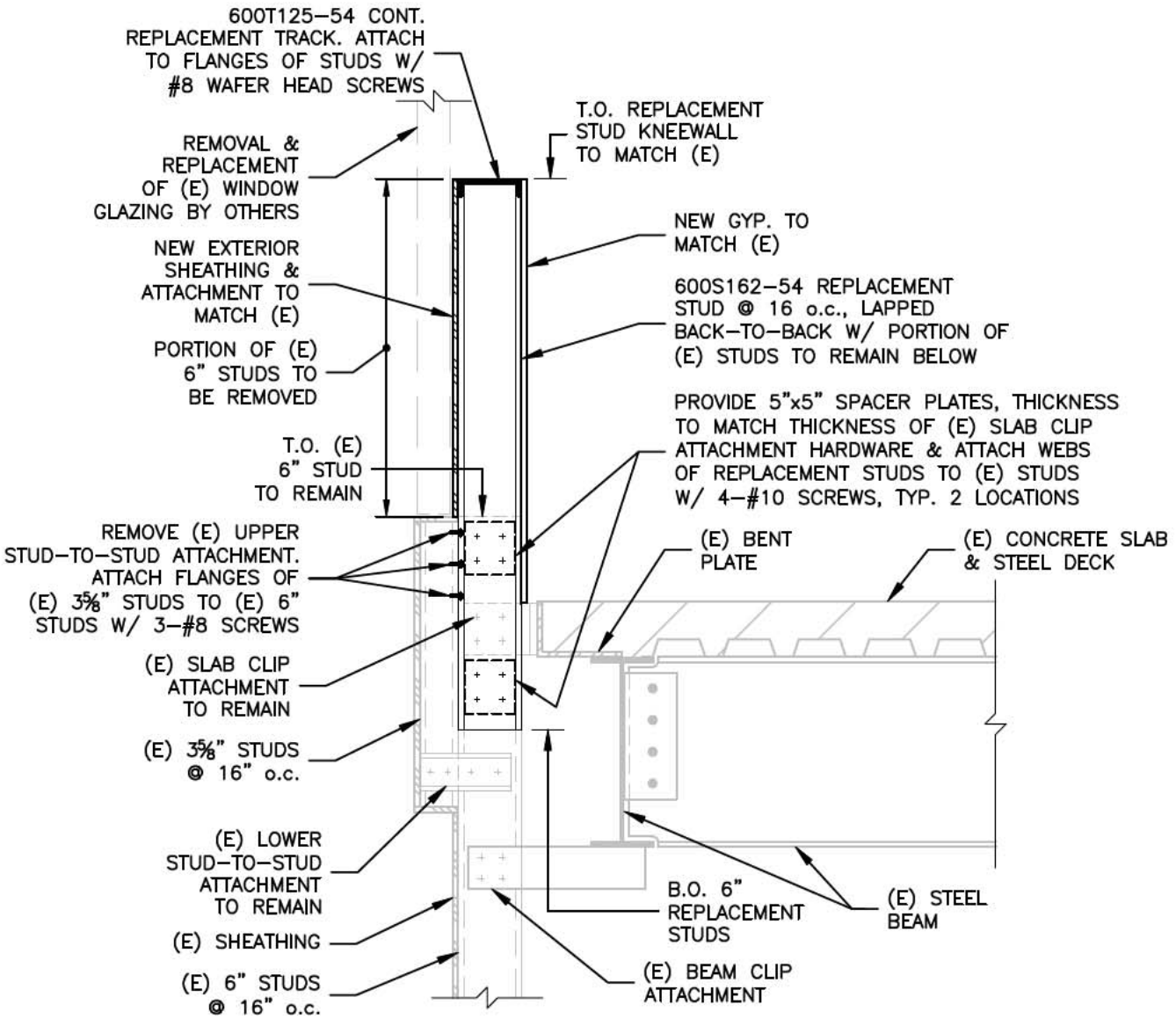
RSN#1312716
PERMIT# 2018-1509651 -LT



(E) INDICATES EXISTING. FIELD–VERIFY ALL EXISTING CONDITIONS PRIOR TO STUD DEMOLITION & NEW INSTALLATION. CONTACT NEXT LEVEL, INC. SHOULD ANY EXISTING CONDITION NOT BE SHOWN, OR IF ANY EXISTING CONDITIONS DIFFER FROM THAT INDICATED

07-24-18

nextlevel STRUCTURAL ENGINEERS
7186 S. Forest Lane
Centennial, CO 80122
303.260.9455
nlengineers.com

