



**General Specifications**

**1. Responsibility**

The customer shall be solely responsible, at its expense for preparation of site, including any required structural alterations. The site preparation shall be in accordance with plans and specifications provided by Philips. Compliance with all safety electrical and building codes relevant to the equipment and its installation is the sole responsibility of customer. The customer shall advise Philips of conditions at or near the site which could adversely affect the carrying out of the installation work and shall ensure that such conditions are corrected and that the site is fully prepared and available to Philips before the installation work is due to begin. The customer shall provide all necessary plumbing, carpentry work, or conduit wiring required to attach and install products ready for use.

**2. Permits**

Customer shall obtain all permits and licenses required by federal, state/provincial or local authorities in connection with the construction, installation and operation of the products and related rules, regulations, shall bear any expense in obtaining same or in complying with any ordinances and statutes.

**3. Radiation Protection**

The customer or his contractor, at his own expense, shall obtain the service of a licensed radiation physicist to specify radiation protection. (X-Ray Tube output 150 KVp max.)

**4. Asbestos and Other Toxic Substances**

Philips assumes no hazardous waste (i.e., PCB's in existing transformers) exists at the site. If any hazardous material is found, it shall be the sole responsibility of the customer to properly remove and dispose of this material at its expense. Any delays caused in the project for this special handling shall result in Philips time period for completion being extended by like period of time. Philips assumes that no asbestos material is involved in this project in any ceilings, walls or floors. If any asbestos material is found anywhere on the site, it shall be the customer's sole responsibility to properly remove and/or make safe this condition, at the customer's sole expense.

**5. Labor**

In the event local labor conditions make it impossible or undesirable to use Philips' regular employees for such installation and connection, such work shall be performed by laborers supplied by the customer, or by an independent contractor chosen by the customer at the customer's expense, and in such case, Philips agrees to furnish adequate engineering supervision for proper completion of the installation.

**6. Schedule**

The general contractor should provide Philips with a schedule of work to assist in the coordination of delivery of Philips supplied products which are to be installed by the contractor and delivery of the primary equipment.

**7. Extended Installation or Turnkey Work by Philips**

Any room preparation requirements for Philips equipment indicated on these drawings is the responsibility of the customer. If an extended installation or turnkey contract exists between Philips and the customer for room preparation work required by the equipment represented on these drawings, some of the responsibilities of the customer as depicted in these drawings may be assumed by Philips. In the event of a conflict between the work described in the turnkey contract workscope and these drawings, the turnkey contract workscope shall govern.

(13.0)

**Minimum Site Preparation Requirements**

A smooth efficient installation is vital to Philips and their customers. Understanding what the minimum site preparation requirements are will help achieve this goal. The following list clearly defines the requirements which must be fulfilled before the installation can begin.

1. Walls shall be painted or covered, baseboards installed, floors shall be tiled and/or covered, ceiling shall have grid tiles and lighting fixtures installed and operational.
2. Doors and windows, especially radiation protection barriers, installed and finished with lock sets operational.
3. All electrical convenience, conduit, raceway, knockouts, cable openings, chase nipples, and junction boxes installed and operational.
4. Incoming mains power operational and connected to room x-ray breaker.
5. 115v convenience outlets operational.
6. All support structure correctly installed. All channels, pipes, beams and/or other supporting devices should be level, parallel, and free of lateral or longitudinal movements.
7. All contractor-supplied cables pulled and terminated.
8. A dust-free environment in and around the procedure room.
9. All HVAC (heating, ventilating and air conditioning) installed and operational as per specifications. BTUs shown on sheet A1 are average heat capacity.
10. Architectural features such as computer floor, wood floor, casework, bulkheads, installed and finished. When technical cabinets are installed in a closet with doors, it is suggested that the customer install a temperature alarm in the event of an air conditioner failure.
11. All plumbing installed and finished.
12. Philips does not install or connect developing tanks, automatic processors or associated equipment, built in illuminators, cassette pass boxes, loading benches and cabinets, lead protective screens, panels or lead glass window and frame. This is to be done by the customer/contractor.
13. Refer to Transport Information page for clear door openings and corridor widths.

**Note**

Once Philips has moved equipment into the suite and started the installation, the contractor shall schedule his work around the Philips installation team on site. It is suggested that a telephone be provided in the room to receive telephone calls. This would alleviate facility staff from answering calls for Philips personnel.

**Remote Service Diagnostics**

Medical imaging equipment to be installed by Philips Healthcare is equipped with a service diagnostic feature which allows for remote and on site service diagnostics. To establish this feature, a RJ45 type ethernet 10/100/1000 Mbit network connector must be installed as shown on plan. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity. All cost with this feature is the responsibility of the customer.

(13.0)

**HVAC Requirement for General Equipment Locations**

Heating, ventilation, air conditioning requirement for general equipment locations must maintain temperature at 75° +/- 11°Fahrenheit (24° +/- 6°Celsius) and non-condensing relative humidity at 52.5%, +/- 22.5%.

(13.0)

**Electrical Requirements**

**M-Cabinet CXA 80**

Supply Configuration: 3 phase, 3 wire power, neutral and ground. Wye.  
or  
3 phase, 3 wire power, ground. Delta.

Nominal Line Voltage: 400, 440, 460 or 480 VAC, 60 Hz

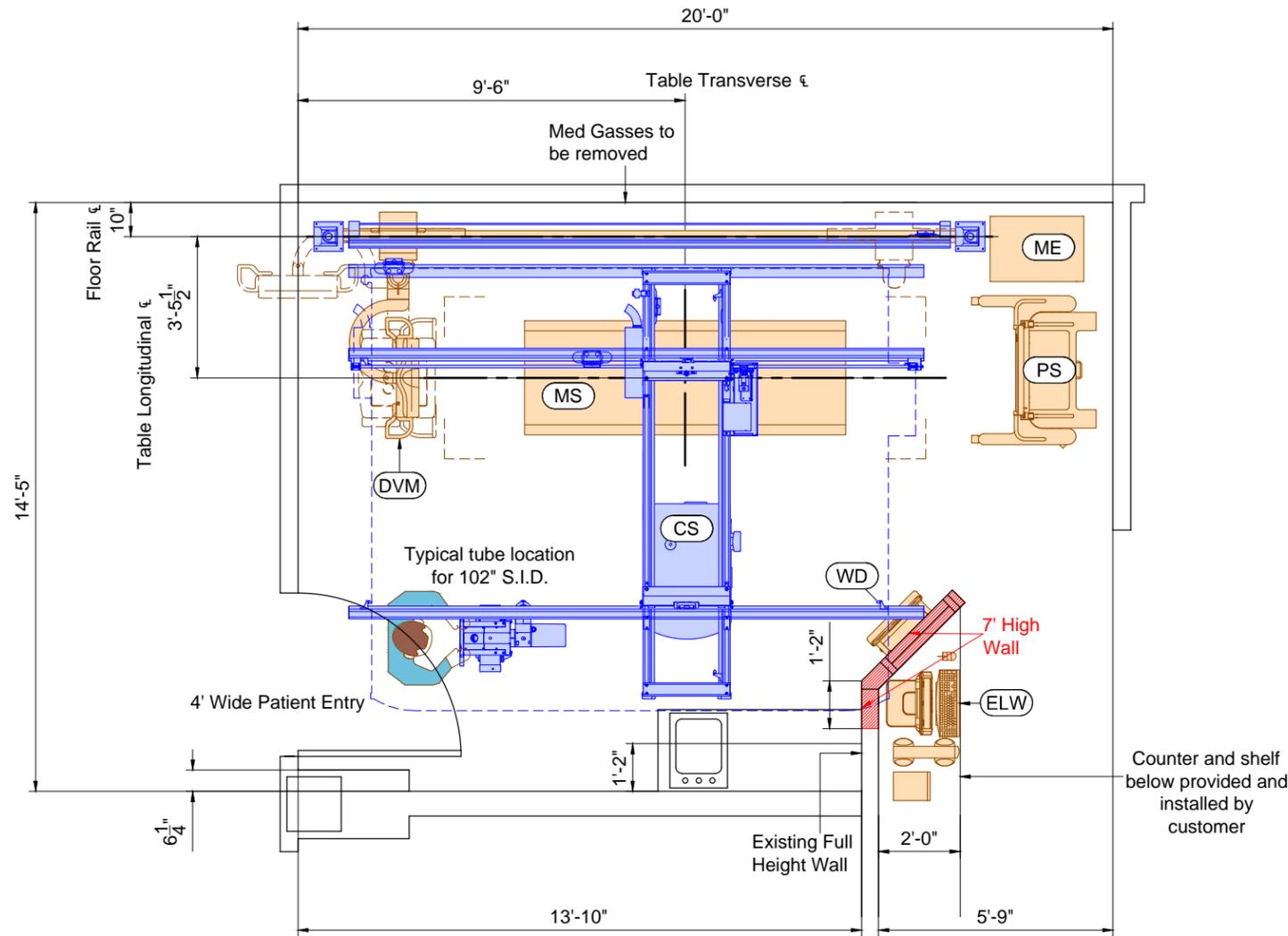
Branch Power Requirement: 112.5 kVA minimum

Circuit Breaker: 3 pole, 70 Amps (@ 480V)

(13.0)

<b>AN</b>	<b>Project Details</b> Drawing Number <b>N-EAS140247 B</b> Date Drawn: 4/17/2014 Quote: 1-Z9V10Y Rev. 9 Order: 6600211346.010000	<b>Philips Contacts</b> Project Manager: Keith Miller Contact Number: (630) 461-6567 Email: keith.miller@philips.com  Drawn By: Antonio Rios	<b>Project</b> <b>High Performance Room</b> <b>DigitalDiagnost VM 3</b> <b>Hines VA CBOC (Joliet)</b> Joliet, IL Room: RAD1/2131
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# Equipment Layout

Recommended Minimum Ceiling Height: 8'-11 1/2" (2735mm)  
 Recommended Maximum Ceiling Height: 10'-8" (3255mm)

Ceiling Heights other than recommended may impact equipment functionality - see Ceiling Height Guide and consult with Philips.

Ceiling Height measured from finished floor to bottom of Unistrut.



Equipment Legend				
A	Furnished and installed by Philips			
B	Furnished by customer/contractor and installed by customer/contractor			
C	Installed by customer/contractor			
D	Furnished by Philips and installed by contractor			
E	Existing			
F	Future			
G	Optional item furnished by Philips			
Equipment Designation	Description	Detail Sheet		
		Weight (lbs)	Heat Load (btu/hr)	
A (ME)	Generator M-Cabinet CXA	259	342	AD2
A (CS)	CS III Long with Motor and Cable Carrier Rail	865	444	AD2
A (MS)	DigitalDiagnost TH/TH2 (Wide Tabletop)	672	956	AD3
A (DVM)	DigitalDiagnost VM (Left)	753	956	AD3
A (ELW)	Eleva Workspot - Eleva Examination Control - Acquisition Workspot (on shelf under counter) - Uninterruptible Power Supply (on shelf under counter) - Keyboard and Mouse - mShield (optional, not shown)	127	786	AD2
A (WD)	Wireless Detector and Docking Station	43	136	AD2

