201	1074	352	487
A	4	SYSTEM CABINET VII	10577	410	3100	186
A	5	STORAGE CABINET	-	90	-	41
A	6	SCANNER DESKTOP V	5118	31	1500	13.92
B	7	MAIN DISCONNECT PANEL (MDP)	-	90	-	41
A	8	PARTIAL UPS 14.4 KVA	5122	609	1501.1	276
A	9	AUTO PATIENT POSITIONING DEPTH CAMERA	-	7	-	3.2
A	10	POWER BOX	-	15	-	7
C	11	COUNTER TOP FOR EQUIPMENT- PROVIDE GROMMETED OPENINGS AS REQUIRED TO ROUTE CABLES				
C	12	LEAD GLASS WINDOW				
C	13	MINIMUM OPENING FOR EQUIPMENT DELIVERY IS 1168 mm x 1980 mm [46 in x 78 in], CONTINGENT ON A 2438 mm [96 in] CORRIDOR WIDTH				

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

RADIATION PROTECTION TABLES

A cylindrical PMMA phantom with a diameter of 32 cm [12.60 in] and a length of 25 cm [9.84 in] (for the 80 mm [3.15 in] collimation measurements) or 30 cm [11.81 in] (for the 160 mm [6.30 in] collimation measurements) is centered in the scan plane and scanned. Scatter radiation measurements are made for both the vertical and the horizontal planes which include the axis of rotation. The horizontal plane is 1.03 m [3.38 ft] above the floor.

Tables below show scatter radiation for 160 mm [6.30 in] collimation. The air kerma per 100 mAs (µGy / 100 mAs) is provided at 0.5 m [1.6 ft] intervals within each plane. The CT scan technique that results in the maximum scatter radiation per unit mAs is used for all measurements as follows:

- Detector Coverage = 160 mm [6.30 in]
- Tube voltage = 140 kV
- SFOV = Medium Body

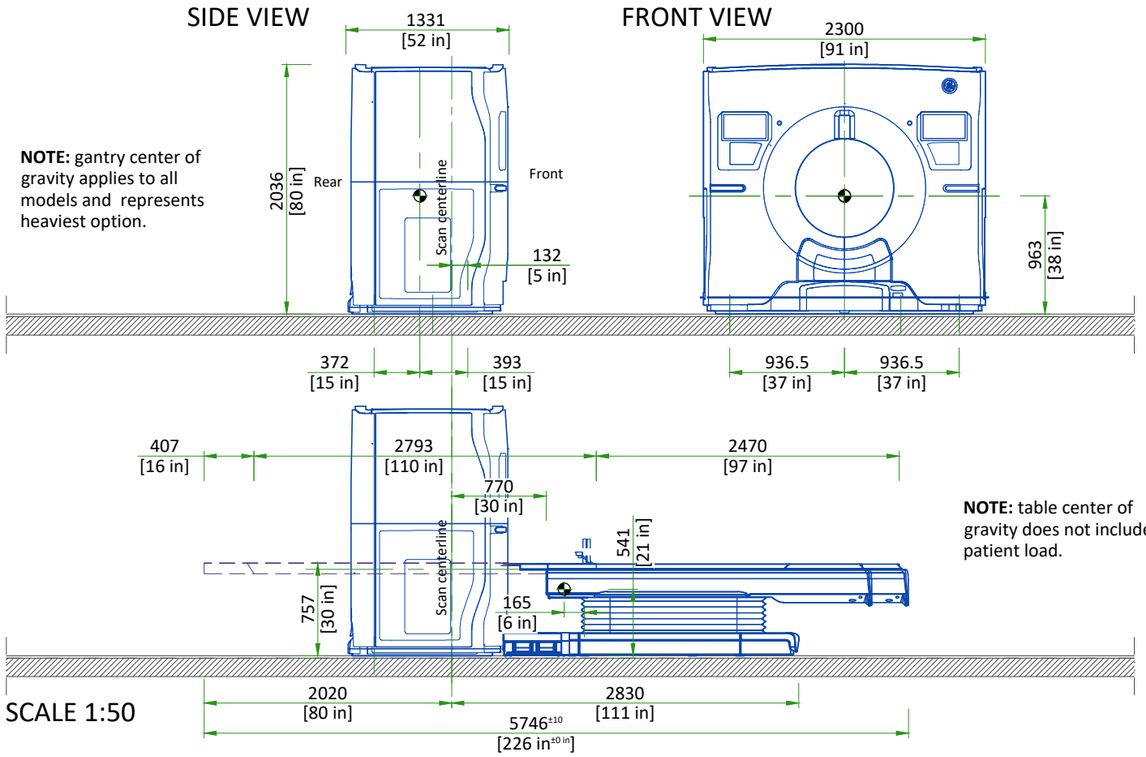
Typical Scatter Radiation in µGy/100 mAs - Horizontal Plane 160 mm [6.30 in] Collimation

X-axis (m [ft])	Z-axis (m [ft])									
	3 [9.8]	2.5 [8.2]	2 [6.6]	1.5 [4.9]	1 [3.3]	0.5 [1.6]	0 [0]	-0.5 [-1.6]	-1 [-3.3]	-1.5[-4.9]
-1.5 [-4.9]	3.96	5.49	8.10	9.76	8.74	0.88	0.67	0.33	0.45	1.81
-1 [-3.3]	3.87	5.63	8.47	14.20	26.53	6.09	ISO		1.60	9.63
-0.5 [-1.6]	3.60	5.35	8.55	15.60	36.35	126.45			36.08	16.00
0 [0]	3.40	5.11	8.26	15.69	39.08	166.10			45.70	17.91
0.5 [1.6]	3.60	5.35	8.55	15.60	36.35	126.45			36.08	16.00
1 [3.3]	3.87	5.63	8.47	14.20	26.53	6.09			1.60	9.63
1.5 [4.9]	3.96	5.49	8.10	9.76	8.74	0.88	0.67	0.33	0.45	1.81

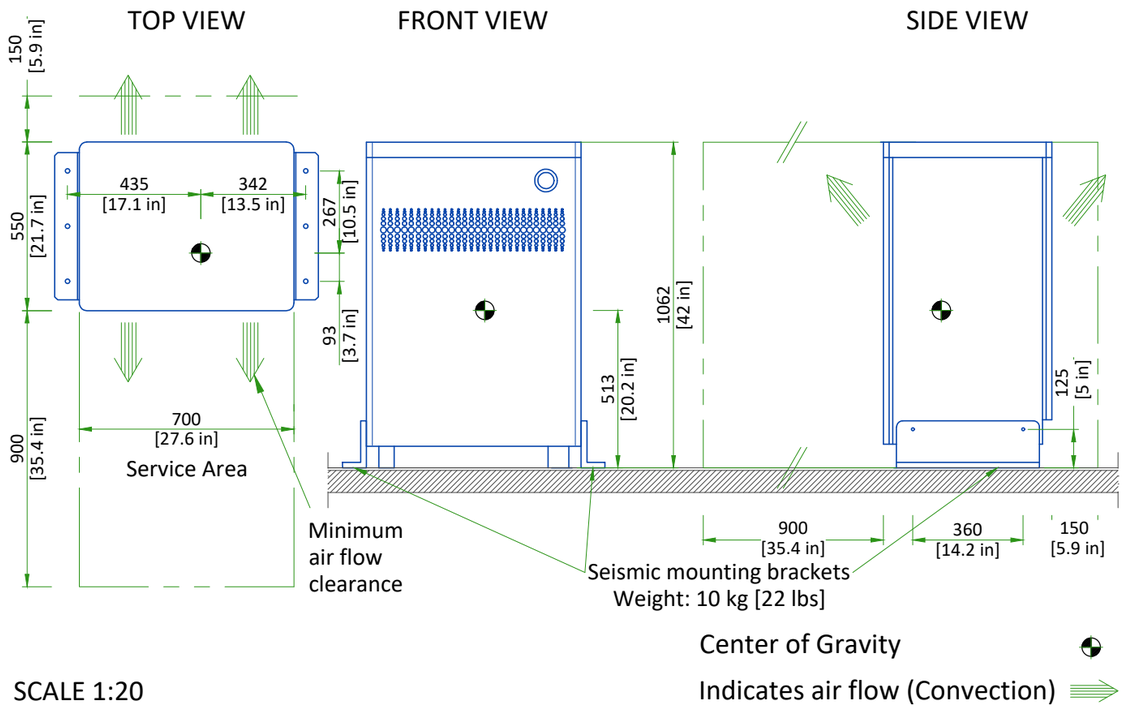
Typical Scatter Radiation in µGy/100 mAs - Vertical Plane 160 mm [6.30 in] Collimation