PROJECT: 1444 S. POTOMAC NUC MED		SX
SHEET TITLE: SOFFIT STUD REMOVAL & REPLACEMENT		
JOB NUMBER: 18–050	PRINCIPAL: MWN	
DATE: 07.16.18	DRAFTER: SAW	SCALE: ¾"=1'–0"

RSN#1312716
PERMIT# 2018-1509651 -LT



REV	DATE	MODIFICATIONS
A	29/MAY/2018	DRAWING BASED ON DC-56749

01 - COVER SHEET
02 - EQUIPMENT LAYOUT
03 - STRUCTURAL - ELECTRICAL LAYOUT
04 - STRUCTURAL DETAILS
05 - POWER / NETWORK - POWER DISTRIBUTION
06 - ENVIRONMENT - DELIVERY - INTERCONNECTIONS
07 - EQUIPMENT DIMENSIONS
08 - HVAC
09 - DISCLAIMER - SITE READINESS

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: www.gehealthcare.com/siteplanning

GE 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 drawing. 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.

MEDICAL CENTER OF AURORA
AURORA, COLORADO
USA

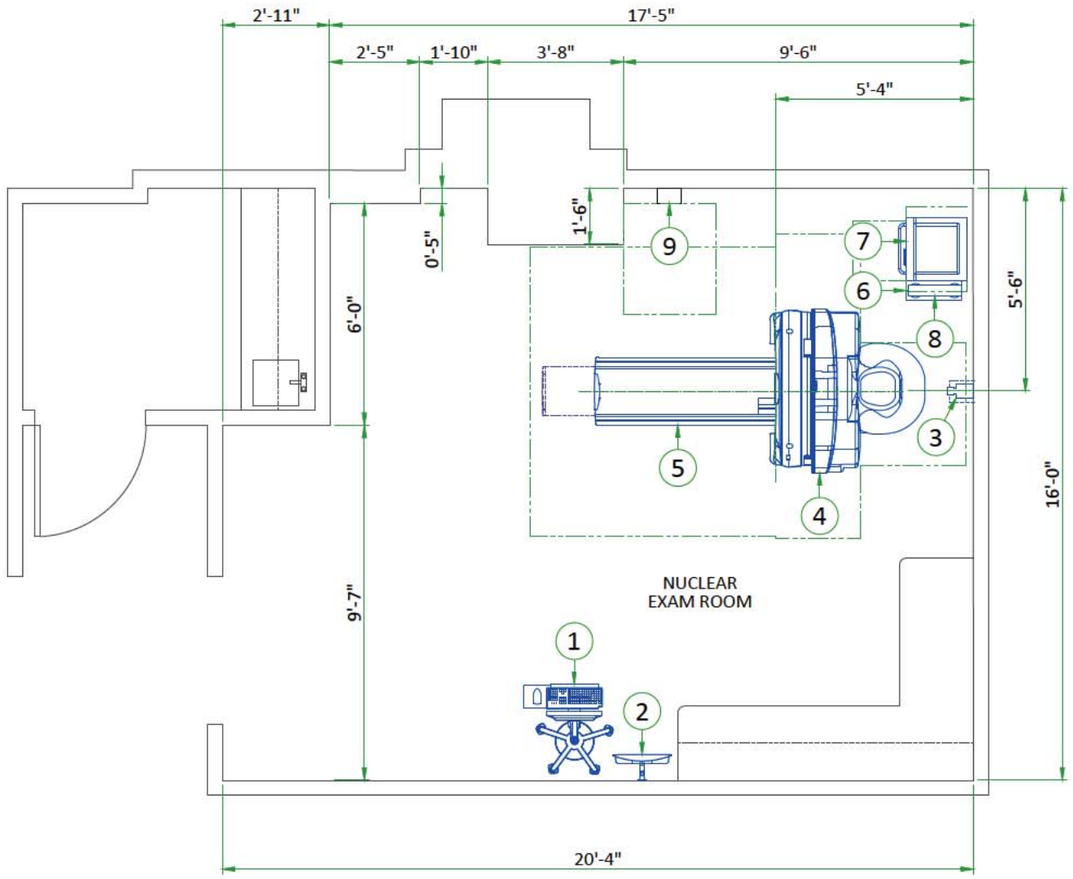
GE Healthcare

TONY SCHRADER
(720)467-4290
Tony.schrader@ge.com

DISCOVERY NM 530c
FINAL STUDY

Drawn by	Verified by	Concession	S.O. (GON)	PIM Manual	Rev
MKL	MKL	----	PR7C109367V2	5454095-1EN	1