**Project**  
 High Performance Room  
 DigitalDiagnost VM 3  
 Hines VA CBOC (Joliet)  
 Joliet, IL  
 Room: RAD1/2131

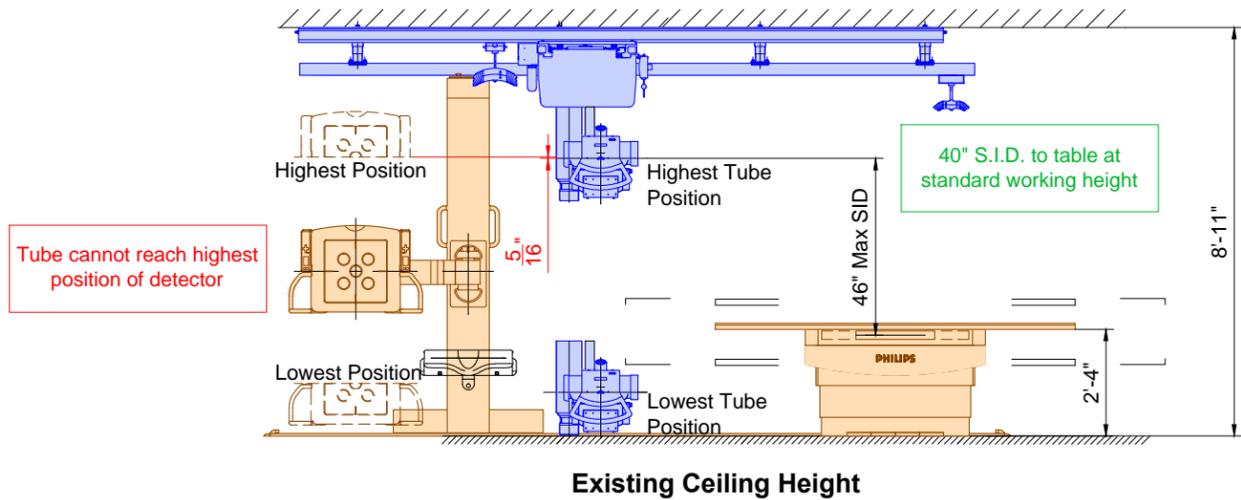
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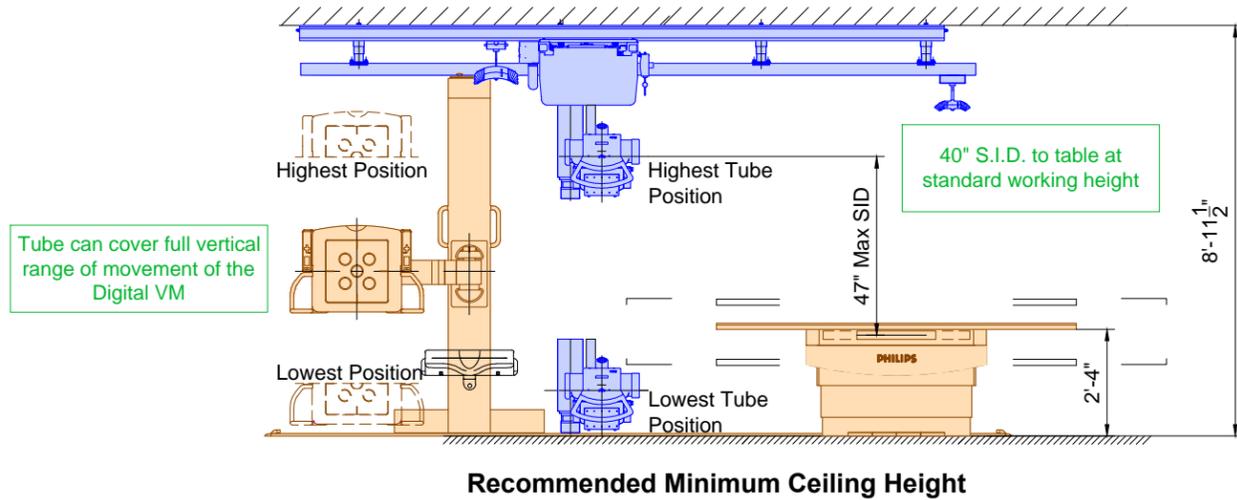
**A1**

# Ceiling Height Guide for High Performance VM Room

Not Site Specific



Existing Ceiling Height



Recommended Minimum Ceiling Height



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THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.

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 Joliet, IL  
 Room: RAD1/2131

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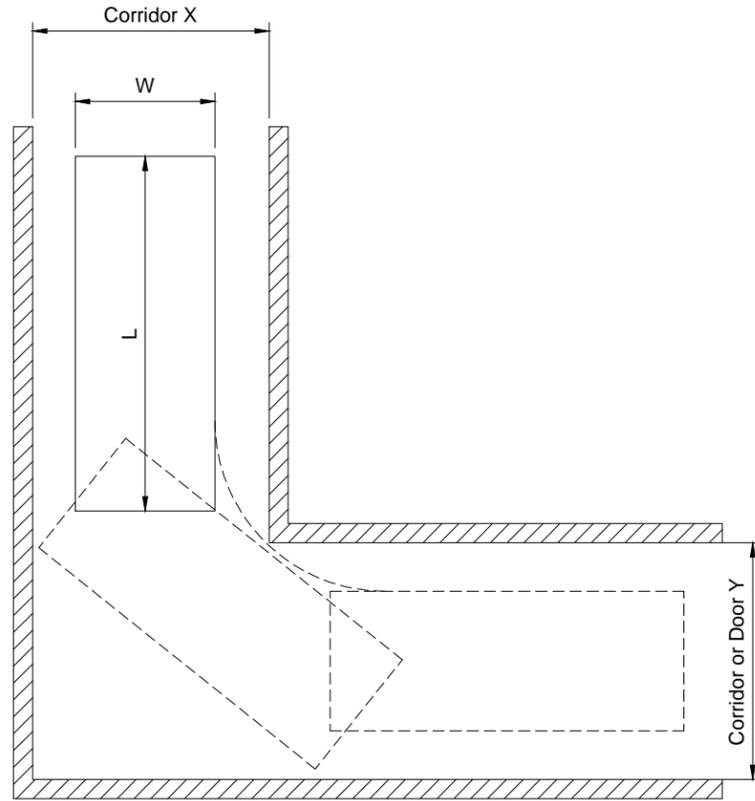
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A2

**PHILIPS**

THE DRAWINGS AND RELATED INSTRUCTIONS PROVIDED BY PHILIPS ARE ACCEPTABLE FOR USE BY THE HOSPITAL'S ARCHITECT OR ENGINEER TO USE FOR THE DEVELOPMENT OF CONSTRUCTION DOCUMENTS.

DigitalDiagnost 3.0 (Tube Crane, VM Column) Transport Information



	VM Column	CS III		
	Crate Packed	Telescopic Carriage	Longitudinal Carriage Long	Longitudinal Carriage Short
Weight	630 lbs (2800N)	326 lbs (1450N)	405 lbs (1800N)	212 lbs (940N)
Height	4'-9" (1.43m)	4'-7" (1.38m)	1'-4" (0.41m)	1'-4" (0.41m)
Length (L)	8'-10" (2.70m)	4'-0" (1.20m)	13'-9" (4.18m)	8'-0" (2.42m)
Width (W)	3'-0" (0.90m)	2'-7" (0.78m)	2'-7" (0.77m)	3'-1" (0.94m)
Width of Corridor "X"	Minimum Width of Corridor/Door "Y"			
3'-4" (1.0m)	8'-4" (2.54m)	3'-7" (1.07m)	12'-3" (3.72m)	7'-11" (2.4m)
3'-8" (1.1m)	7'-9" (2.35m)	3'-3" (.99m)	11'-9" (3.58m)	7'-2" (2.17m)
4'-0" (1.2m)	7'-3" (2.21m)	3'-1" (.93m)	11'-4" (3.45m)	6'-8" (2.02m)
4'-4" (1.3m)	6'-10" (2.08m)	2'-11" (.88m)	10'-11" (3.32m)	6'-3" (1.89m)
4'-8" (1.4m)	6'-6" (1.96m)	2'-11" (.88m)	10'-6" (3.20m)	5'-10" (1.77m)
5'-0" (1.5m)	6'-1" (1.85m)	2'-11" (.88m)	10'-2" (3.10m)	5'-6" (1.66m)
5'-3" (1.6m)	5'-9" (1.75m)	2'-11" (.88m)	9'-10" (2.98m)	5'-2" (1.56m)
5'-7" (1.7m)	5'-5" (1.65m)	2'-11" (.88m)	9'-5" (2.87m)	4'-10" (1.47m)
5'-11" (1.8m)	5'-1" (1.55m)	2'-11" (.88m)	9'-1" (2.76m)	4'-8" (1.40m)
6'-3" (1.9m)	4'-10" (1.47m)	2'-11" (.88m)	8'-9" (2.66m)	4'-4" (1.31m)
6'-7" (2.0m)	4'-7" (1.38m)	2'-11" (.88m)	8'-4" (2.55m)	4'-1" (1.24m)
6'-11" (2.1m)	4'-4" (1.31m)	2'-11" (.88m)	8'-1" (2.45m)	3'-11" (1.18m)

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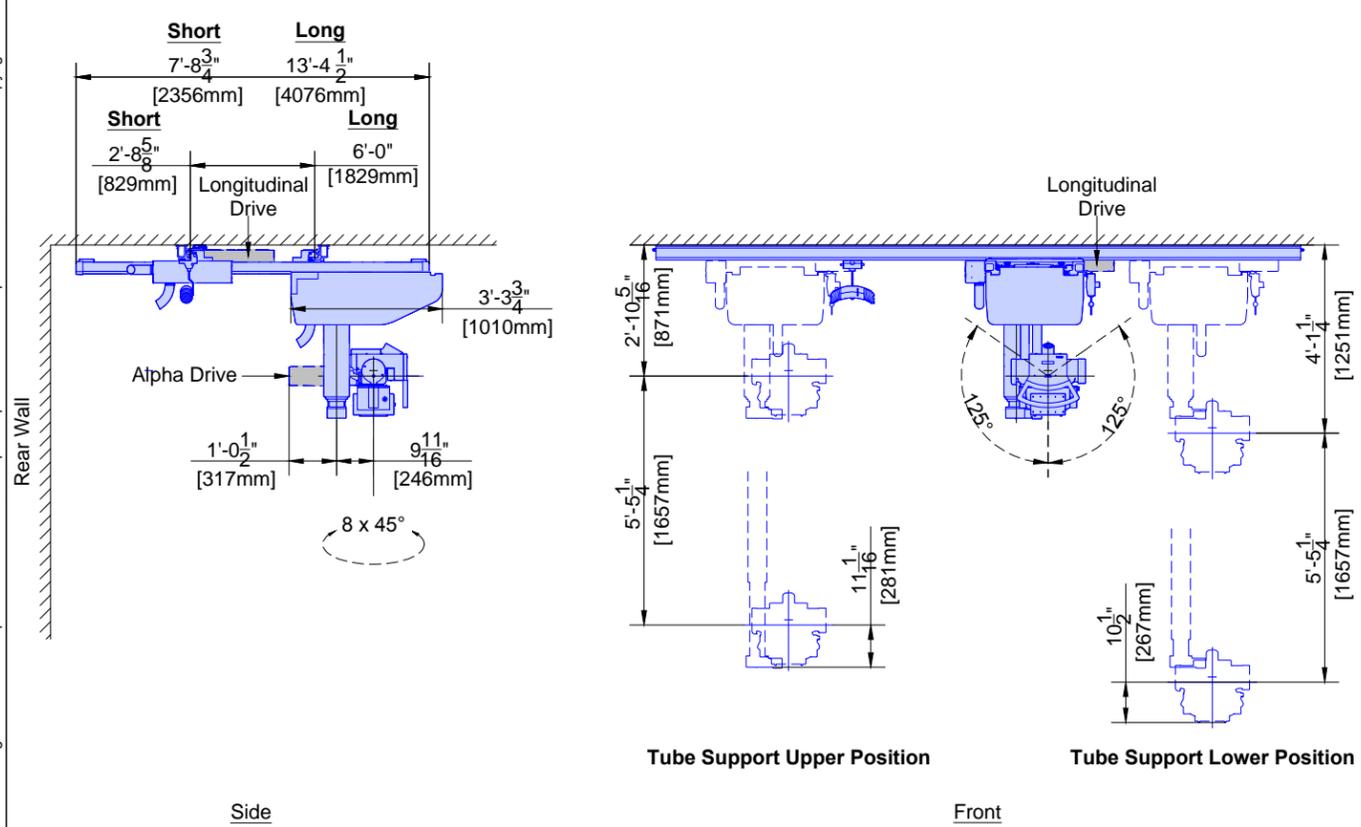
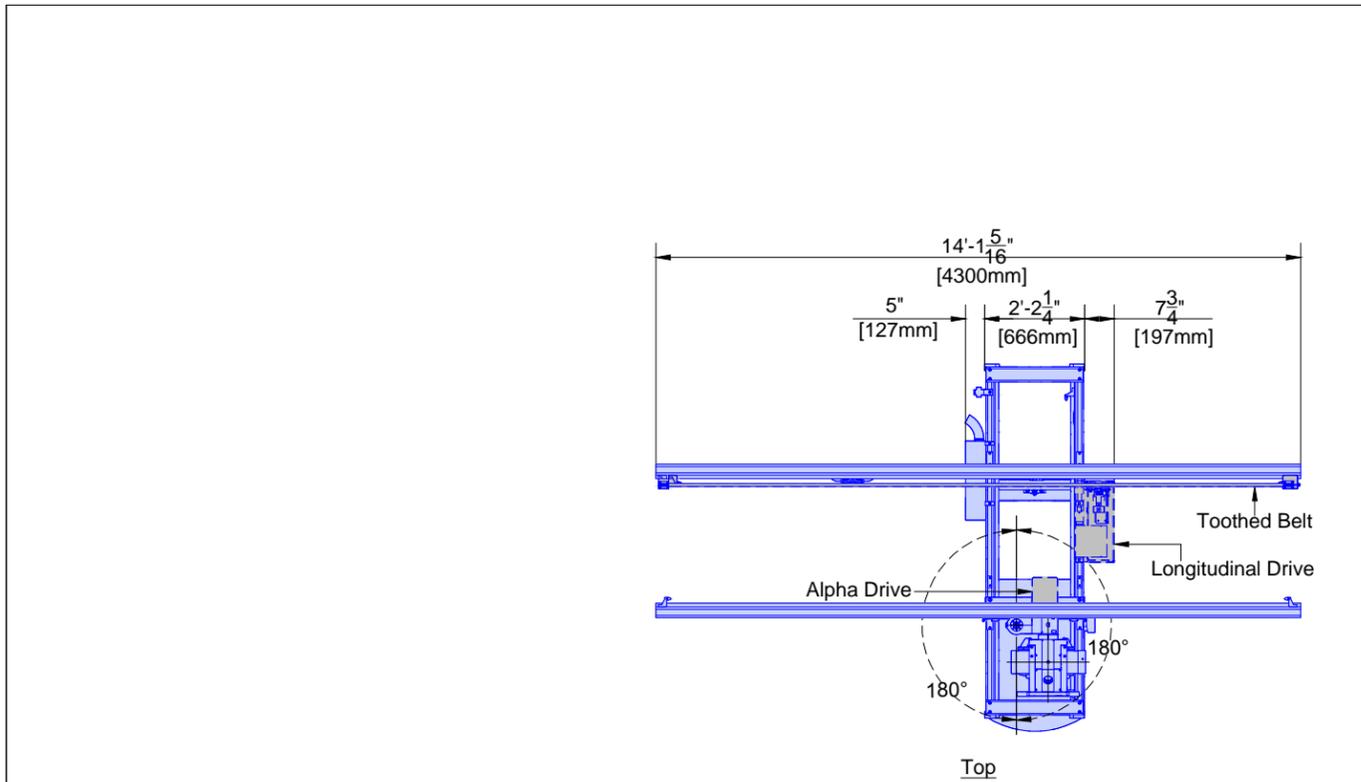
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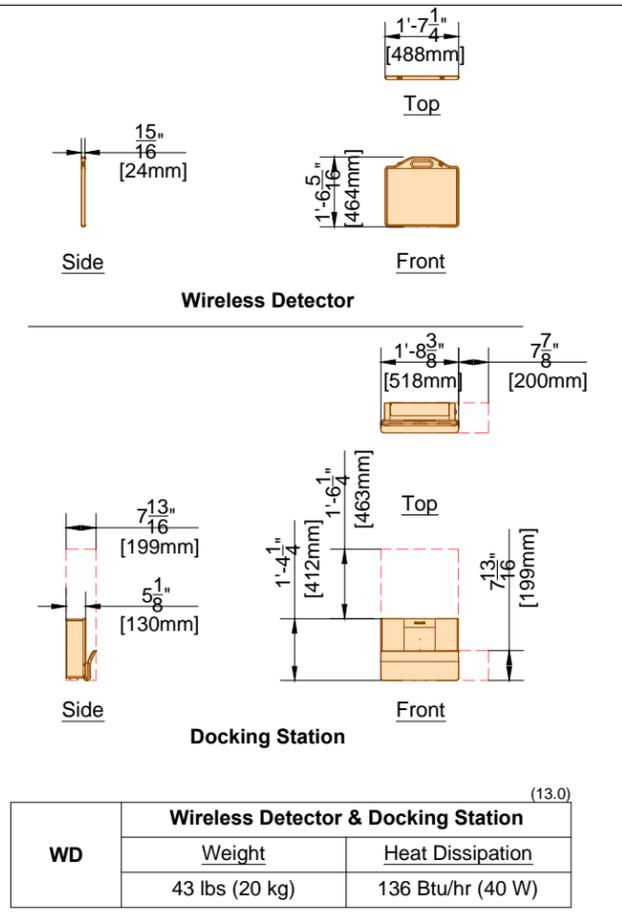
**Project**  
 High Performance Room  
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 Hines VA CBOC (Joliet)  
 Joliet, IL  
 Room: RAD1/2131