Y-axis (m [ft])	Z-axis (m [ft])									
	3 [9.8]	2.5 [8.2]	2 [6.6]	1.5 [4.9]	1 [3.3]	0.5 [1.6]	0 [0]	-0.5 [-1.6]	-1 [-3.3]	-1.5[-4.9]
1.5 [4.9]	4.10	5.97	8.44	8.79	7.34	1.33	0.57	0.34	0.46	1.10
1 [3.3]	4.31	5.81	8.63	14.07	15.71	1.33			0.60	5.56
0.5 [1.6]	3.86	5.91	9.28	15.19	31.83	37.18	ISO		20.30	17.38
0 [0]	3.40	5.11	8.26	15.69	39.08	166.10			45.70	17.91
-0.5 [-1.6]	Table								25.70	15.41

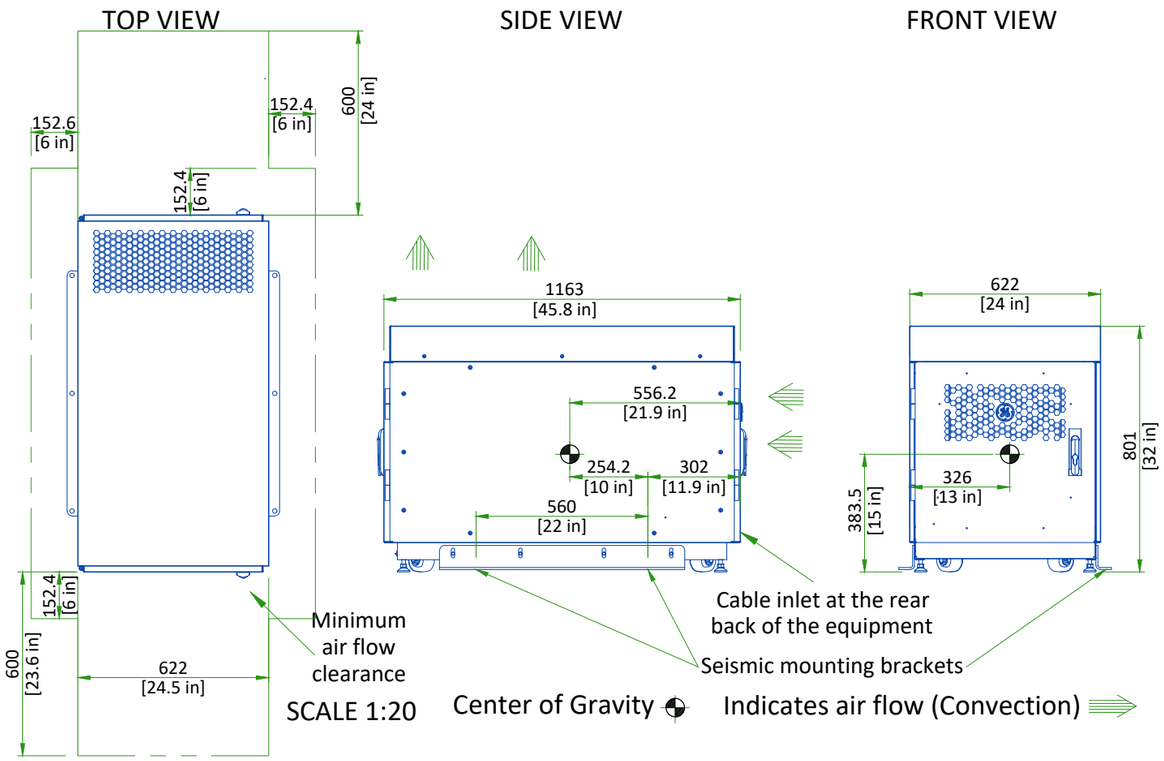
GANTRY WITH TABLE



POWER DISTRIBUTION UNIT (PDU)