Format	Scale	File Name	Date	Sheet
A3	1:48	NUC-M090151-00A.DWG	29/MAY/2018	01/09



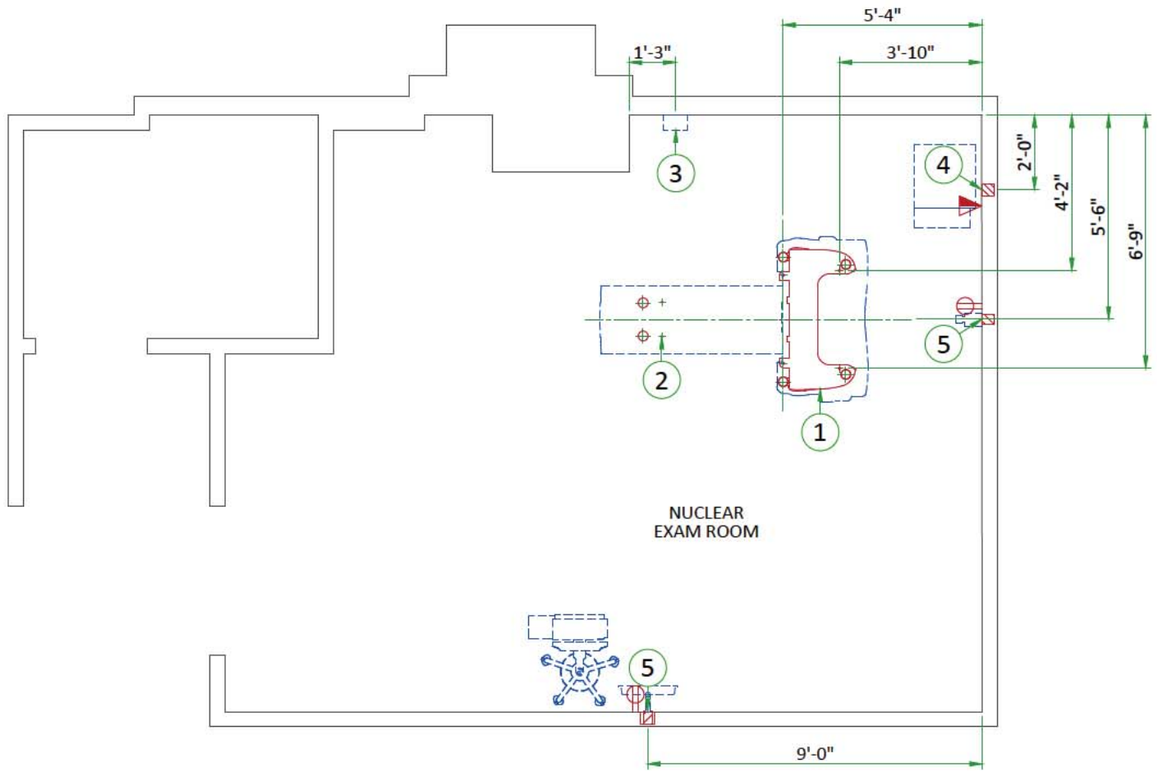
EQUIPMENT LAYOUT

ITEM	DESCRIPTION	DIMENSIONS LxWxH (in)	WEIGHT (lb)
1	MOBILE CONSOLE (AC2)	24.6x63	99
2	PATIENT POSITION MONITOR (TVM)	13.5x2x11.5	-
3	PATIENT CAMERA (TVC)	1.2x1.25x1.2	-
4	GANTRY WITH DETECTORS	29.3x49.2x61	1432
5	PATIENT TABLE	76.7x26.7x36	573
6	NM ACQUISITION COMPUTER (AC)	-	33
7	INTEGRATED POWER SUPPLY (IPS)	22.3x21.6x21.5	171
8	UPS 2kVA	19x3.5x17	33
9	MAIN DISCONNECT PANEL (MDP) - NOT SUPPLIED BY GE	-	-

EXAM ROOM HEIGHT	
FINISHED CEILING HEIGHT	9'-0"

LEGEND

	ARCHITECTURAL ELEMENTS
	GE SUPPLIED
	EQUIPMENT MOVEMENT
	SERVICE CLEARANCE
	MAIN AXIS
	DIMENSIONS
	CUSTOMER SUPPLIED ITEMS



STRUCTURAL-ELECTRICAL LAYOUT

ITEM	QTY	DESCRIPTION
1		GANTRY LEVELING PADS (SEE STRUCTURAL DETAILS)
2		PATIENT TABLE LEVELING PADS (SEE STRUCTURAL DETAILS)
3		MAIN DISCONNECT PANEL (MDP) @ 5'-0" A.F.F.
4		4"x4"x2" JUNCTION BOX @ 1'-0" A.F.F. AND 20AMP HOSPITAL GRADE RECEPTACLE
5		SINGLE GANG JUNCTION BOX @ 5'-0" A.F.F. (TYP)