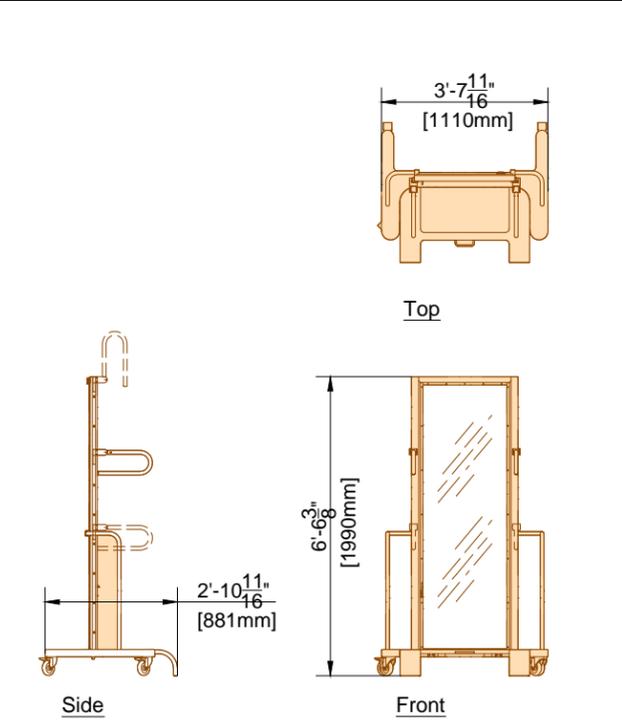


CS	BuckyDiagnost CS III (13.0)	
	Weight	Heat Dissipation
	Short: 785 lbs (356 kg)	444 Btu/hr (130 W)
Long: 865 lbs (392 kg)		

The motorization option consists of:  
 1. Longitudinal Drive  
 2. Alpha Drive  
 3. Toothed Belt

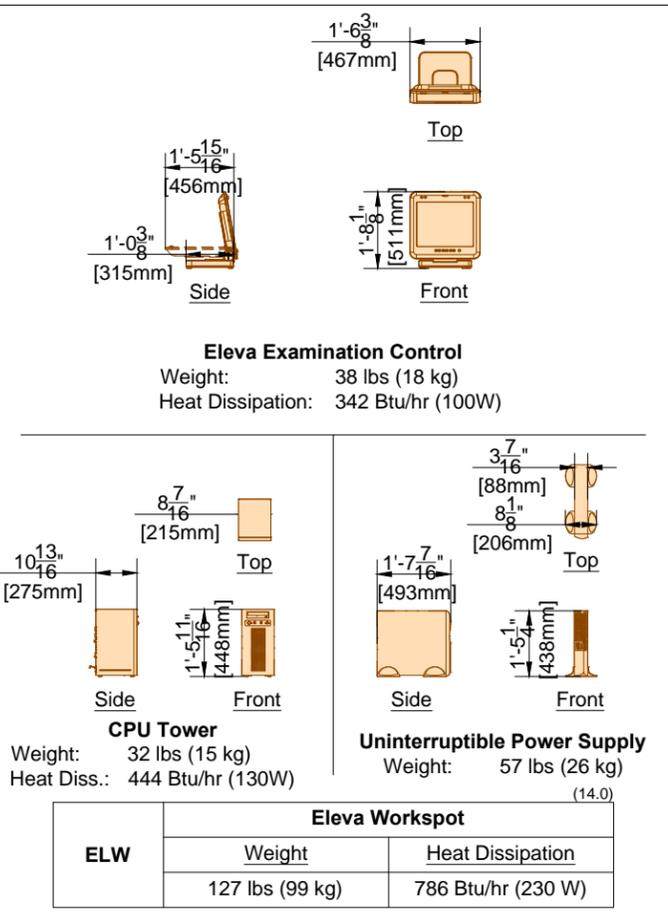


WD	Wireless Detector & Docking Station (13.0)	
	Weight	Heat Dissipation
	43 lbs (20 kg)	136 Btu/hr (40 W)

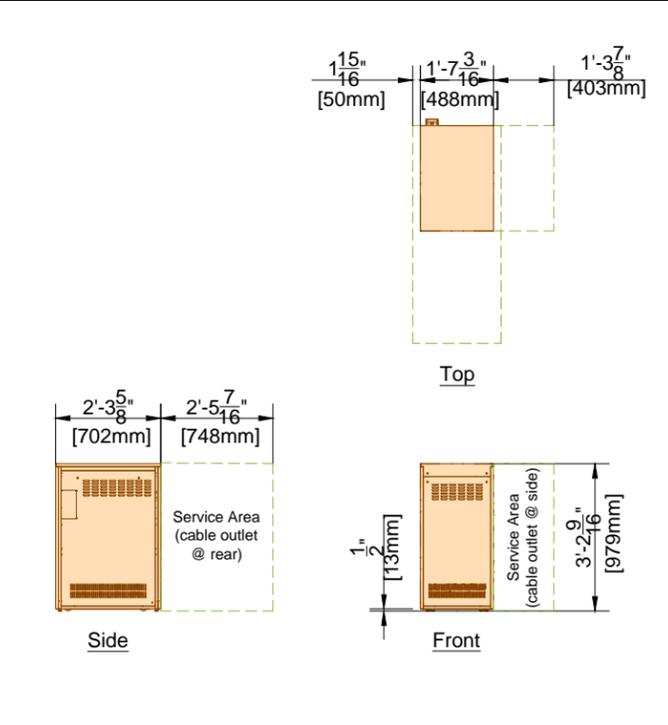


Maximum Patient Weight of 496 lbs (225 kg)  
 X-Ray filtration of < 0.9mm Al equivalent (13.0)

PS	Patient Support (13.0)	
	Weight	Heat Dissipation
	154 lbs (70 kg)	0 Btu/hr (0 W)



ELW	Eleve Workspot (14.0)	
	Weight	Heat Dissipation
	127 lbs (99 kg)	786 Btu/hr (230 W)



Noise measured at 1 meter distance at 1 meter high over floor < 52 dB(A). (13.0)

ME	Generator M-Cabinet CXA (13.0)	
	Weight	Heat Dissipation
	259 lbs (118 kg)	342 Btu/hr (100 W)