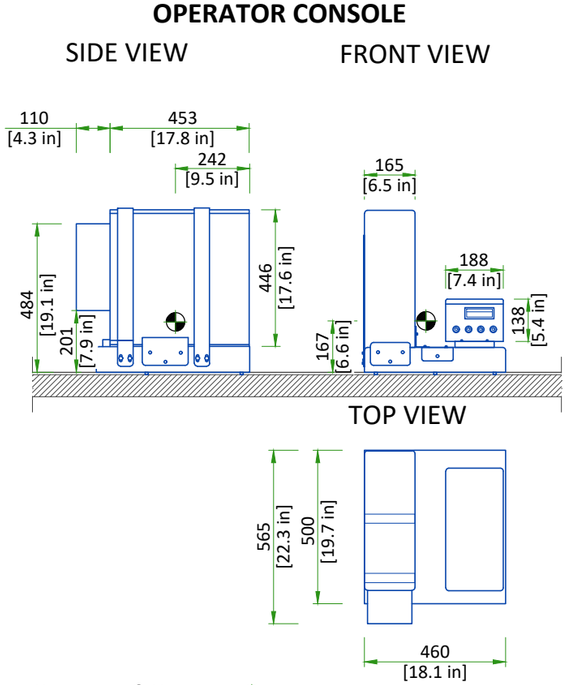


SYSTEM CABINET

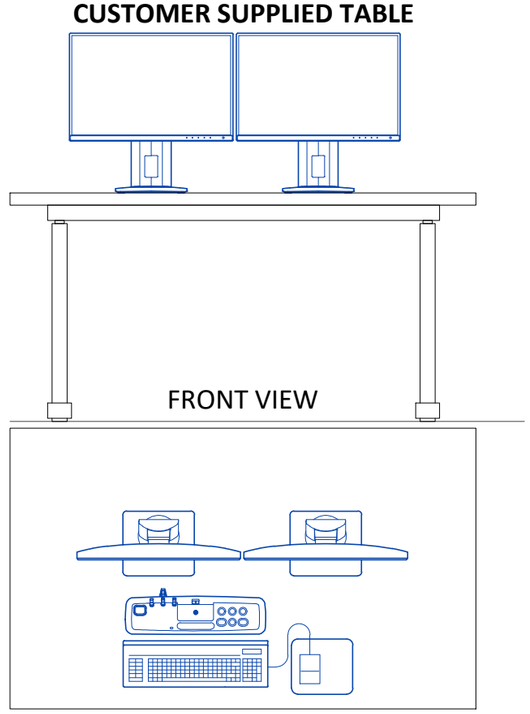


CUSTOMER SUPPLIED TABLE AND OPEN CONSOLE

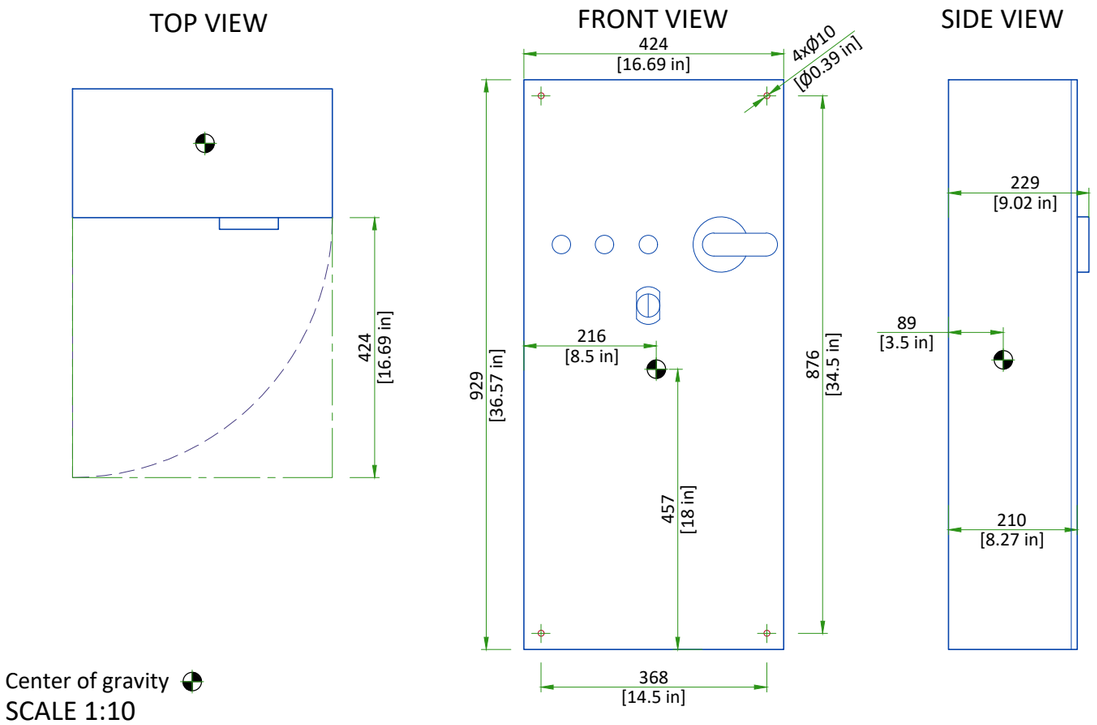
OPERATOR CONSOLE



CUSTOMER SUPPLIED TABLE



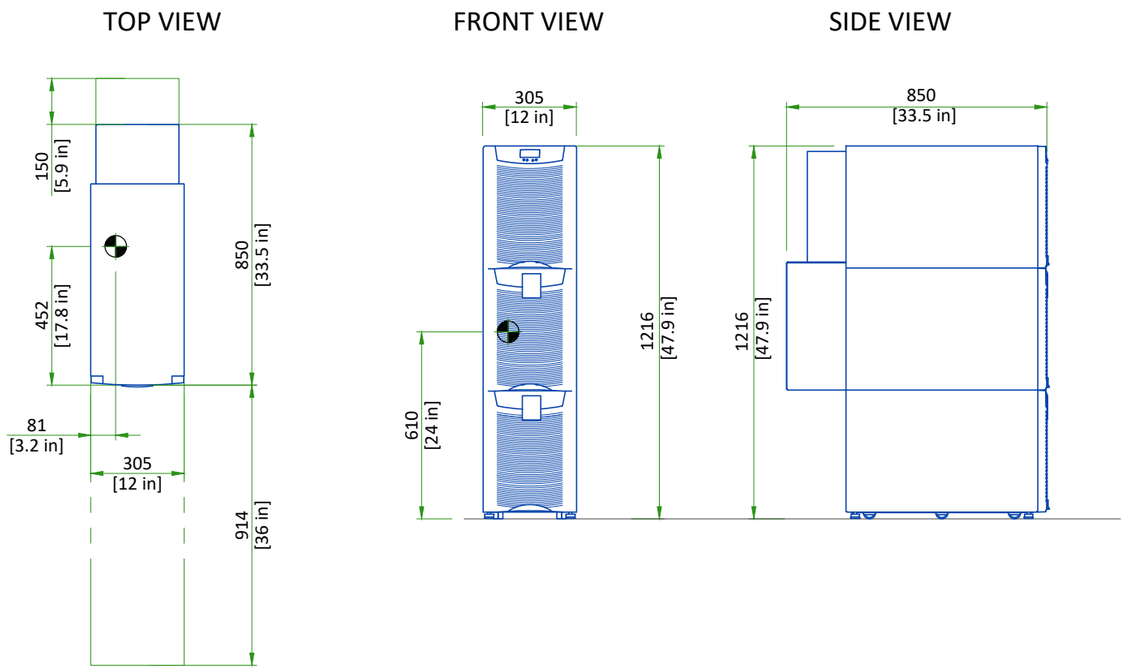
MAIN DISCONNECT PANEL



Center of gravity

SCALE 1:10

UNINTERRUPTIBLE POWER SUPPLY



SCALE 1:20

Center of Gravity

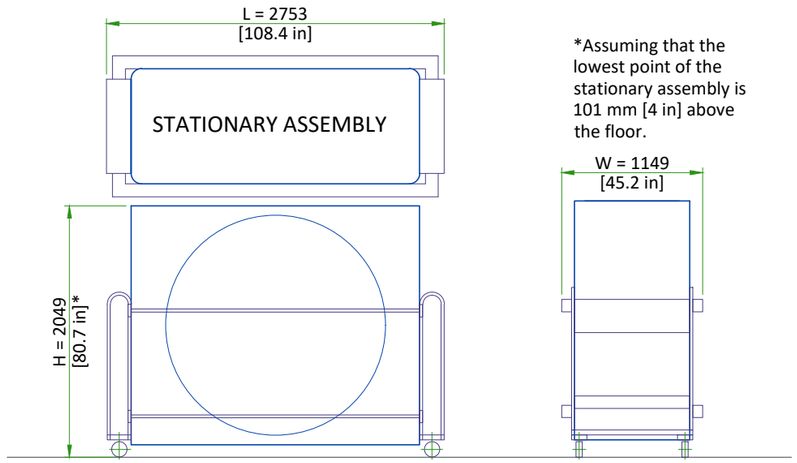
DELIVERY

THE CUSTOMER/CONTRACTOR SHOULD:

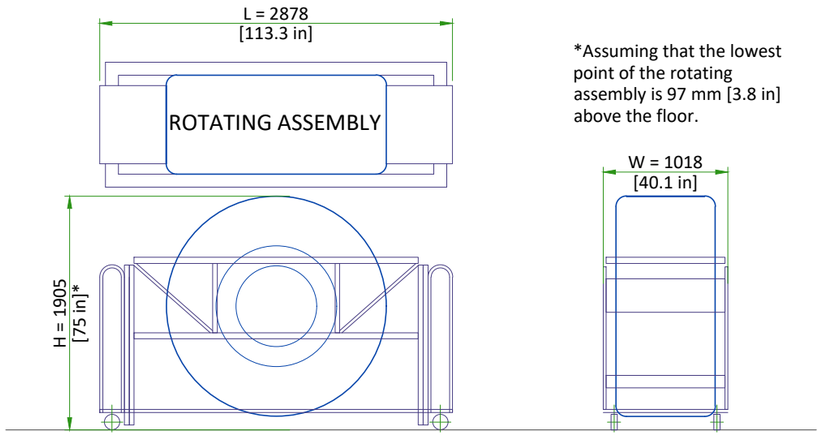
- Provide an area adjacent to the installation site for delivery and unloading of the GE equipment.
- Ensure that the dimensions of all doors, corridors, ceiling heights are sufficient to accommodate the movement of GE equipment from the delivery area into the definitive installation room.
- Ensure that 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	
GANTRY	STATIONARY ASSEMBLY	LENGTH	2753 mm [108.4 in]	1738.8 kg	3830 lbs
		WIDTH	1149 mm [45.2 in]		
		HEIGHT	2049 mm [80.7 in]		
	ROTATING ASSEMBLY	LENGTH	2878 mm [113.3 in]	1681.6 kg	3704 lbs
		WIDTH	1018 mm [40.1 in]		
		HEIGHT	1905 mm [75 in]		
NG-2000SV PATIENT TABLE		LENGTH	2964 mm [116.7 in]	730.8 kg	1611 lbs
		WIDTH	934 mm [36.8 in]		
		HEIGHT	1340 mm [52.8 in]		



*Assuming that the lowest point of the stationary assembly is 101 mm [4 in] above the floor.