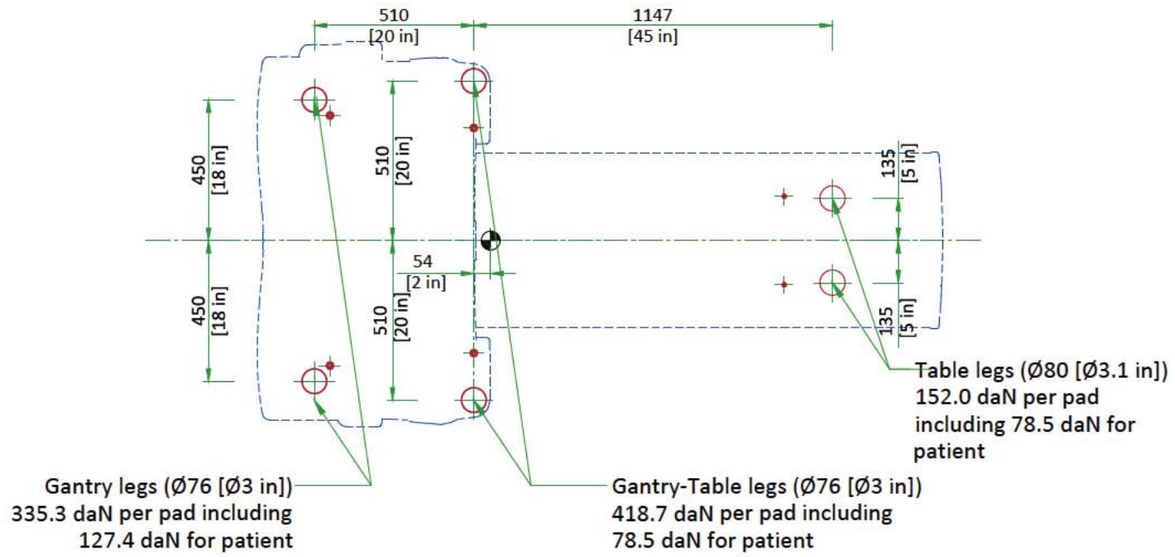
ITEM	QTY	DESCRIPTION
		DUPLEX HOSPITAL GRADE, DEDICATED WALL OUTLET 120-V, SINGLE PHASE POWER
		NETWORK OUTLET

Additional Conduit Runs
(Contractor Supplied and Installed)

From	To	Qty	Size	
			In.	mm
1 PHASE POWER	MAIN DISCONNECT (MDP)	1	AS REQ'D	AS REQ'D
MAIN DISCONNECT (MDP)	NUCLEAR CAMERA OUTLE (NCO)	1	AS REQ'D	AS REQ'D
PATIENT CAMERA (TVC)	PATIENT POSITION MONITOR (TVM)	1	1	25

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LOADING DISTRIBUTION TO THE FLOOR



Center of gravity

Gantry weight: 650 kg [1433 lb]
Table weight: 320 kg [705 lb]

FLOOR SPECIFICATIONS

FLOOR LOADING

- The floor must be capable of supporting the weight of the equipment and accessories.
- When the floor does not meet level and flatness specifications, the floor will need to be corrected. The entire area of the installation room should be leveled.
- No fill material is allowed as a patch to compensate for surface deviations. Patches will eventually crack and pop out.

FLOOR LEVELING SPECIFICATIONS	
Slope	±30 mm [±1.2 in] over 4300 mm [170 in]
Flatness	Surface should be smooth and have no more than 5 mm [0.2 in] deviation in any 1520 mm [60 in] throughout the room or system installation area
Floor surface	Floor should have one single poured surface

POWER REQUIREMENTS

POWER SUPPLY	SINGLE PHASE+N+G 115/230 V +10% -5%
FREQUENCIES	50/60 Hz ± 1 Hz
POWER RATINGS	1.9 kVA

- Line 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 material 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.
- Transients must be less than 1200 V peak (on a 230 V line). A record of power input disturbances over a continuous one-week period (prior to delivery) enables determination of the frequency and degree of these disturbances and can be used to ascertain the need to provide line conditioning equipment.