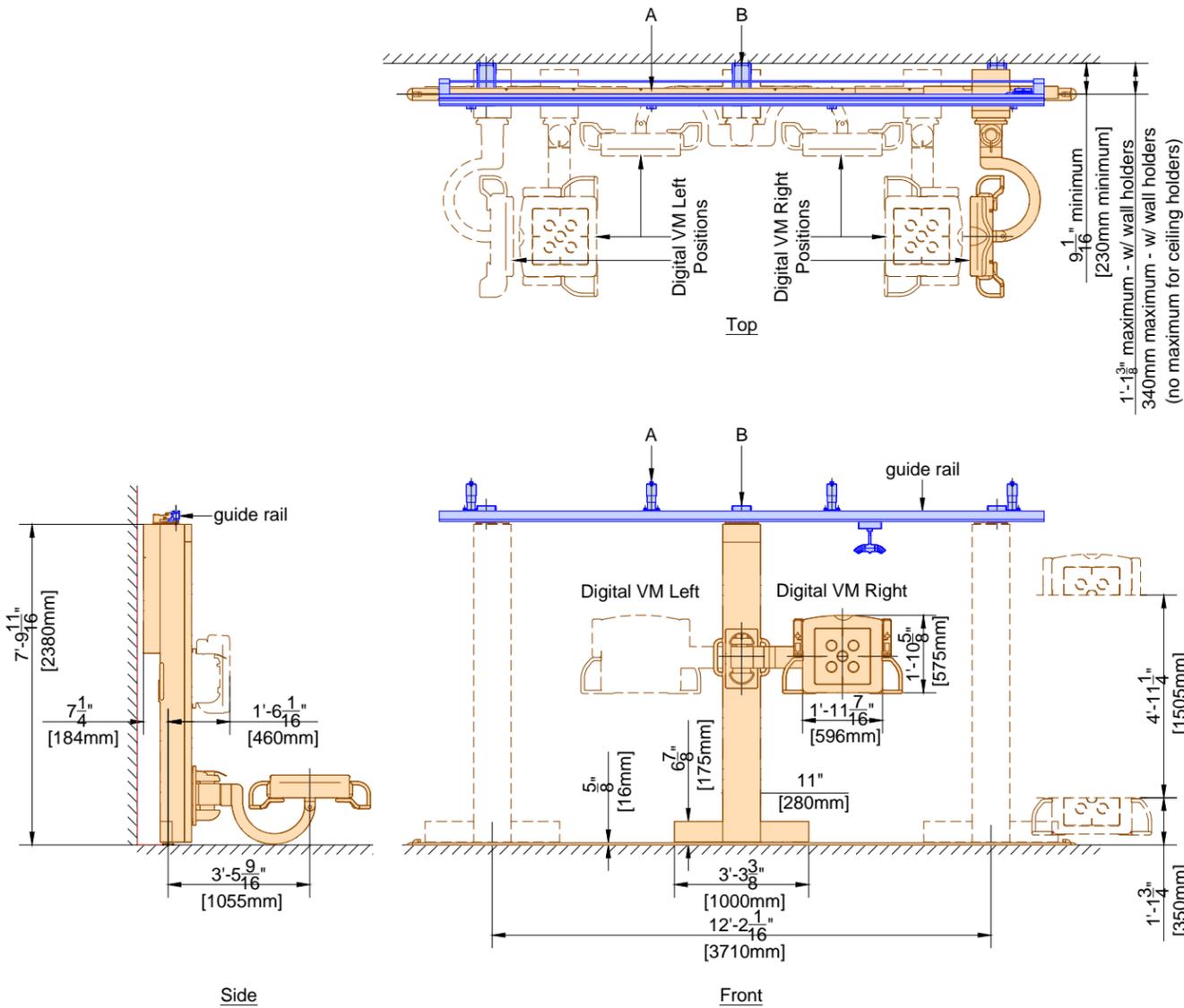
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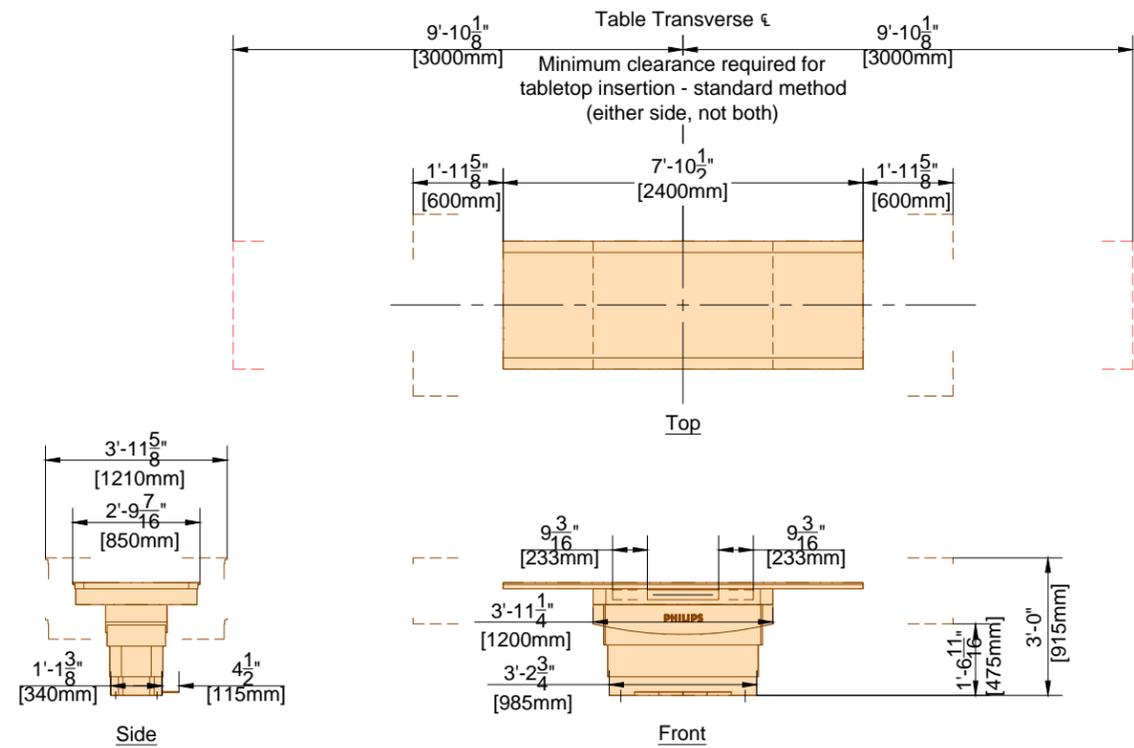
AD2



9'-1<sup>1</sup>/<sub>16</sub>" minimum [230mm minimum]  
 1'-1<sup>3</sup>/<sub>8</sub>" maximum - w/ wall holders  
 340mm maximum - w/ wall holders  
 (no maximum for ceiling holders)

DVM	DigitalDiagnost VM (13.0)	
	Weight	Heat Dissipation
	754 lbs (342 kg)	956 Btu/hr (280 W)

Guide Rail to be supported using either four ceiling holders (A) OR three wall holders (B).



MS	DigitalDiagnost TH/TH2 (Wide Tabletop) (13.0)	
	Weight	Heat Dissipation
	671 lbs (304 kg)	956 Btu/hr (280 W)

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**AD3**

## Equipment Support Information

### 1. General

The customer shall be solely responsible, at its expense, for preparation of the site, including any required structural alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and building codes. The customer shall be solely responsible for obtaining all construction permits from jurisdictional authority.

### 2. Equipment Anchorage

Philips provides, with this plan and specifications, information relative to equipment size, weight, shape, anchoring hole locations and forces which may be exerted on anchoring fasteners. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of equipment anchoring to floors, wall and/or ceiling of the building. Any anchorage test required by local authority shall be the customer's responsibility. Stud type anchor bolts should not be specified as they hinder equipment removal for service. Consult with Philips service prior to specifying anchor methods.

### 3. Floor Loading and Surface

Philips provides, with this plan and specifications, information relative to size, weight and shape of floor mounted equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings confirmation of the structural adequacy of the floor upon which the equipment will be placed. Any load test required by local authority, shall be the customer's responsibility.

- a. The floor surface upon which Philips equipment (except floor rails) is to be placed/anchored shall be flat and level to within plus or minus 1/16 inch (2mm) over a length of 39" (1m).
- b. The floor surface upon which Philips floor rails are to be placed/anchored shall be flat and level to within plus or minus 1/4 inch (6mm) over the length of the floor rails.

### 4. Ceiling Support Apparatus

- a. Philips provides, with this plan and specifications, information relative to size, weight and shape of ceiling supported equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of structural support apparatus, fasteners and anchorage to which Philips will attach equipment. Any anchorage and/or load test required by local authority shall be the customer's responsibility.
- b. Contractor to clearly mark Philips equipment longitudinal centerline on bottom of each structural support.
- c. The structural support apparatus surface to which Philips equipment is to be attached, shall have horizontal equipment attachment surfaces parallel, square and level to within plus or minus 1/16 inch (2mm).
- d. Any drilling and/or tapping of holes required to attach Philips equipment to the structural support apparatus shall be the responsibility of the customer.
- e. Fasteners, anchors (e.g. bolts, spring nuts, lock and flat washers), and strip closures shall be provided by the customer.

### 5. Lighting

Lighting fixtures shall be placed in such a position that they are not obscured by equipment or its movement, nor shall they interfere with Philips ceiling rails and equipment movement or otherwise adversely affect the equipment. Such lighting fixture locations shall be the sole responsibility of the customer.

### 6. Ceiling Obstructions

There shall be no obstructions that project below the finished ceiling in the area covered by ceiling suspended equipment travel.

### 7. Seismic Anchorage (For Seismic Regions Only)

All seismic anchorage hardware, including brackets, backing plates, bolts, etc., shall be supplied and installed by the customer/contractor unless otherwise specified within the support legend on sheet S1. Installation of electronic cabinets to meet seismic anchorage requirements must be accomplished using flush mounted expansion type anchor/bolt systems to facilitate the removal of a cabinet for maintenance. Do not use threaded rod/adhesive anchor systems. Consult with Philips regarding any anchor system issues.

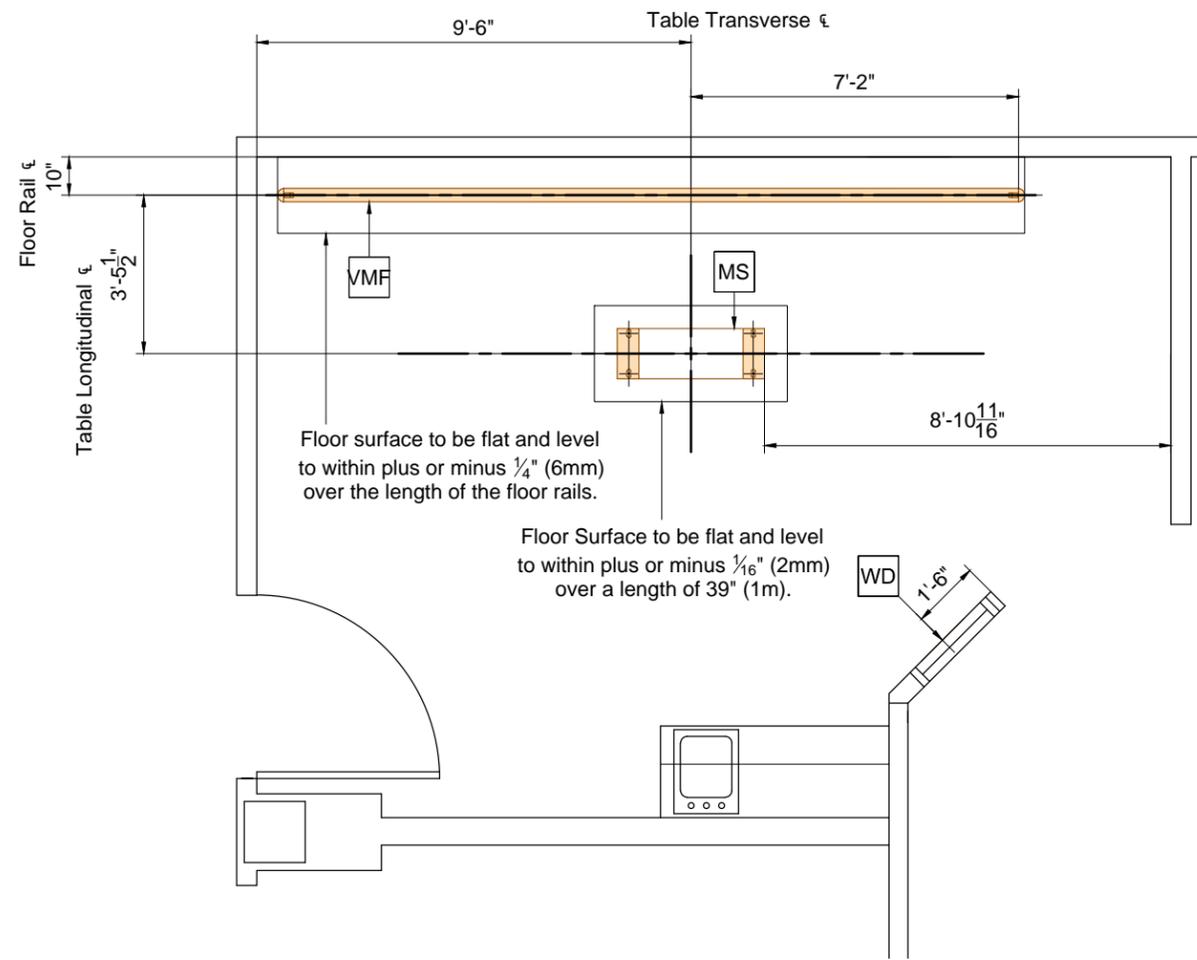
### 8. Floor Obstructions/Floor Coverings

There shall be no obstructions on the floor (sliding door tracks, etc.) in front of the Philips electronic cabinets. Floor must be clear to allow cabinets to be pulled away from the wall for service. Contractor to verify the preferred floor covering installation method with Philips.

(13.0)

<b>Project Details</b> Drawing Number <b>N-EAS140247 B</b> Date Drawn: 4/17/2014 Quote: 1-Z9V10Y Rev. 9 Order: 6600211346.010000	<b>Philips Contacts</b> Project Manager: Keith Miller Contact Number: (630) 461-6567 Email: keith.miller@philips.com Drawn By: Antonio Rios	<b>Project</b> High Performance Room Digital/Diagnost VM 3 Hines VA CBOC (Joliet) Joliet, IL Room: RAD1/2131
SN		





## Floor Support Layout

Recommended Minimum Ceiling Height: 8'-11  $\frac{1}{2}$ " (2735mm)  
 Recommended Maximum Ceiling Height: 10'-8" (3255mm)

Ceiling Heights other than recommended may impact equipment functionality - see Ceiling Height Guide and consult with Philips.