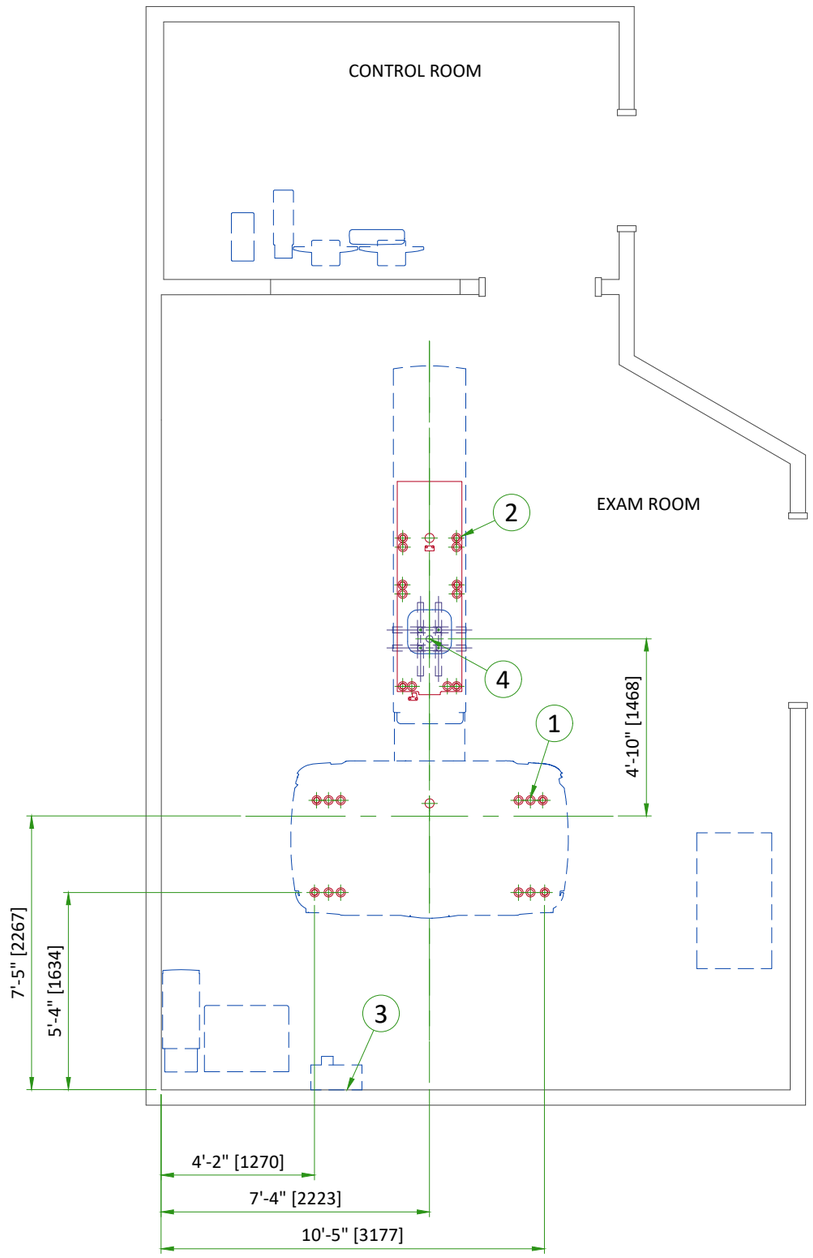


*Assuming that the lowest point of the rotating assembly is 97 mm [3.8 in] above the floor.

NOT TO SCALE

STRUCTURAL NOTES

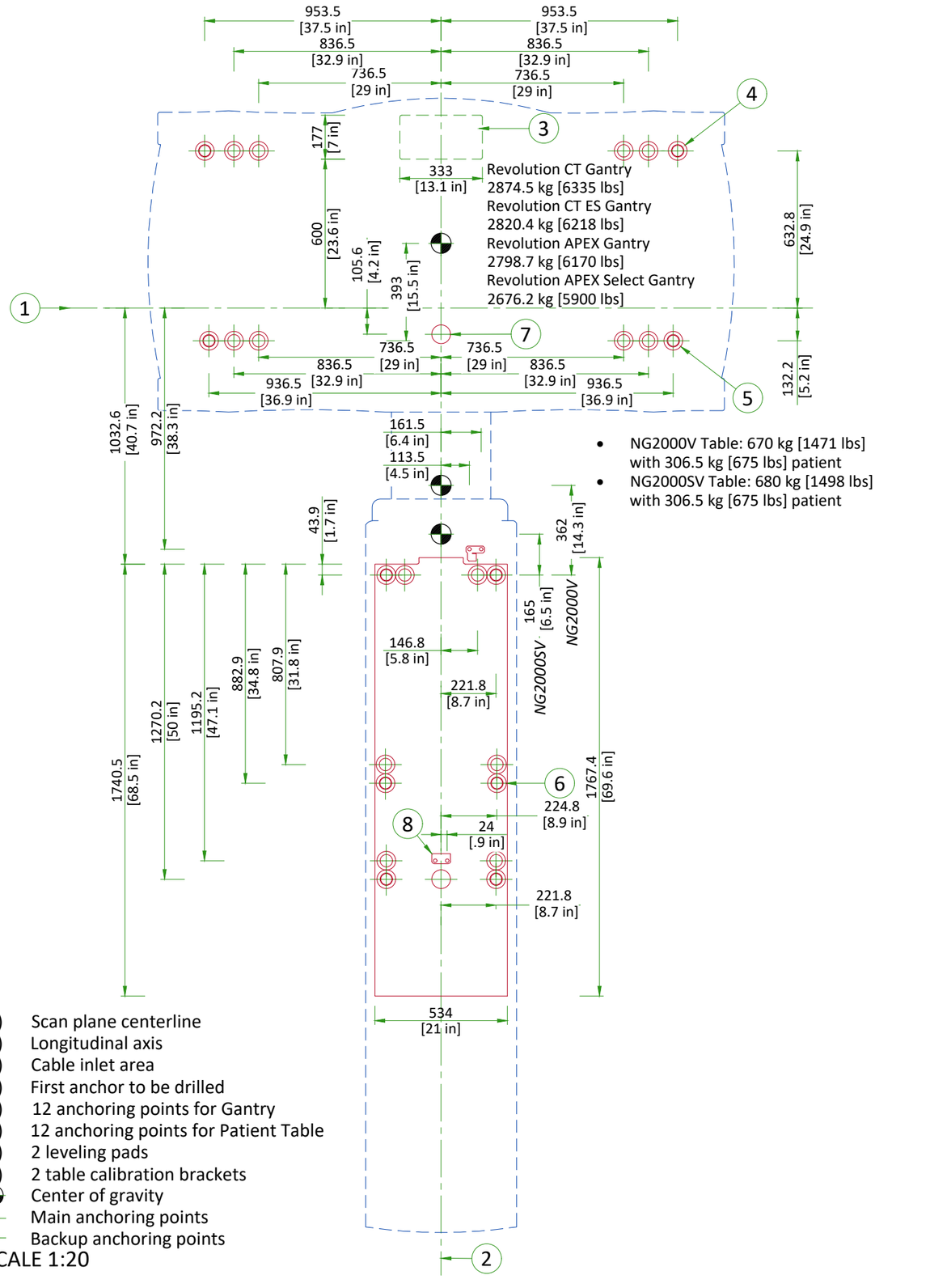
- all steel work and parts necessary to support ceiling mounted equipment is to be supplied by the customer or his contractors.
- methods of support for the steelwork that will permit attachment to structural steel or through bolts in concrete construction should be favored. Do not use concrete or masonry anchors in direct tension.
- 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.
- all ceiling mounted fixtures, air vents, sprinklers, etc. To be flush mounted, or shall not extend more than 1/4" below the finished ceiling.
- floor slabs on which equipment is to be installed must be level to 1/4" in 10'-0"
- dimensions are to finished surfaces of room.
- 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
	(CONTRACTOR SUPPLIED & INSTALLED)
1	Gantry leveling pads. See Structural Detail
2	Table base plate and leveling pads. See Structural Detail
3	Support Backing, locate as shown
4	Unistrut or equivalent for mounting patient positioning camera mounting plate on ceiling. Support designed and supplied by customer. Supports to be at least 2' [610mm] in length and located per dimensions on Positioning Camera Mounting Plate structural detail.

Dimension Precision Note:
Metric dimensions should be referenced when positioning the CT gantry alignment tool.