GROUND SYSTEM

- 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

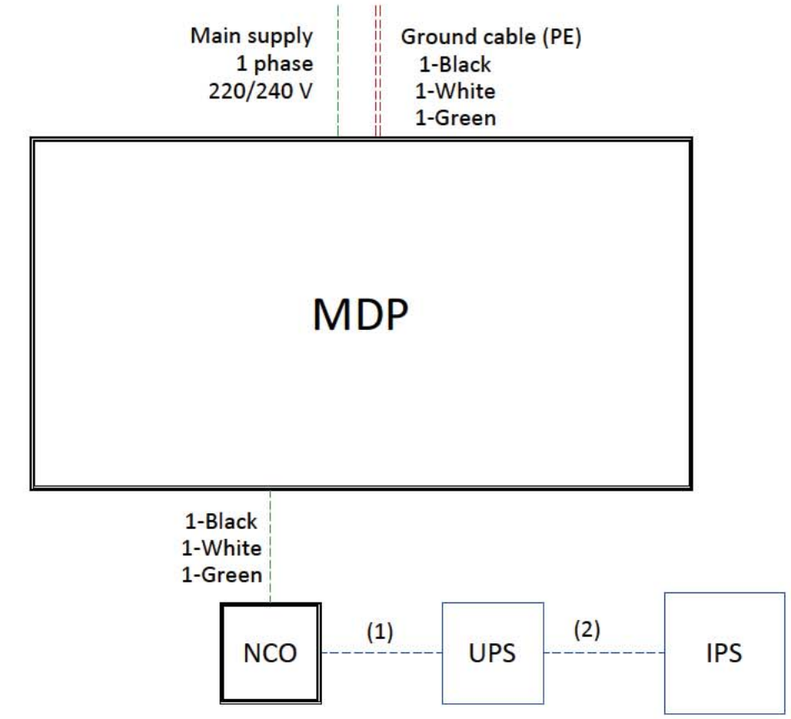
- Power and cable installation must comply with the distribution diagram below.
- All cables must be isolated and flexible, cable color codes must comply with standardsfor electrical installation.
- The cables from signaling and remote control (Y, SEO, L ...) will go to MDP with a pigtail length of 1.5 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



PDB	Power distribution box
NCO	Camera Outlet
UPS	UPS Cabinet
IPS	Integrated Power Supply

Notes :

(1) Cable with a usable length of 1.52m [5 ft] is delivered with the system.

(2) Cable with a usable length of 5m [16.4 ft] is delivered with the system.

- Cable SUPPLIED BY CUSTOMER
- Cable SUPPLIED BY GE
- Equipment SUPPLIED BY CUSTOMER
- Equipment SUPPLIED BY GE

FEEDER TABLE								
MIN. FEEDER WIRE SIZE, AWG OR MCM (mm^2)/VAC	MINIMUM FEEDER WIRE LENGTH - ft (m)							
	50 (15)	100 (30.5)	150 (46)	200 (61)	250 (76)			
115 VAC	10 (6)	8 (8)	6 (17)	4 (26)	3 (34)			
230 VAC	12 (3)	12 (3)	12 (3)	10 (6)	10 (6)			

GENERAL NOTES

In all cases qualified personnel must verify that the feeder (at the point of take-off) and the run to the GE system meet all the requirements stated in the PIM

Grounding conductor will run from the equipment back to the power source/main grounding point and always travel in the same conduit with the feeders

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ENVIRONMENT

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.

In order to avoid interference on the system, static field limits from the surrounding environment are specified below.

- Static field must be less than 1 Gauss in Examination room, and in the Control Area.
- Static field must be less than 3 Gauss in the Technical Room.

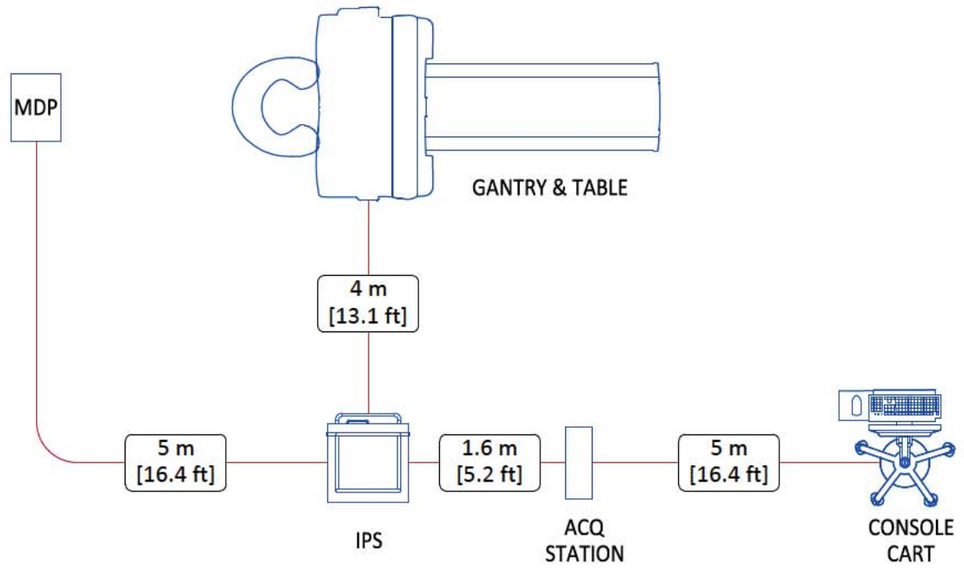
ELECTROSTATIC DISCHARGE ENVIRONMENT & RECOMMENDATIONS