Ceiling Height measured from finished floor to bottom of Unistrut.



### Floor & Wall Support Legend

- A Furnished and installed/anchored by Philips (see exceptions - Note 2, below)
- B Furnished by customer/contractor and installed/anchored by customer/contractor
- C Installed/anchored by customer/contractor
- D Furnished by Philips and installed/anchored by contractor
- E Existing
- F Future
- G Optional item furnished by Philips

Item Number	Description	Detail Sheet
B MS	Anchors in floor for Diagnost TH	SD5
A VMF	Anchors in floor for DigitalDiagnost VM Floor Rail	SD4
A ELW	Eleva Examination Control - optional wall mounting (not shown, location to be determined by customer/contractor)	SD3
B WD	Support in wall for Wireless Detector Docking Station	SD5
A WD	Anchors in wall for Wireless Detector Docking Station	SD5
A PS	Anchors in floor for Patient Support Floor Fixing Plates (not shown)	SD5

All dimensions must be off of the finished wall.

If a wall is furred out to hide electrical duct or boxes, the dimensions included in this plan must come off of the finished furred wall.

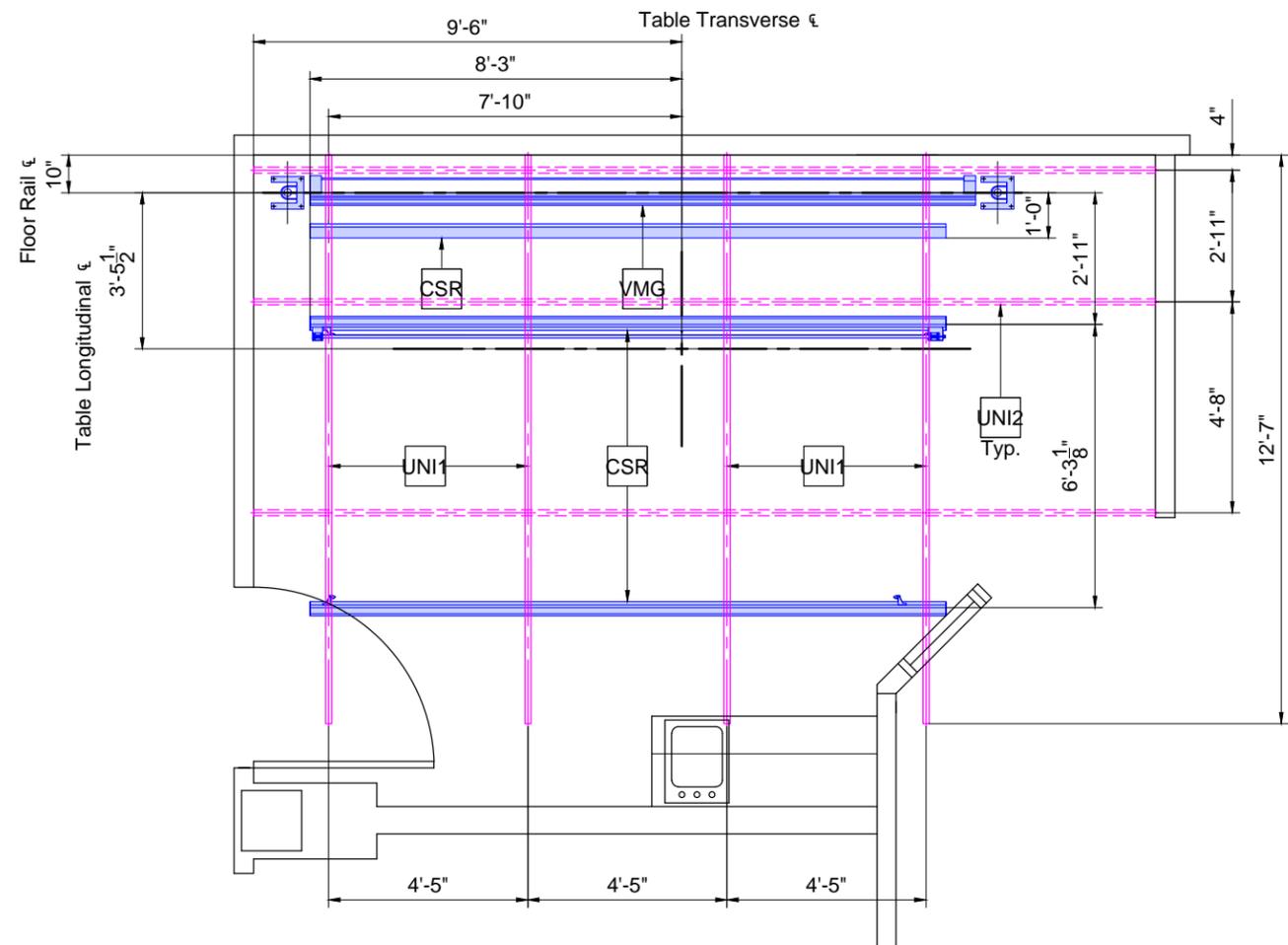
#### Notes:

1. Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor.
2. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed in this document, the anchors shall be provided by customer/contractor and installed by Philips.
3. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

**Project**  
 High Performance Room  
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 Room: RAD1/2131

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# Ceiling Support Layout

Recommended Minimum Ceiling Height: 8'-11 1/2" (2735mm)  
 Recommended Maximum Ceiling Height: 10'-8" (3255mm)

Ceiling Heights other than recommended may impact equipment functionality - see Ceiling Height Guide and consult with Philips.

Ceiling Height measured from finished floor to bottom of Unistrut.



Ceiling Support Legend			
A Furnished and installed by Philips B Furnished by customer/contractor and installed by customer/contractor C Installed by customer/contractor D Furnished by Philips and installed by contractor E Existing F Future G Optional item furnished by Philips			
Item Number	Description	Detail Sheet	
A CSR	Philips Equipment Rails	SD3	
B UNI1	Unistrut (P1001 or equal)	SD3	
E UNI2	Existing Unistrut (P1001 or equal)	SD3	
A VMG	Philips Equipment Guide Rail	SD4	

All dimensions must be off of the finished wall.

If a wall is furred out to hide electrical duct or boxes, the dimensions included in this plan must come off of the finished furred wall.

See Ceiling Clearance Detail (sheet SD2) for information on restricted areas for objects that project below the finished ceiling.

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**S2**



**Pre-Evaluated and -Approved Anchor Reference List for Philips Installers**

Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor.  
 Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed below, the anchors shall be provided by customer/contractor and installed by Philips.  
 In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

Equipment	Option	Anchor Style (provided by Philips)	Anchor Size (provided by Philips)	Qty.	Support Size & Material (provided & installed by customer/contractor)
Eleva Examination Control (Wall Mounted)	A	SPAX Multipurpose Flat Head Screw	#10 x 1½"L	4	Drywall with min. ¾" plywood backing
	B	Toggler Snaptoggle with Round Head Screw and flat fender washers and nuts	#BA with #10-24 x 2 ½"L	4	Drywall (⅝"D min)
Digital VM Guide Rail with Wall Holders	A	A307 bolts (min. ASME Grade 5)	3/8", 3"L	6	Drywall with min. 16 Gauge Steel Backing Thru bolted with head of bolt behind backing and threads sticking out of wall for attachment to wall holders
	B	Lag Screw	3/8", 3"L	6	Drywall with min 4"x4" Douglas Fir # 2 Grade backing
	C	Hex Head Tek Screw	#14 x 3"L	6	Drywall with min. 10 Gauge Steel Backing
	D	Hilti KB-TZ	⅜" x 3"L	6	Concrete Wall (min. embedment = 2")
Digital VM Floor Rail	A	Toggler Alligator with SPAX Multipurpose Flat Head Screw	#A6 with SPAX #10 x 1½"L	20	Concrete Floor
	B	SPAX Multipurpose Flat Head Screw	#10 x 1½" L	20	Wood Frame Floor
Patient Support Floorplates	A	Simpson or Hilti Drop-in with Stainless Steel Phillips Oval Head Screw with dress washer	¼" x 1"L	4	Concrete Slab
	B	Hex Head Lag Bolt with flat washer	#14 x 1"L	4	Wood Frame Floor
Wireless Detector Docking Station	A	SPAX Multipurpose Flat Head Screw	#10 x 1½ "L	2	Drywall with minimum ¾" plywood backing
	B	Round Phillips Head Self Drilling Screw	#10-16 x 1½"	2	Drywall with min. 10 Gauge Steel Backing
	C	Toggler SnapToggle with Round Head Screw	#BA with #10-24 x 2½"L	2	Drywall (⅝"D min)
	D	Toggler Alligator with SPAX Multipurpose Flat Head Screw	Toggler Alligator #A6 with SPAX #10 x 1½"L	2	Concrete Wall
BuckyDiagnost VS (Advanced and Digital) Wall Anchorage	A	Through Bolt	⅜" diameter	2	Minimum 10 gauge steel plate¹, or Minimum 4" x 4" Douglas Fir # 2 grade
	B	Self Drilling Tek Screw	# 14	2	Minimum 10 gauge steel plate¹
	C	Lag Screw	⅞"	2	Minimum 4" x 4" Douglas Fir # 2 Grade
	D	Toggler Snaptoggle Anchor	⅜" diameter expansion screw	2	Minimum 10 Gauge Steel Plate¹
BuckyDiagnost VS Connection Box	A	SPAX Multipurpose Flat Head Screw	#10 x 1½"L	4	Drywall with Wood Backing
	B	Round Phillips Head Self Drilling Screw	#10-16 x 1½"L"	4	Drywall with min. 10 Gauge Steel Backing
	C	Toggler SnapToggle with Round Head Screw	#BA with #10-24 x 2½"L	4	Drywall (⅝"D min)
	D	Round Phillips Head Self Drilling Screw	# 10-16 x 1½"L	4	Metal junction box or raceway
	E	Toggler Alligator with SPAX Multipurpose Flat Head Screws	Toggler Alligator #A6 with SPAX #10 x 1½"L	4	Concrete Wall or Hollow Concrete Block Wall
Parking Frame for Accessories (RAD)	A	SPAX Multipurpose Flat Head Screw	#10 x 1½" L	4	Drywall with min. ¾" plywood backing
	B	Phillips Round Head Self Drilling Screw	#10-16 x 1½"L	4	Minimum 16 Gauge Steel Backing
	C	Toggler SnapToggle with Round Head Screw	#BA with #10-24 x 2½"L	4	Drywall (⅝"D min)
	D	Toggler Alligator with SPAX Multipurpose Flat Head Screw	#A6 with SPAX #10 x 1½"L	4	Concrete Wall
Pediatric Support Parking Stand	A	Hilti KB-TZ with OD flat washer and hex nut	½ x 3¾"L	TBD	Concrete Slab
	B	Long Lag Bolt with ID and OD flat washer	½" x 2½"L	TBD	Wood Frame Floor
Stretch Grip Parking Bracket	A	SPAX Multipurpose Flat Head Screw	#10 x 1½" L	3	Drywall with min. ¾" plywood backing
	B	Toggler SnapToggle with Round Head Screw	#BA with #10-24 x 2½"L	3	Drywall
Tube Crane Box Cover	A	Round Phillips Head Self Drilling Screw	#10-16 x 1½"L	4	Metal junction box or raceway

¹ Unistrut, angle, or c-channel material is preferred.