ANCHORING/LOADING DISTRIBUTION TO THE FLOOR



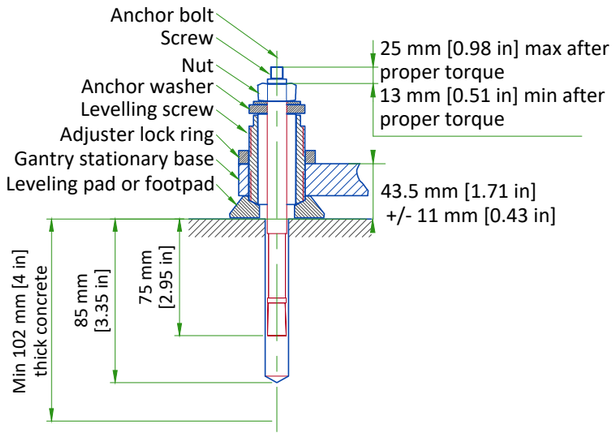
- NG2000V Table: 670 kg [1471 lbs] with 306.5 kg [675 lbs] patient
- NG2000SV Table: 680 kg [1498 lbs] with 306.5 kg [675 lbs] patient

(1) Scan plane centerline
(2) Longitudinal axis
(3) Cable inlet area
(4) First anchor to be drilled
(5) 12 anchoring points for Gantry
(6) 12 anchoring points for Patient Table
(7) 2 leveling pads
(8) 2 table calibration brackets
Center of gravity
Main anchoring points
Backup anchoring points

SCALE 1:20

FLOOR SPECIFICATIONS

GE SUPPLIED GANTRY ANCHORS



FINISHED FLOOR REQUIREMENTS

- Installation requires a finished floor in the scan 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 [0.25 in] over a 3000 mm [9.8 ft] distance.
- Shims should not be used to compensate for a floor that does not meet this requirement.
- If the concrete floor has a floor covering installed over it (such as floor tile), the foot pad load bearing areas under the gantry and the patient table shall be cut into the flooring to ensure the table and gantry rest on a solid surface. (Openings cut during installation.)
- These floor penetrations can be sealed if required.
- Concrete floors must have a minimum strength of f'c = 1.4 x10^7 Pa [2000 PSI] at 28 days for (curing time) mounting floor anchors. It is the responsibility of each customer to have appropriate tests performed to determine and measure concrete strength.
- These requirements apply to all installation types.

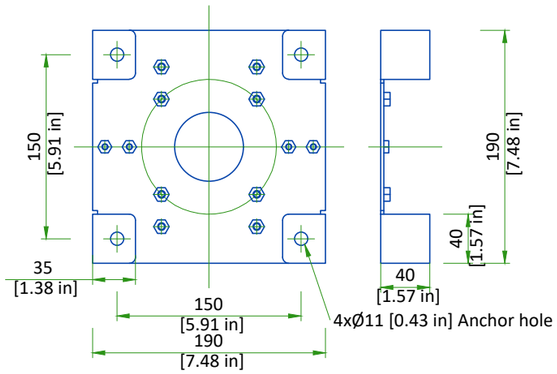
Notes:

- Anchors must be embed at least 127 mm [5.0 in] from any existing old cut off anchor, concrete edge, metal conduit or duct edge embedded in the concrete, concrete joint or crack.
- Anchors, nuts and drill bits required for seismic installations are not provided by GE. The type and length of the anchors, nuts, and drill bit must be defined in the alternative seismic anchoring plan and purchased separately by the customer.

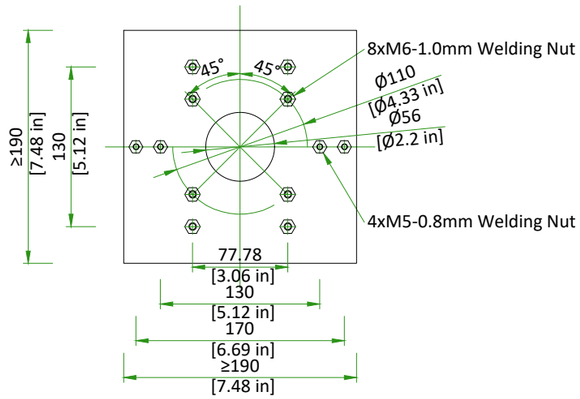
NOT TO SCALE

POSITIONING CAMERA MOUNTING PLATE

JUNCTION PLATE SUPPLIED BY GE



JUNCTION PLATE SUPPLIED BY CUSTOMER



GE will provide a Junction Plate, shipped with the system. If the Junction Plate supplied by GE can not meet the requests of the customer or the building structure, the customer's architect can design and install the Junction Plate (refer to the right side of the detail) with sufficient strength to hold the camera assembly.

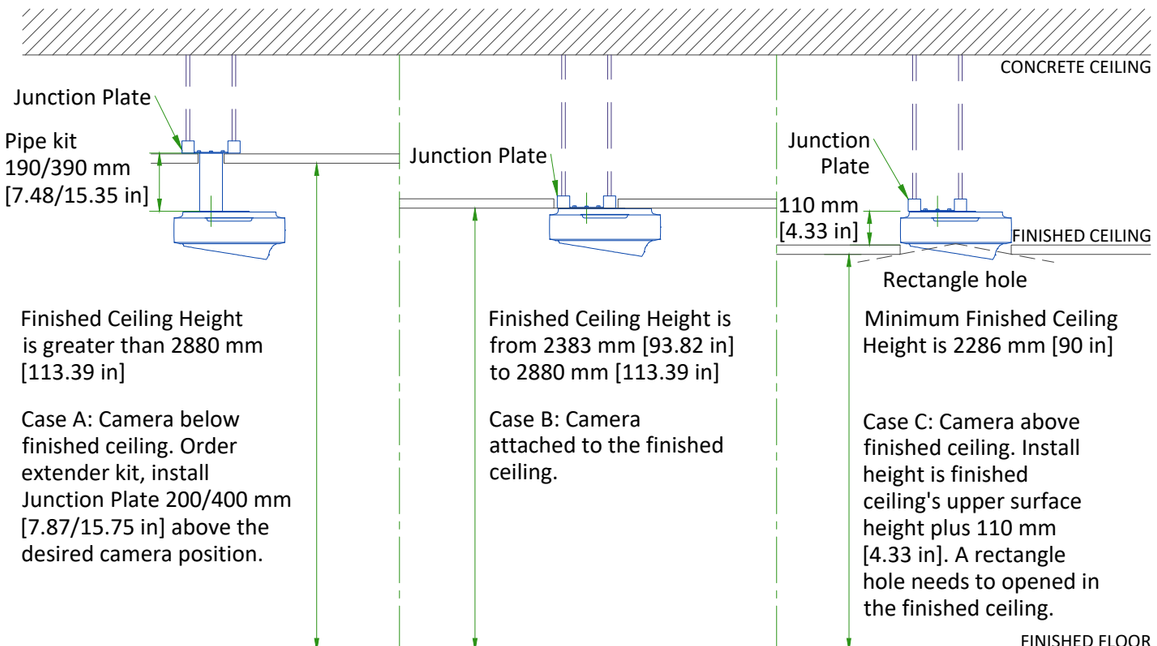
Material: Steel material with a min. tensile strength of 375 MPa
Plate thickness: 2.5 mm [0.10 in]

Welding Nut: Meet GB-T 13681-1992 requirement or equivalent		
	M5-0.8 mm	M6-1.0 mm
Thickness (mm [in])	3.7-4 [0.15-0.16]	4.7-5 [0.19-0.20]
Pledge load (N)	11000	15500

NOTE: The system manufacturer will NOT inspect and test that the fixing methods between the Junction Plate and the building structure meet the loading capacity specified (recommend a 6x safety factor), which is the customer's responsibility. The weight of the camera assembly is approximately 3.2 kg [7.05 lbs], suggest the safety load on the Junction Plate is no less than 20 kg [44.09 lbs]. If the Anchor Bolt is not applicable for site requirement, the customer's architect can consider other methods (such as welding...) to fix the Junction Plate. Presetting for site preparation of the Camera installation, customer had better install the Junction Plate in advance before the system installation.