In order to reduce electrostatic discharge interference, install a charge dissipative floor material to avoid electrostatic charge buildup.
The relative humidity shall be at least 30 percent.
The dissipative material shall be connected to the system ground reference, if applicable.

EMC COMPLIANCE

This system complies with IEC60601-1-2 (2007-03) EMC standard for medical electrical equipment.

INTERCONNECTIONS



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.

UNPACKED COMPONENT DIMESIONS

EQUIPMENT	DIMENSIONS		WEIGHT
GANTRY WITHOUT TRIPLETS	LENGTH	735 mm [28.9 in]	590 kg [1300 lb]
	WIDTH	1350 mm [53 in]	
	HEIGHT	1550 mm [61 in]	
GANTRY-FULL CONFIGURATION WITH TRIPLETS	LENGTH	735 mm [28.9 in]	650 kg [1433 lb]
	WIDTH	1350 mm [53 in]	
	HEIGHT	1550 mm [61 in]	
PATIENT TABLE	LENGTH	1400 mm [55 in]	260 kg [573 lb]
	WIDTH	550 mm [21.6 in]	
	HEIGHT	550 mm [21.6 in]	

RADIOACTIVE ISOTOPES

USING RADIOACTIVE ISOTOPES

Since this equipment involves the use of radioactive isotopes, compliance with Nuclear Regulatory Commission regulations, or similar regulatory requirements (depending on the country), must be adhered to.
In most situations, this must be done prior to acquiring any source materials. This includes calibration sources which may have fairly long delivery lead times. These calibration sources may also have a short half life, and it may not be advisable to store them over long periods of time.
Regulatory compliance should be arranged early in the site planning process.

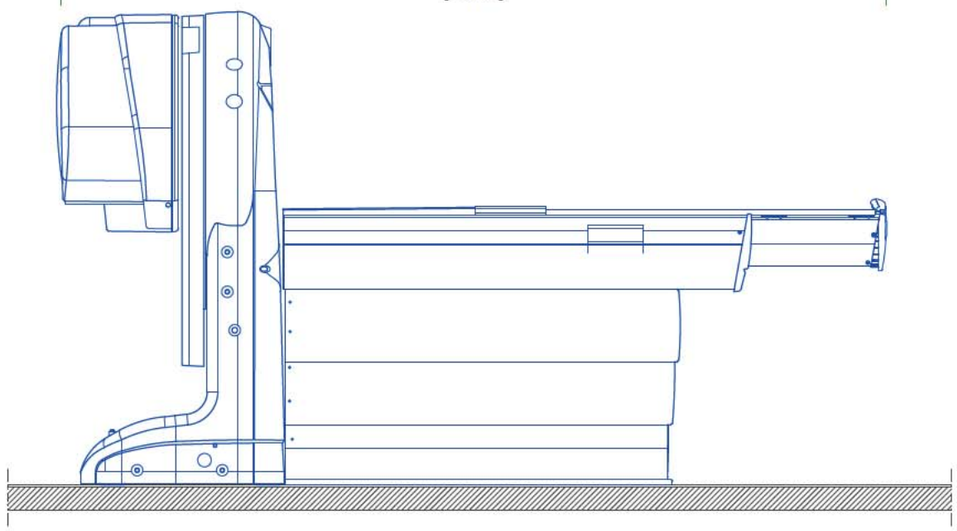
RADIOACTIVE ISOTOPES FOR SYSTEM CALIBRATION

A Co57 Square Flood Source for QC and Maps creation, with an activity of 20 mCi, must be pre-ordered and available on site before installation commences.