<b>Project Details</b> Drawing Number <b>N-EAS140247 B</b> Date Drawn: 4/17/2014 Quote: 1-Z9V10Y Rev. 9 Order: 6600211346.010000	<b>Philips Contacts</b> Project Manager: Keith Miller Contact Number: (630) 461-6567 Email: keith.miller@philips.com Drawn By: Antonio Rios	<b>Project</b> High Performance Room DigitalDiagnost VM 3 Hines VA CBOC (Joliet) Joliet, IL Room: RAD1/2131

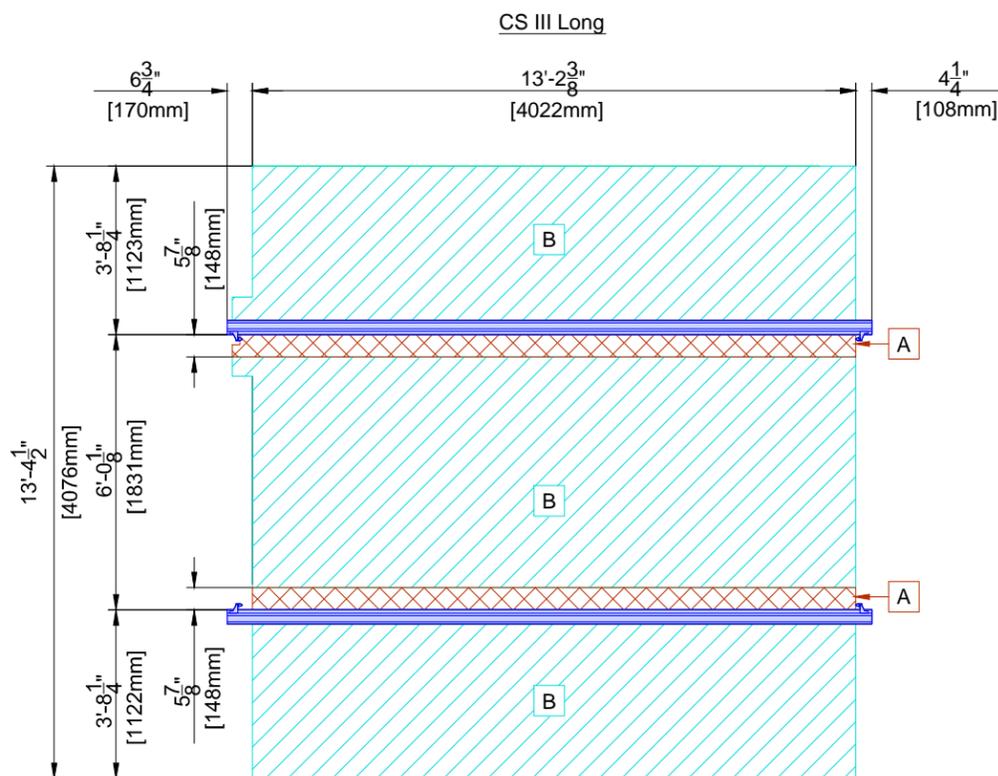
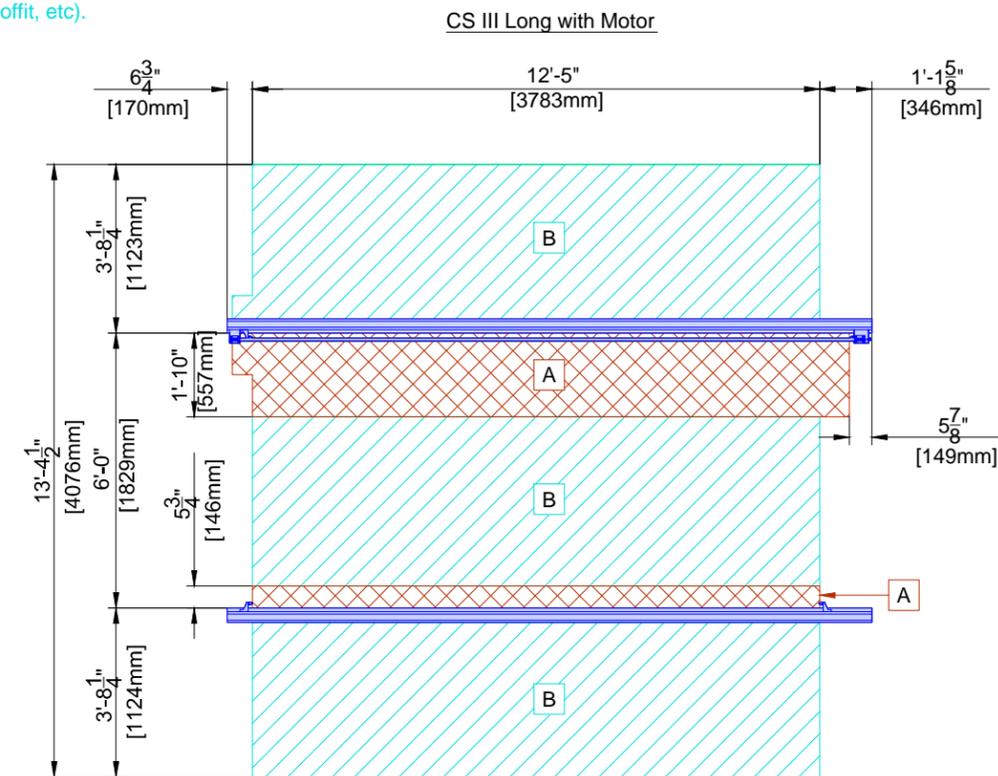
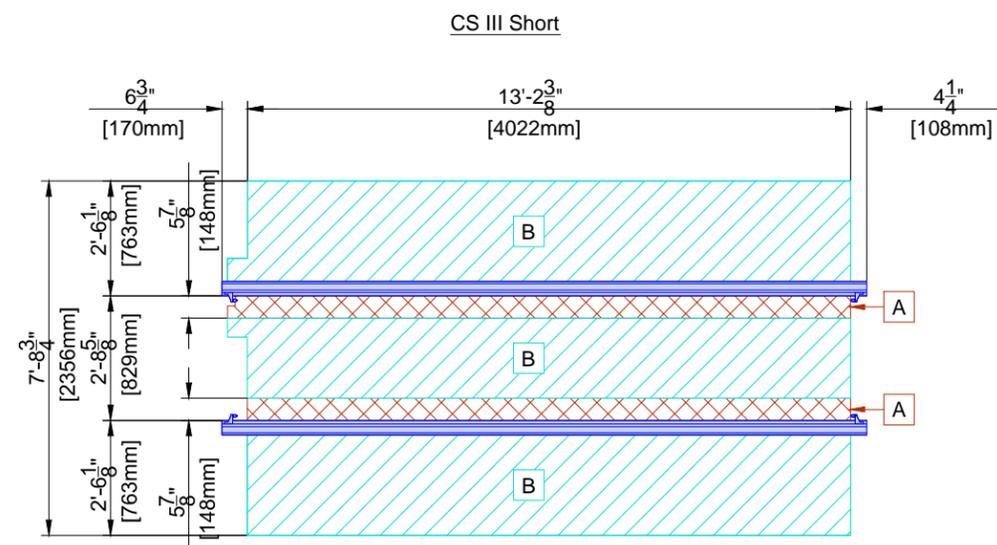
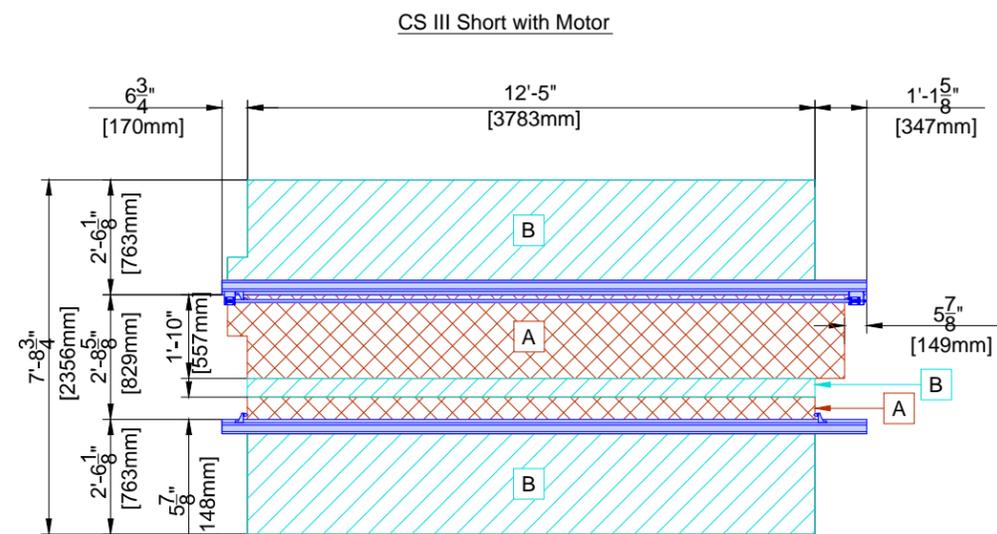
**SD1**



Ceiling Clearance Detail - Restricted Ceiling Area for Objects that Project Below Finished Ceiling

(Not site specific)

- A** Objects that project below finished ceiling are NOT allowed in this area (lights, smoke detectors, sprinkler heads, soffit, ceiling rails, etc).
- B** Objects that project more than 4.5" below finished ceiling are NOT allowed in this area (lights, smoke detectors, sprinkler heads, soffit, etc).

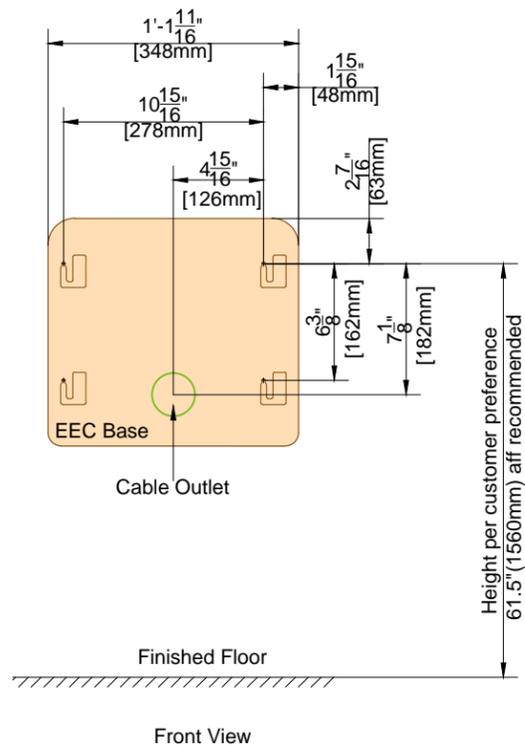


<b>Project Details</b> Drawing Number <b>N-EAS140247 B</b> Date Drawn: 4/17/2014 Quote: 1-Z9V10Y Rev. 9 Order: 6600211346.010000	<b>Philips Contacts</b> Project Manager: Keith Miller Contact Number: (630) 461-6567 Email: keith.miller@philips.com Drawn By: Antonio Rios	<b>Project</b> High Performance Room DigitalDiagnost VM 3 Hines VA CBOC (Joliet) Joliet, IL Room: RAD1/2131
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### Detail - Eleva Examination Control - Wall Mounted

(Not to scale)

Elevation View of Bolt Locations and Cable Outlet



### Wall Support Options

The customer's architect/engineer of record shall specify a wall support sufficient for the bolt forces specified. Anchors will be provided by Philips, and the wall support is the sole responsibility of the customer/contractor. Below are Philips' pre-evaluated and approved methods of providing support:

Option	Anchor Style (Provided by Philips)	Anchor Size	Anchor Quantity	Wall Support Size & Material (Provided & installed by customer/contractor)
A	SPAX Multipurpose Flat Head Screw	#10 x 1 1/2" L	4	Drywall with minimum 3/4" plywood backing
B	Toggler Snaptoggle with Round Head Screw and flat fender washers and nuts	#BA with #10-24 x 2 1/2" L	4	Drywall (5/8" D minimum)

**Bolt Forces**  
 Tmax (Tension) = 14 lbs/bolt  
 Vmax (Shear) = 19 lbs/bolt  
 (Seismic area forces - consult seismic calculation documents)