NOT TO SCALE

POSITIONING CAMERA INSTALLATION POSITION



Finished Ceiling Height is greater than 2880 mm [113.39 in]

Case A: Camera below finished ceiling. Order extender kit, install Junction Plate 200/400 mm [7.87/15.75 in] above the desired camera position.

Finished Ceiling Height is from 2383 mm [93.82 in] to 2880 mm [113.39 in]

Case B: Camera attached to the finished ceiling.

Minimum Finished Ceiling Height is 2286 mm [90 in]

Case C: Camera above finished ceiling. Install height is finished ceiling's upper surface height plus 110 mm [4.33 in]. A rectangle hole needs to opened in the finished ceiling.

NOT TO SCALE

TEMPERATURE AND HUMIDITY SPECIFICATIONS

IN-USE CONDITIONS

	EXAM ROOM			CONTROL ROOM		
Temperature (From -150 m [-492 ft] to 1600 m [5249 ft])	Min	Recommended	Max	Min	Recommended	Max
	18°C	22°C	26°C	18°C	22°C	26°C
	64°F	72°F	79°F	64°F	72°F	79°F
Temperature (From 1600 m [5249 ft] to 3000 m [9843 ft])	Min	Recommended	Max	Min	Recommended	Max
	18°C	22°C	25°C	18°C	22°C	25°C
	64°F	72°F	77°F	64°F	72°F	77°F
Relative humidity (1)	30% to 70%			30% to 70%		

STORAGE CONDITIONS

Temperature	+4°C to +27°C
	40°F to +80°F
Temperature gradient	**≤ 3°C/h**
	≤ 5.4°F/h
Relative humidity (1)	20% to 60%
Humidity gradient	**≤ 5%/h**

Storage longer than 6 months is not recommended.
(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 DETAILS

COMPONENT	ROOM	MAX BTU/hr	MAX kW
Gantry and Patient Table	Exam room	27150	7.95
Power Distribution Unit	Exam room/Technical room	1200	0.352
System Cabinet IV, V, VI or VII	Exam room/Technical room	10578	3.1
Partial UPS - Powerware 9355-15-14GE*	Exam room/Technical room	5122	1.5
Operator console (including 2 monitors)	Control room	5100	1.5
*Partial UPS is optional for Revolution CT/CT ES configurations			
Average overall system demand in standby is approximately 11kW [37533 BTU/hr]			

ELECTRICAL NOTES

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 distribution 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. In some cases GEHC will specify ground wires to be sized larger than code. In these situations, the GEHC specification must be followed.
10. 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.
11. The maximum point to point distances illustrated on this drawing must not be exceeded.
12. Physical connection of primary power to GEHC equipment is to be made by customers electrical contractor with the supervision of a GEHC representative. The GEHC representative would be required to identify the physical connection location, and insure proper handling of GEHC equipment.
13. 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.
14. Every installation is unique. The electrical contractor will be required to support the installation of the GEHC equipment by providing knockouts, grommeted openings, bushings, etc. as required. All power connections to be performed by the electrician.

- All junction boxes, conduit, duct, duct dividers, switches, circuit breakers, cable tray, etc., are to be supplied and installed by customers electrical contractor. All junction boxes shall be provided with covers.
- Conduit and duct runs shall have gradual 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.
- Electrical contractor to provide measured pull strings in all conduit and raceway runs.
- Provide 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.

CONNECTIVITY REQUIREMENTS

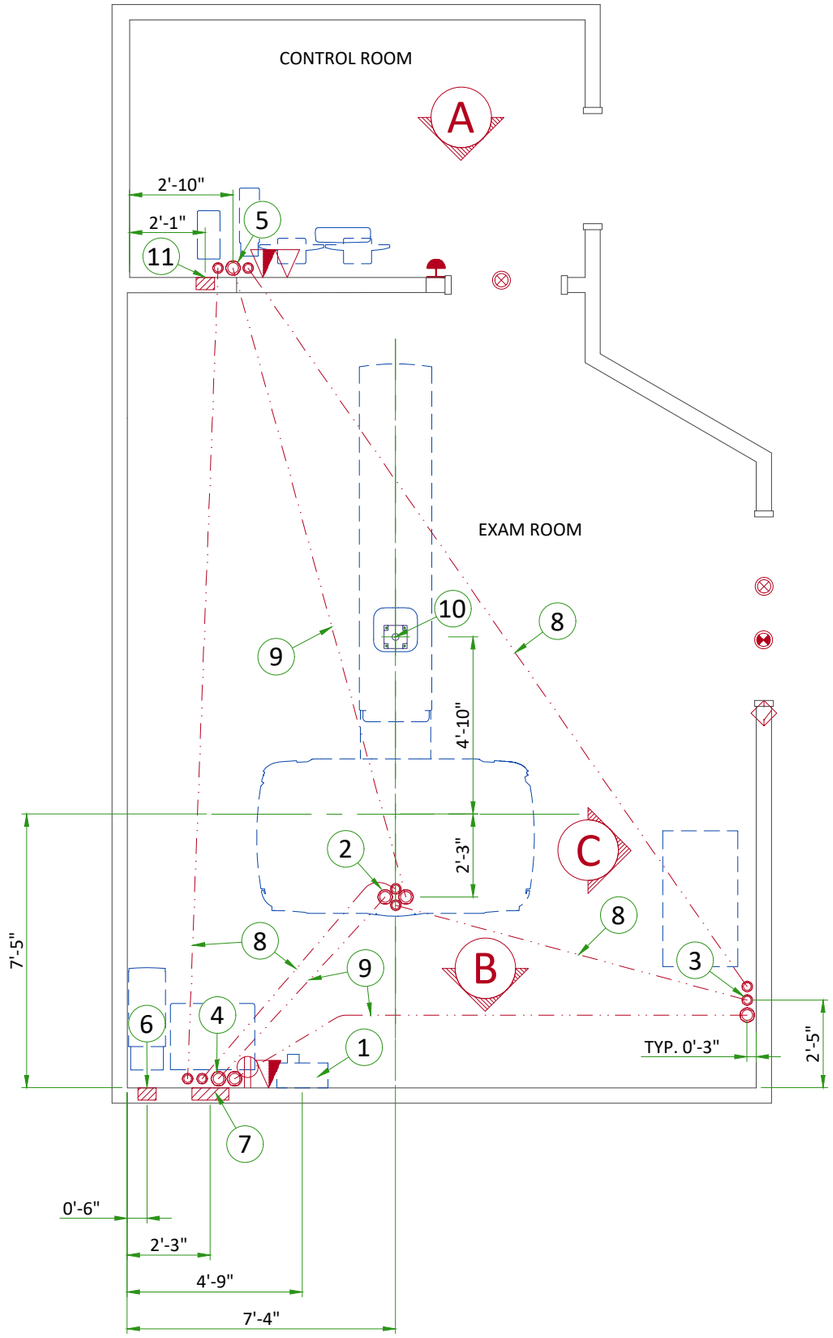
Your new GE Healthcare imaging modality will require local and remote connectivity to enable our full range of digital support:

- 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.

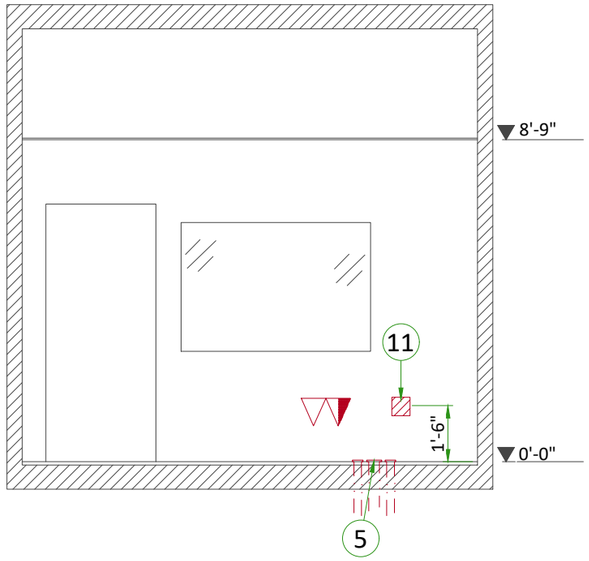


Item	Electrical Layout Item List
1	Main disconnect panel (MDP)
2	Suitable bushings & lock nuts (Gantry)
3	Suitable bushings & lock nuts (System Cabinet)
4	Suitable bushings & lock nuts (Power Distribution Unit)
5	Suitable bushings & lock nuts (Operator's console)
6	6" x 6" x 4" [150 x 150 x 100] box (Partial UPS)
7	12" x 16" x 4" [300 x 400 x 100] box (Power Distribution Unit)
8	2 1/2" [64] conduit below floor
9	3 1/2" [89] conduit below floor
10	Cable inlet above ceiling (Express Camera)
11	6" x 6" x 4" [150 x 150 x 100] box (Operator's console)