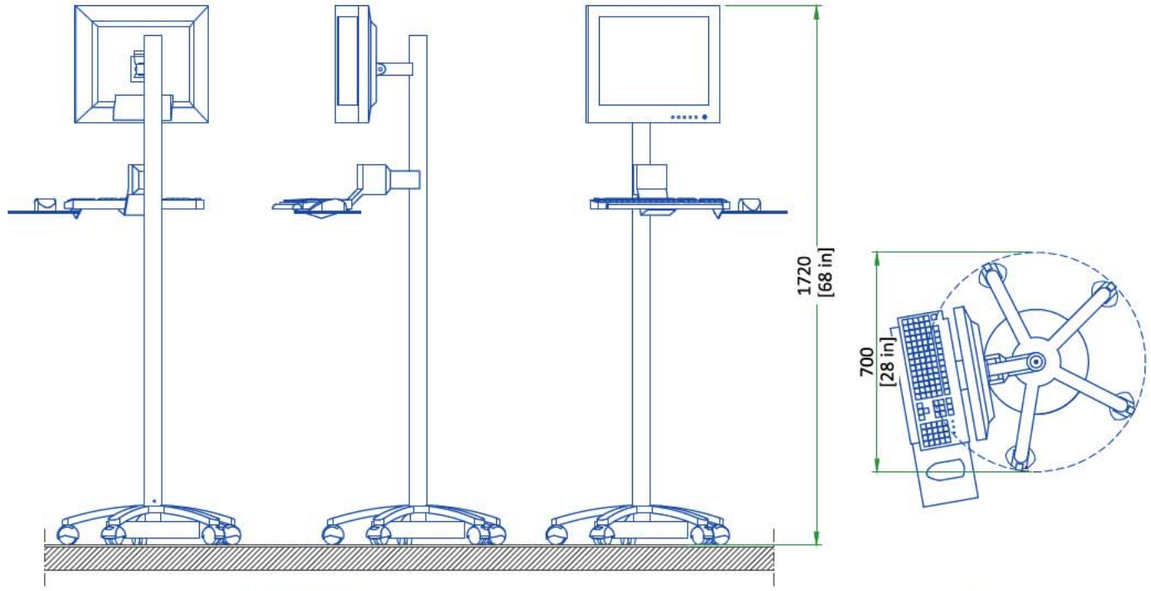
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RSN#1312716
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GANTRY AND PATIENT TABLE

SIDE VIEW



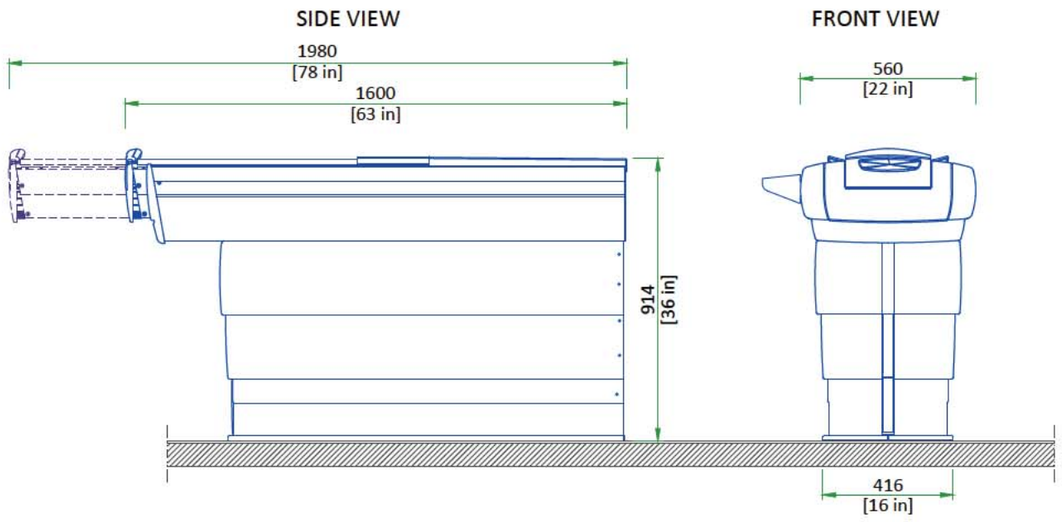
AQUISITION STATION ON CART (AC2)