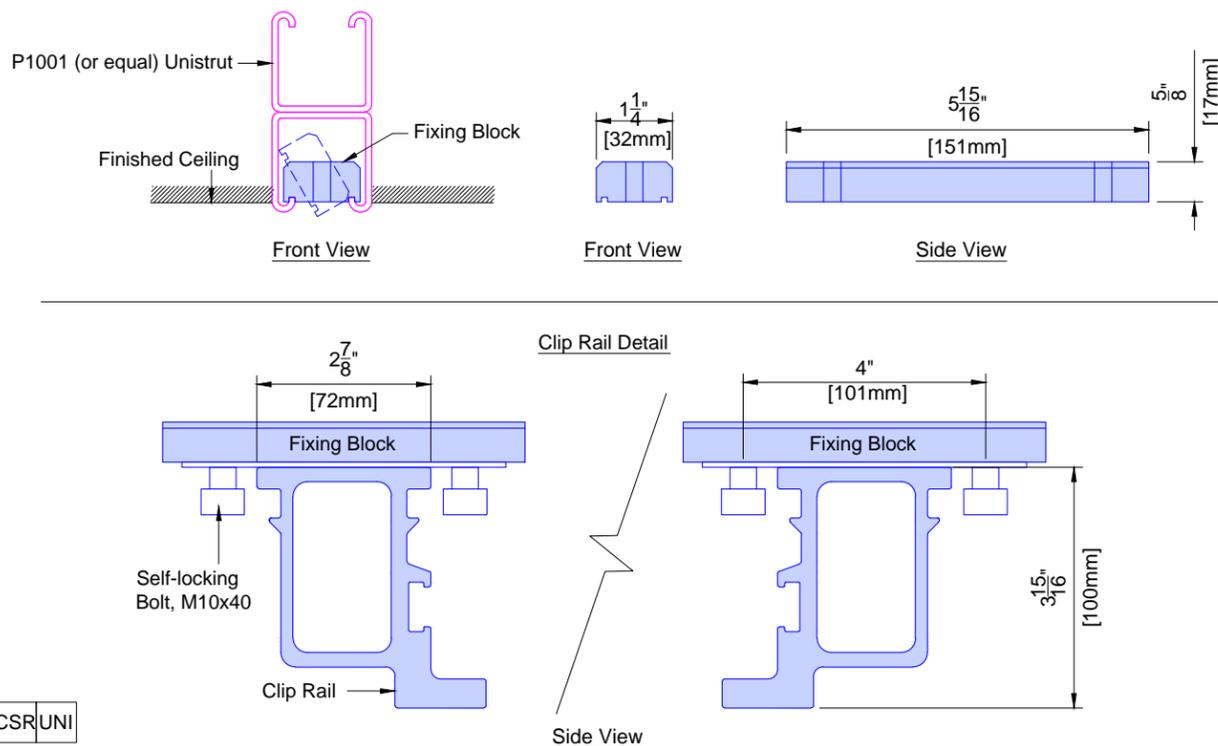
ELW

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### Detail - Ceiling Support

(Not to scale)

Fixing Block for Philips Ceiling Rails (Clip Rails) Detail



- Philips does not specify the overhead equipment support structure. Unistrut (or equal) may or may not be used. If Unistrut are used, it is up to Unistrut and the structural engineer for the project to determine which of it's products are appropriate for each project.
- Finished ceiling must **NOT** be lower than the bottom of the Unistrut in order to prevent damage to the finished ceiling during the installation of clip rails.
- Finished ceiling height to be 1/4" above bottom of Unistrut.
- Nothing shall be attached to the Unistrut with any fastener that protrudes into the Unistrut which would interfere with positioning of the fixing block.
- Fixing blocks for Philips ceiling rails (clip rails) are designed to be installed in P1001 Unistrut.
- The inside of the Unistrut must be clear of obstructions (including paint).
- Unistrut elements must be rigid and comply with the ceiling structure requirements. See SN sheet, item #4 "Ceiling Support Apparatus".

Tube Crane Support Forces	Tension Forces	Compressive Forces
CS III	956 lbs/support	192 lbs/support

(Support = 2 screws into each Fixing Block)  
 (Seismic area forces - consult seismic calculation documents)

CSRUNI

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**Project**  
 High Performance Room  
 DigitalDiagnost VM 3  
 Hines VA CBOC (Joliet)  
 Joliet, IL  
 Room: RAD1/2131

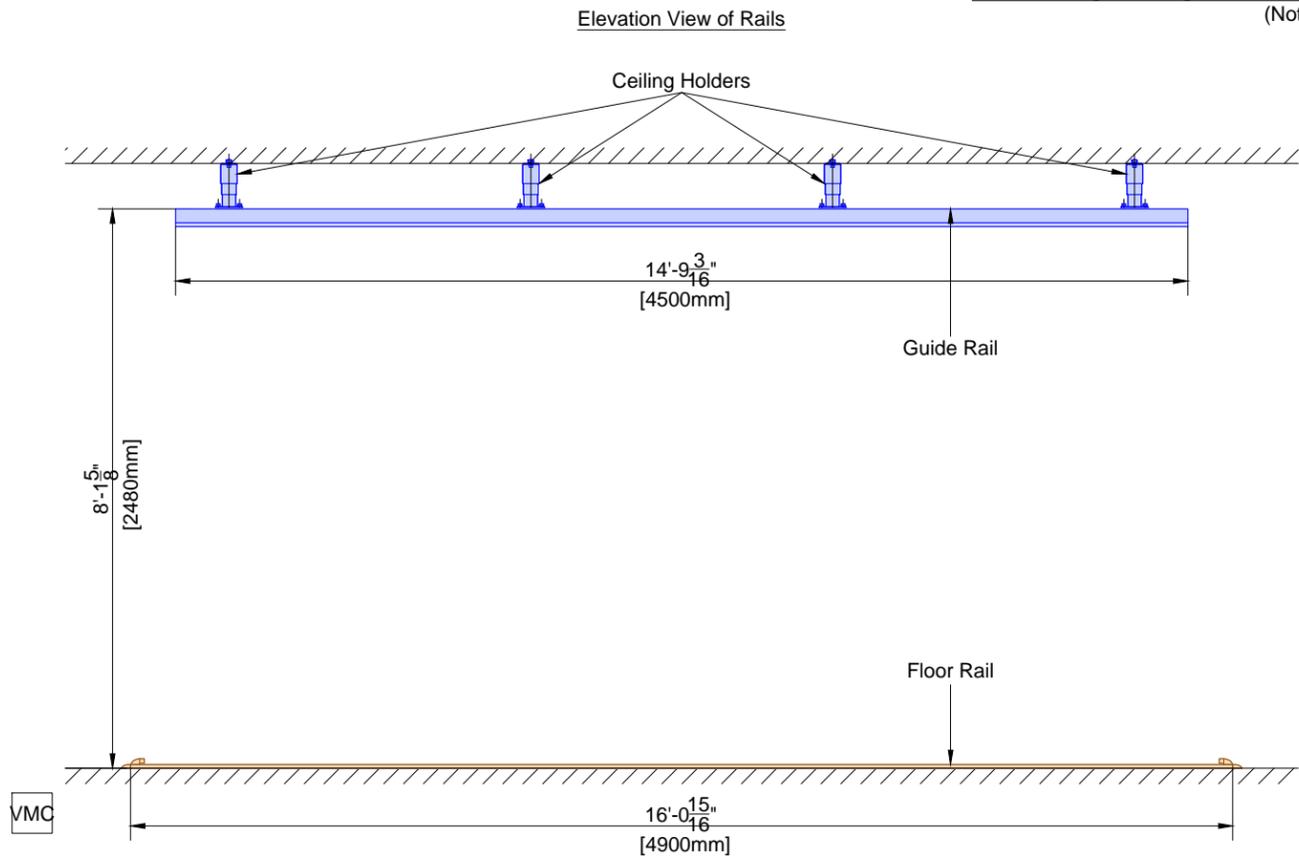
**Philips Contacts**  
 Project Manager: Keith Miller  
 Contact Number: (630) 461-6567  
 Email: keith.miller@philips.com  
 Drawn By: Antonio Rios

**Project Details**  
 Drawing Number  
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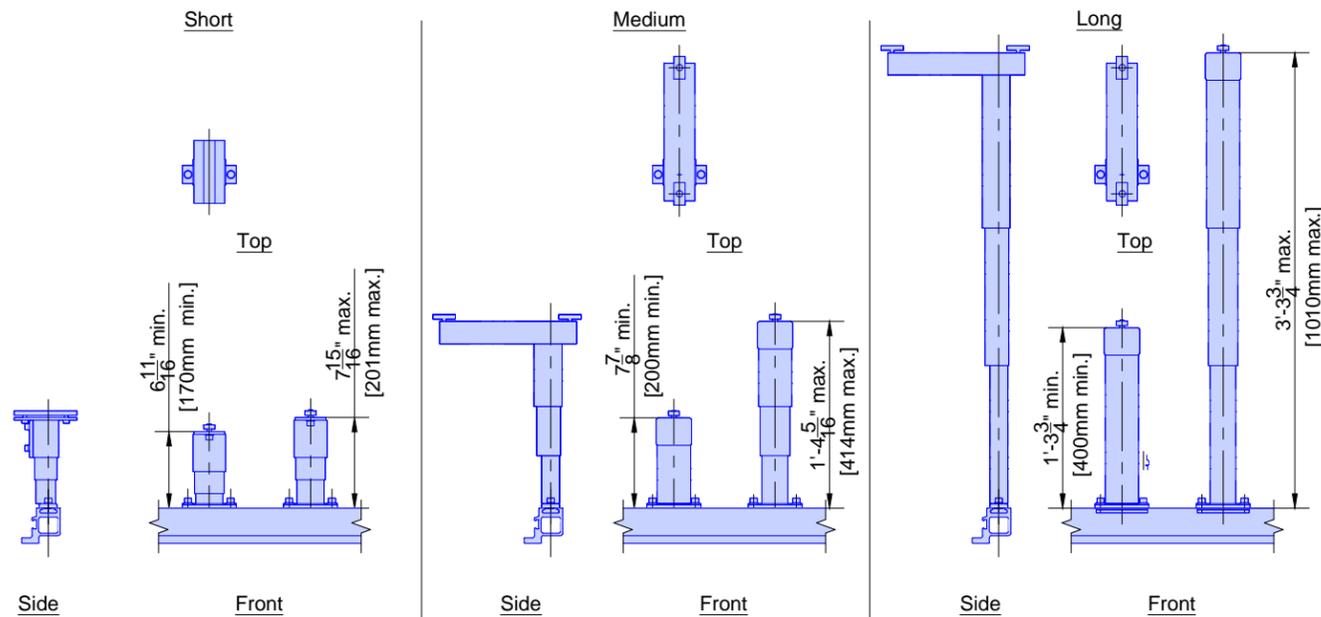
**SD3**

**Detail - DigitalDiagnost VM Guide Rail and Ceiling Holders**

(Not to scale)



**Ceiling Holder Details**

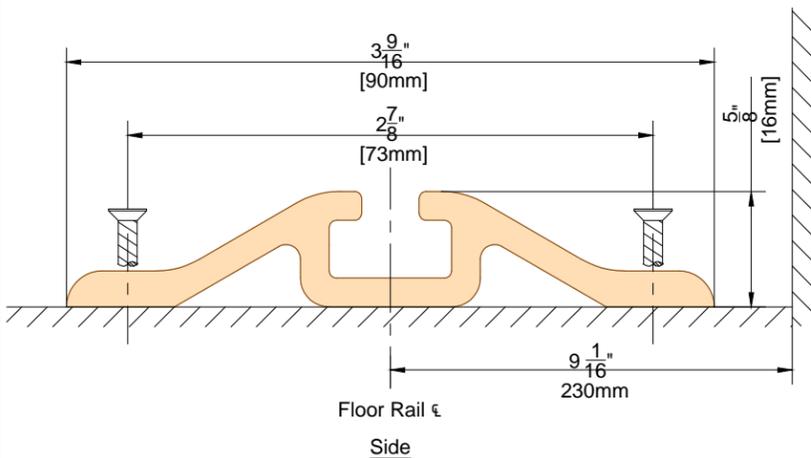


Ceiling Height	Required Ceiling Holder	Part Number
8'-8 1/2" - 8'-9 9/16" (2650mm - 2681mm)	Short	4512 201 0218x
8'-9 1/2" - 9'-5 15/16" (2680mm - 2894mm)	Medium	4512 201 0219x
9'-5 11/16" - 11'-5 3/8" (2888mm - 3490mm)	Long	4512 201 0220x

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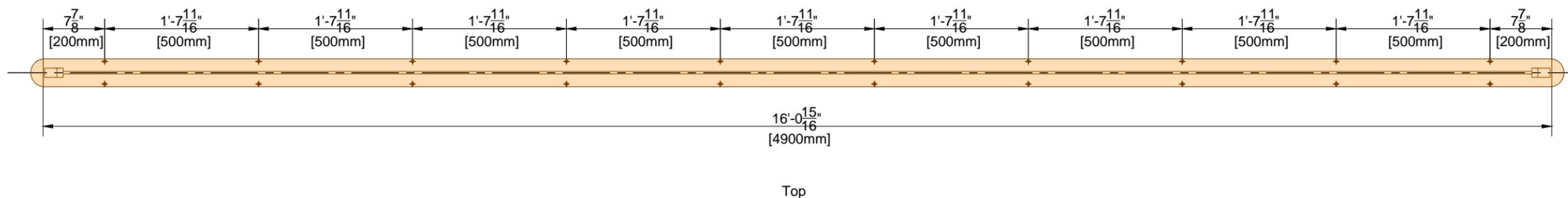
**Detail - DigitalDiagnost VM Floor Rail**