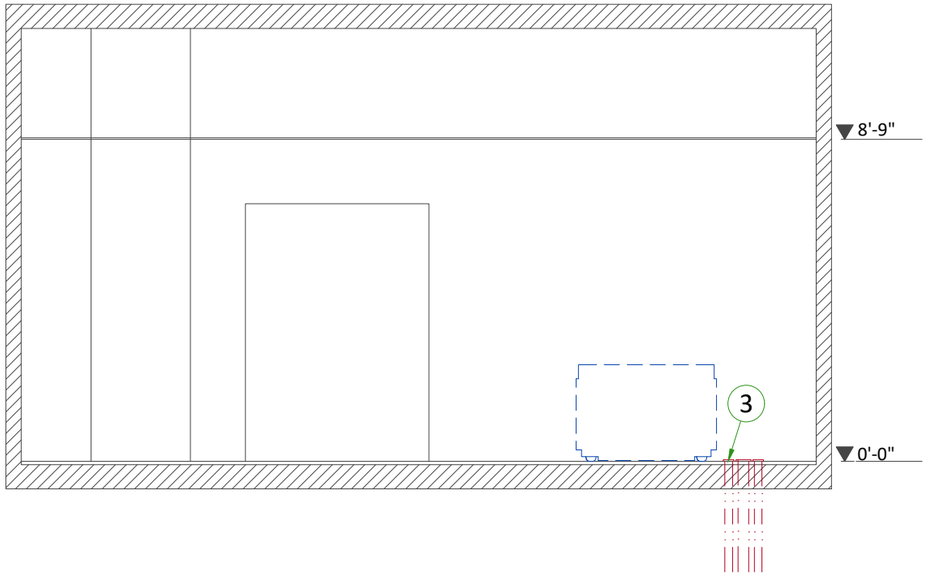
ITEM	QTY	Electrical Outlet Legend Customer/contractor supplied and installed items unless otherwise specified. Height above floor determined by local codes unless otherwise specified.
		Duplex hospital grade, dedicated wall outlet 120-v, single phase power
		Dedicated telephone line(s)
		Network outlet
		System emergency off (SEO), (recommended height 1.2m [48"] above floor)
		X-Ray room warning light control panel
		X-Ray ON lamp (L1) - 24V
		Door interlock switch (needed only if required by state/local codes)

Additional Conduit Runs
(Contractor Supplied and Installed)

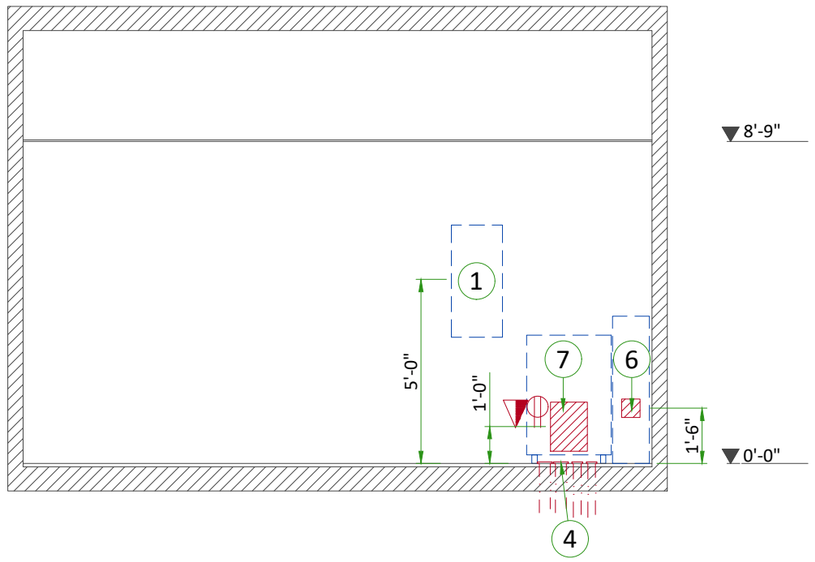
From (Bubble # / Item)		To (Bubble # / Item)		Qty	Size	
					In.	mm
	3 Phase Power	1	Main Disconnect Panel	1	As req'd	As req'd
1	Main Disconnect Panel		Emergency Off	1	1/2	13
		7	Power Distribution Unit	1	As req'd	As req'd
7	Power Distribution Unit		Door Switch	1	1/2	13
			Warning Light Control	1	1/2	13
	Warning Light			1	1/2	13
	1 Phase Power			1	1/2	13
1	Main Disconnect Panel	6	Partial UPS	1	1 1/4	30
7	Power Distribution Unit			1	2	50
11	Operator's Console	6	Partial UPS	1	1	25
10	Express Camera	11	Operator's Console	1	1 1/2	38



A



C



B

POWER REQUIREMENTS

POWER SUPPLY	**3 PHASES+G (4-Wire Wye system, neutral not used) 380/400/420/440/460/480 V ± 10%**
FREQUENCIES	**50/60 Hz ± 3Hz**
MAXIMUM POWER DEMAND	**200 kVA**
AVERAGE (CONTINUOUS) POWER DEMAND	**11 kVA**
POWER FACTOR	**0.85**

- Power supply should come into a main disconnect panel (MDP) containing the protective units and controls.
- Governing electrical codes may require a neutral wire. If present, neutral must be terminated in MDP.
- 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)
- Maximum source regulation allowable is 6%. The combination of daily voltage variation (no load) and source regulation under full load shall not exceed + 10/-13% of nominal.

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 signaling and remote control (Y, SEO, L...) will go to MDP with a pigtail length of 1.5m [4.9 ft], 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

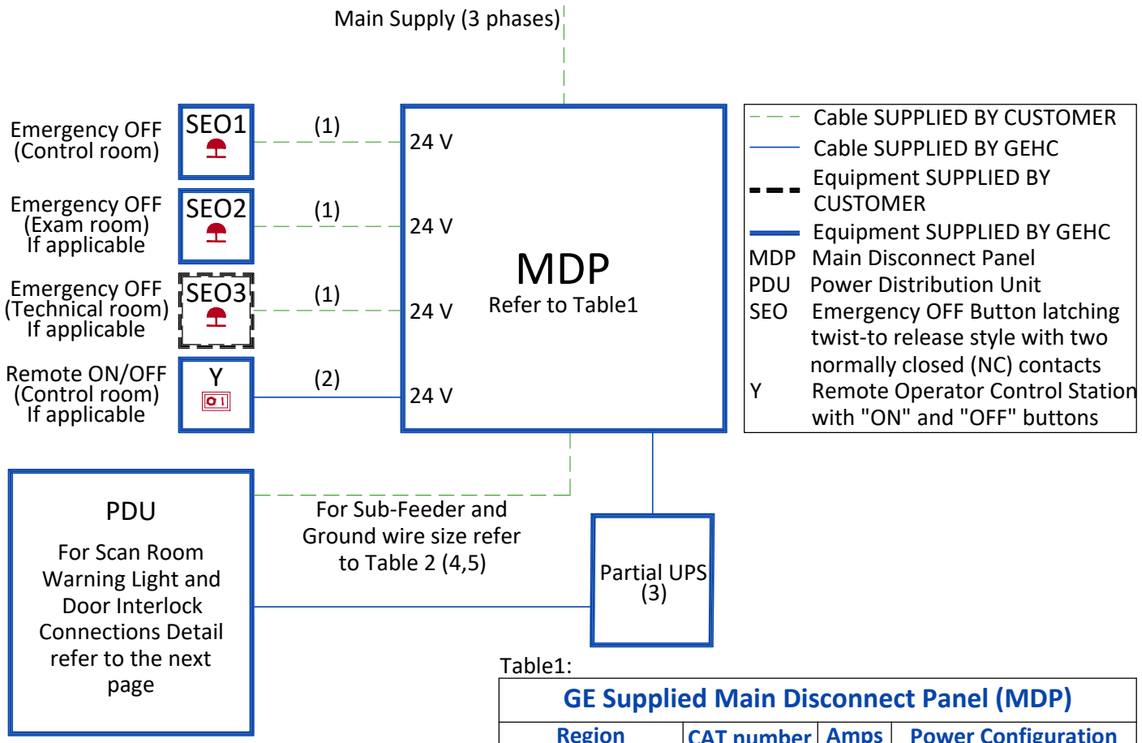


Table1:

GE Supplied Main Disconnect Panel (MDP)			
Region	**CAT number**	**Amps**	**Power Configuration**
Global except EMEA(440~480 V)	E4502BE	125	Power Pro/Core
	E4502BG	175	Power Xtream
Global except EMEA(380~420 V)	E4502BF	150	Power Pro/Core
EMEA(400 V)	E45021BC(4)	160	Power Pro/Core
	E45021BG(4)	200	Power Xtream
China, EMEA	B7921MD(5)	150	Power Pro/Core
	B7920MD(5)	200	Power Xtream

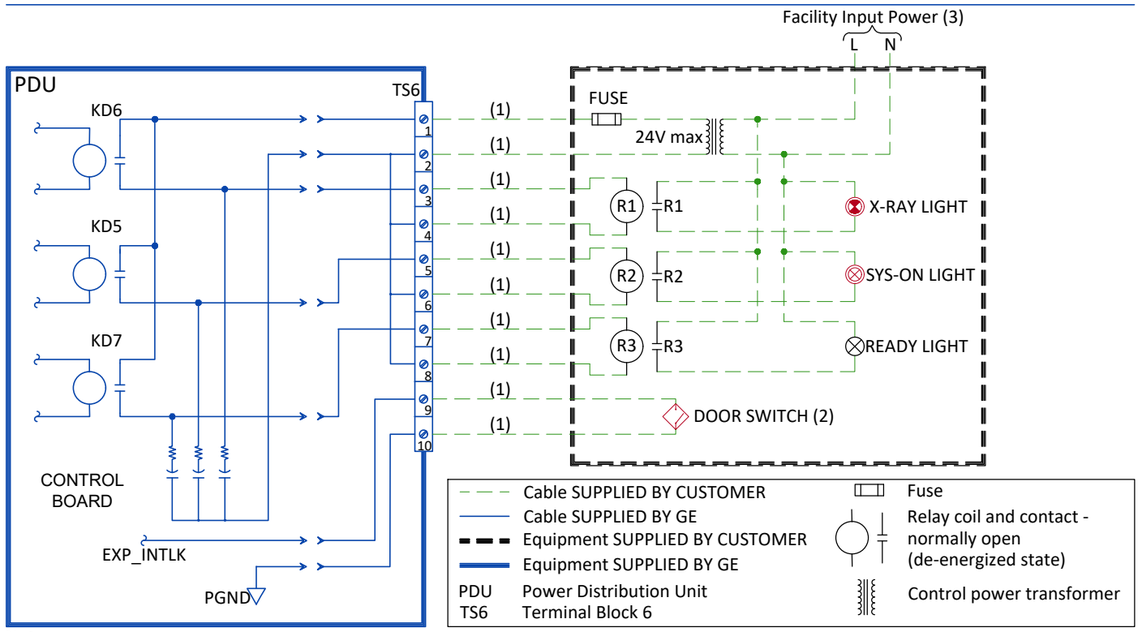
Table2:

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 list below, please select the nearest wire size as per local standards.						
Sub-Feeder length from MDP to PDU - ft (m)	**Minimum Wire Size, AWG or MCM (mm²)/VAC**					
	380 VAC	400 VAC	420 VAC	440 VAC	460 VAC	480 VAC
50 (15)	3/0 (95)	3/0 (95)	3/0 (95)	2/0 (70)	2/0 (70)	2/0 (70)
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 meter [10 ft], multi-conductor, 24V DC
(3) Optional for Revolution CT systems
(4) GEHC supplied MDP option E45021BC/BG includes a 10 meter long PDU power cable (H07RN-F) with wire size 4x50mm² and a 50 meter long control cable with wire size 2x1.5mm²
(5) GEHC supplied MDP options B7920MD/B7921MD include a 11 meter long PDU power cable and 4 SEO pushbuttons.

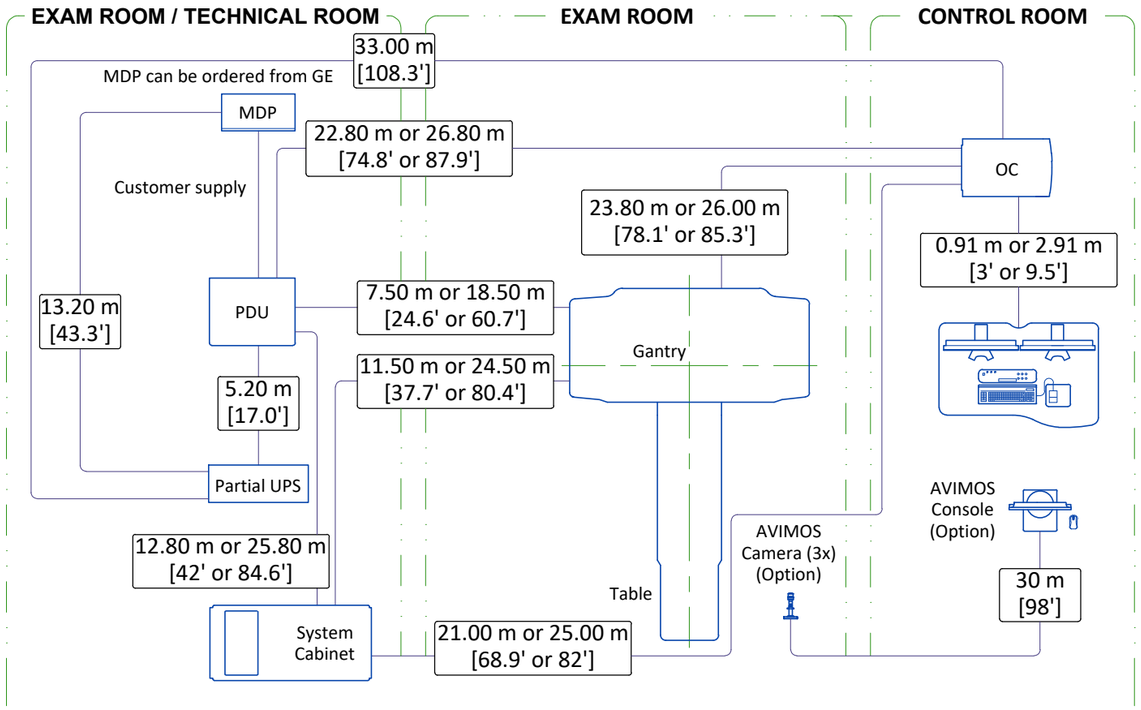
SCAN ROOM WARNING LIGHT AND DOOR INTERLOCK

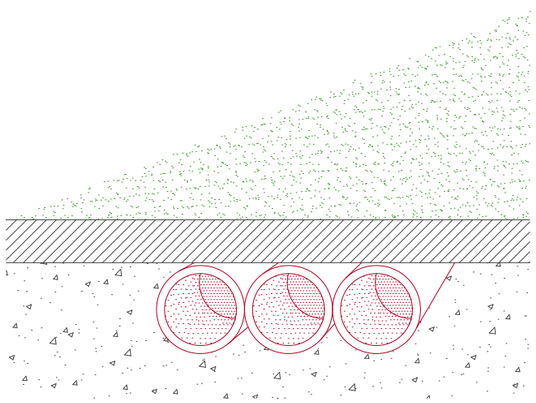


Notes :

(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



TYPICAL CABLE MANAGEMENT

CONDUIT IN THE FLOOR