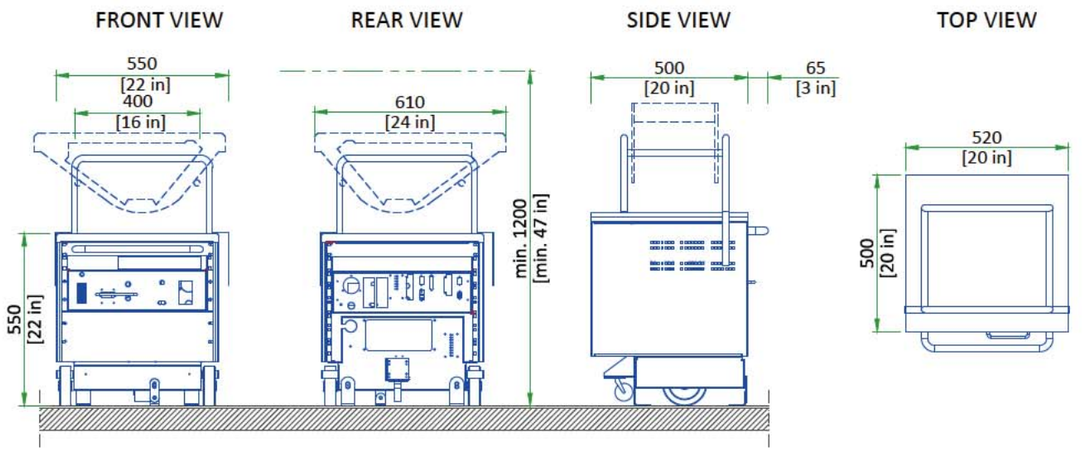
SIDE VIEWS

TOP VIEW

PATIENT TABLE



IPS



TEMPERATURE AND HUMIDITY SPECIFICATIONS

IN-USE CONDITIONS

	EXAM/CONTROL ROOM		
Temperature	Min	Recommended	Max
	18 °C [64 °F]	22 °C [72 °F]	25 °C [77 °F
Temperature gradient	**≤ 3 °C/h [≤ 5.4 °F/h]**		
Relative humidity (1)	30% to 60%		
Humidity gradient	**≤ 5%/h**		

STORAGE CONDITIONS

	System without Detector Triplets	Detector Triplets
Temperature	-20°C to +60°C [-4°F to 140°F]	+10°C to +30°C [50°F to 86°F]
Relative humidity (1)	15% to 90%	
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	Gantry	0.63	2150
	Patient table	0.15	510
	IPS	0.06	205
	Acquisition station	0.15	510
	Monitor	0.08	273
	TOTAL	**0'-1"**	**3648**

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 structrual 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**

GLOBAL SITE READINESS CHECKLIST (DI)

DOC1809666 Rev. 5

Customer Name:	PMI Name:		
GON/SO Number:	Field Service Name:		
Equipment:	Country/City or City/State:		
Required site assessment milestones	**Date of completion (dd/mm/yyyy)**		
1) Check site before Equipment Delivery to Storage			
2) Check site before installation start			
Place an "X" in either Y or N column			
Site Ready Checks at Installation		Y	N
General Site Planning			
Room dimensions, including ceiling height, for all Exam, Equipment/Technical & Control rooms meets GE specifications.			
Ceiling support structure, if indicated on the GE drawing, is in the correct location and at the correct height according to the Original Equipment Manufacturer specifications. Levelness and spacing has been measured, and is ready for the installation of any GE supplied components. Overhead support Structure has been confirmed with customer/contractor to meet required GE provided criteria.			
Rooms that will contain equipment, including staging areas if applicable, are construction debris free. Precautions must be taken to prevent debris from entering rooms containing equipment.			
Finished ceiling is installed. If applicable ceiling tiles installed per PMI discretion.			
Adequate delivery route from truck to final place of installation has been reviewed with all stakeholders, all communications/notifications have occurred, arrangements have been made for special handling (rigging, elevator, fork lift, etc.). All floors along delivery route will support weight of the equipment, temporary reinforcements arranged if needed.			
System power & grounding (PDB/MDP) is available as per GE specifications, installed at point of final connection and ready to use. Lock Out Tag Out is available.			
System power and grounded audit has been scheduled to be completed during installation of equipment. (If Required) GEHC PM to confirmed if needed.			
Adequate room illumination installed and working.			
Cable ways (floor/wall/ceiling/Access Flooring) are available for installation of GE cables and are of correct length and diameter. Cable ways routes per GE Final drawings and cable access openings areas installed at a time determined by GEHC PM. Surface floor duct can be installed at time of system installation.			
HVAC systems Installed, and the site meets minimum environmental operational system requirements.			
Network outlets installed and computer network available and working.			
Hospital IT/connectivity contacts have been engaged and information has been added to Project management tool. (If Required)			
Floor levelness/flatness is measured and within tolerance, and there are no visible defects per GEHC specifications. Floor Strength and thickness have been discussed with customer/contractor and they have confirmed GE requirements are met.			
Customer supplied countertops where GE equipment will be installed are in place.			
Specific for PET and Nuclear Medicine			
Nuclear Medicine systems levelness measurement survey must be provided to GE prior the delivery.			
Site has license for using/importing radioactive sources and a Hot Lab is available. Radioactive Sources should be available for system calibration during installation.			
Doors and windows complete or scheduled to be installed. If applicable, radiation protection (shielding) finished & radioprotection regulatory approval for installation obtained.			

	Status of work	
General comments		
System can be delivered		PMI signature
Site ready for installation		FS signature: optional