(Not to scale)



Floor Support Options				
The customer's architect/engineer of record shall specify a floor support sufficient for the bolt forces specified. Anchors will be provided by Philips, and the floor support is the sole responsibility of the customer/contractor. Below are Philips' pre-evaluated and approved methods of providing support:				
Option	Anchor Style (Provided by Philips)	Anchor Size	Anchor Quantity	Wall Support Size & Material (Provided & installed by customer/contractor)
A	Toggler Alligator with SPAX Multipurpose Flat Head Screw	#A6 with SPAX #10 x 1 1/2" L	20	Concrete Floor
B	SPAX Multipurpose Flat Head Screw	#10 x 1 1/2" L	20	Wood Frame Floor

**Bolt Forces**  
The loading capacity of the floor must be suitable for a surface load of 772 lbs (Seismic area forces - consult seismic calculation documents)



**Project**  
High Performance Room  
DigitalDiagnost VM 3  
Hines VA CBOC (Joliet)  
Joliet, IL  
Room: RAD1/2131

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Drawn By: Antonio Rios

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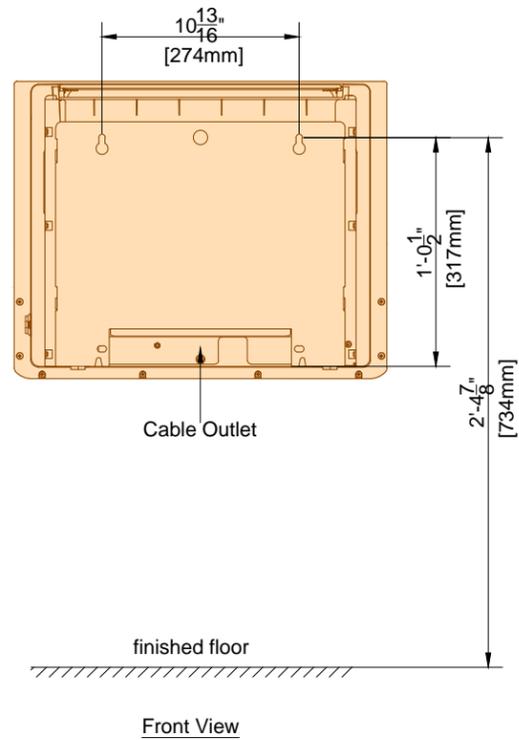
**SD4**

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**Detail - Wireless Detector Docking Station**

(Not to scale)

Elevation View of Bolt Locations and Cable Outlet



**Wall Support Options**

The customer's architect/engineer of record shall specify a wall support sufficient for the bolt forces specified. Anchors will be provided by Philips, and the wall support is the sole responsibility of the customer/contractor. Below are Philips' pre-evaluated and approved methods of providing support:

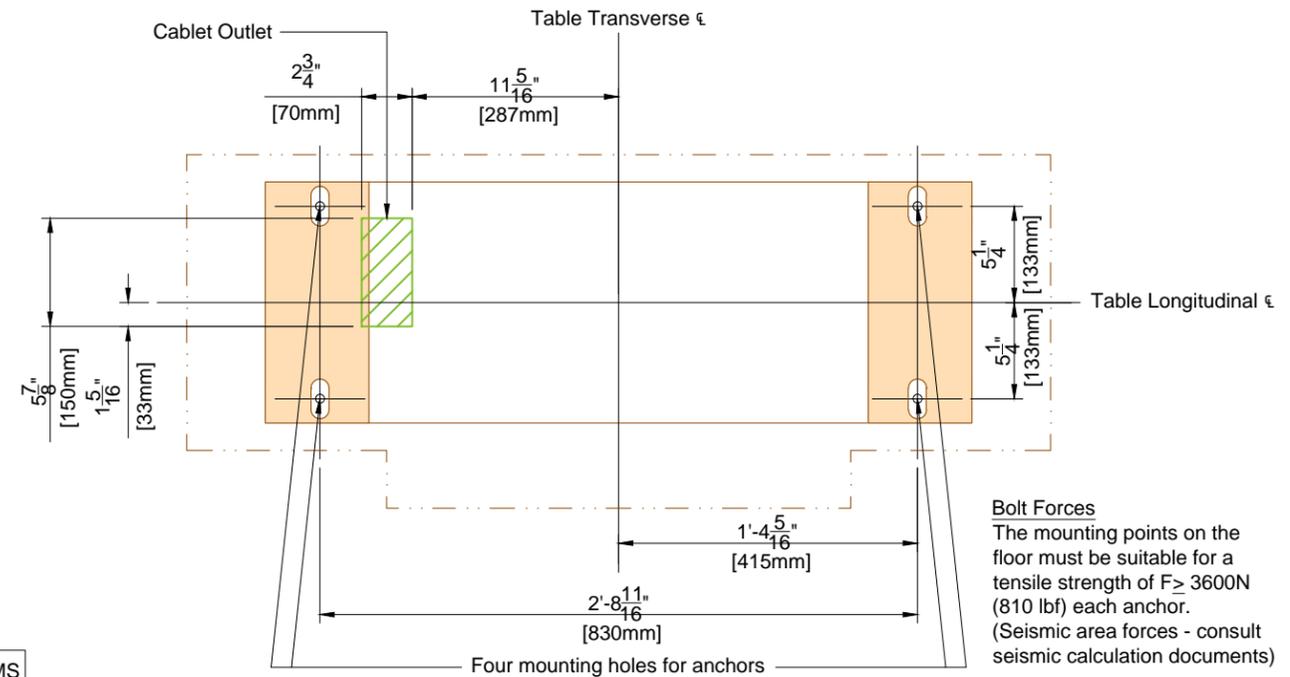
Option	Anchor Style (Provided by Philips)	Anchor Size	Anchor Quantity	Wall Support Size & Material (Provided & installed by customer/contractor)
A	SPAX Multipurpose Flat Head Screw	#10 x 1 1/2"L	2	Drywall with minimum 3/4" plywood backing
B	Round Phillips Head Self Drilling Screw	#10-16 x 1 1/2"L	2	Drywall with minimum 10 gauge steel backing
C	Toggler Snaptoggle with Round Head Screw	#BA with #10-24 x 2 1/2"L	2	Drywall (5/8"D minimum)
D	Toggler Alligator with SPAX Multipurpose Flat Head Screw	#A6 with #10 x 1 1/2"L	2	Concrete Wall

**Bolt Forces**  
 Tmax (Tension) = 68 lbs/bolt  
 Vmax (Shear) = 135 lbs/bolt  
 (Seismic area forces - consult seismic calculation documents)

**Detail - Diagnost TH/TF Table Base**

(Not to scale)

Plan View of Bolt Locations and Cable Outlet  
 The Diagnost TH/TF base mounted directly to the floor. A floor plate is not used.



**Bolt Forces**  
 The mounting points on the floor must be suitable for a tensile strength of  $F \geq 3600N$  (810 lbf) each anchor.  
 (Seismic area forces - consult seismic calculation documents)

**Project**  
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 Hines VA CBOC (Joliet)  
 Joliet, IL  
 Room: RAD1/2131

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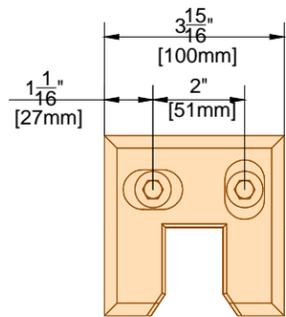
**Project Details**  
 Drawing Number  
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 Date Drawn: 4/17/2014  
 Quote: 1-Z9V10Y Rev. 9  
 Order: 6600211346.010000

**SD5**

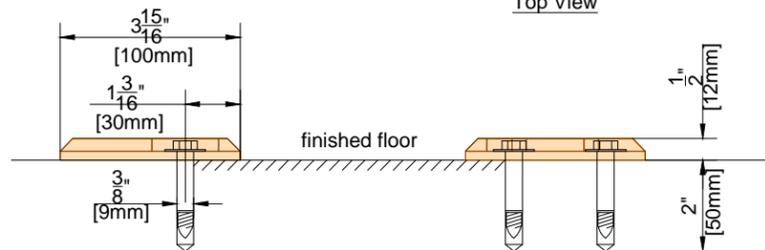
**Detail - Patient Support Floor Fixing Plates (Qty = 2)**

(Not to scale)

Details and Bolt Locations



Top View



Side View

Front View

Support Options

The customer's architect/engineer of record shall specify a support sufficient for the bolt forces specified. Anchors will be provided by Philips, and the support is the sole responsibility of the customer/contractor. Below are Philips' pre-evaluated and approved methods of providing support:

Option	Anchor Style (Provided by Philips)	Anchor Size	Anchor Quantity	Support Size & Material (Provided & installed by customer/contractor)
A	Simpson or Hilti drop-in with Stainless Steel Phillips oval-head screw with dress washer	1/4" x 1"L	4	Concrete Slab
B	Hex Head Lag Bolt with flat washer	#14 x 1"L	4	Wood Frame Floor

PS

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<p><b>Project Details</b>                  Drawing Number  <b>N-EAS140247 B</b>                  Date Drawn: 4/17/2014                  Quote: 1-Z9V10Y Rev. 9                  Order: 6600211346.010000</p>	<p><b>Philips Contacts</b>                  Project Manager: Keith Miller                  Contact Number: (630) 461-6567                  Email: keith.miller@philips.com                  Drawn By: Antonio Rios</p>	<p><b>Project</b>                  High Performance Room                  DigitalDiagnost VM 3                  Hines VA CBOC (Joliet)                  Joliet, IL                  Room: RAD1/2131</p>
	<p><b>SD6</b></p>	

**PHILIPS**

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**General Electrical Information**

**1. General**

The customer shall be solely responsible, at its expense, for preparation of the site, including any required electrical alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and electrical codes, the customer shall be solely responsible for obtaining all electrical permits from jurisdictional authority.

**2. Materials and Labor**

The customer shall be solely responsible, at its expense, to provide and install all electrical ducts, boxes, conduit, cables, wires, fittings, bushing, etc., as separately specified herein.

**3. Electrical Ducts and Boxes**

Electrical ducts and boxes shall be accessible and have removable covers. Floor ducts and boxes shall have watertight covers. Ducts shall be divided into as many as three separate channels by metal dividers, separately specified herein, to separate wiring and/or cables into groups as follows: Group A: power wiring and/or cables, Group B: signal and/or data and protective ground wiring and/or cables, Group C: x-ray high voltage cables. The use of 90 degree ells is not acceptable. On ceiling duct and wall duct use 45 degree bends at all corners. All intersecting points in duct to have cross over tunnels supplied and installed by contractor to maintain separation of cables.

**4. Conduit**

Conduit point-to-point runs shall be as direct as possible. Empty conduit runs used for cables may require pull boxes located along the run. Consult with Philips. A pull wire or cord shall be installed in each conduit run. All conduits which enter duct prior to their termination point must maintain separation from other cables via use of dividers, cross over tunnels, or conduit supplied and installed by contractor from entrance into duct to exit from duct. Do not use flex conduit unless approved by Philips Service.

**5. Conductors**

All conductors, separately specified, shall be 75°C stranded copper, rung out and marked.

**6. Disconnecting Means**

A disconnecting means shall be provided as separately specified.

**7. Warning Lights and Door Switches**

"X-ray on" warning lights and x-ray termination door switches should be provided at all entrances to x-ray rooms as required by code.

**8. Dimmer Switches**

X-ray room lights should be provided with dimmer switches.

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**Electrical Notes**

- The contractor will supply & install all breakers, shunt trip and incoming power to the breakers. The exact location of the breakers and shunt trips will be determined by the architect or contractor.
- The contractor shall supply & install all pull boxes, raceways, conduit runs, stainless steel covers, etc. Conduit/raceways must be free from burrs and sharp edges over its entire length. A Greenlee pull string/measuring tape (part no. 435, or equivalent) shall be provided with conduit runs.
- All pre-terminated, cut-to-length cables will be supplied and installed by Philips. See Conduit List for information regarding all other cables (e.g. cables to breakers, etc.).
- Provide and install 4 - 2"(50mm) diameter chase nipples between adjacent wall boxes (not required if raceway installed above and below wall boxes).
- Electrical raceway shall be installed with removable covers. The raceway should be accessible for the entire length. In case of non - accessible floors, walls and ceilings, an adequate number of access hatches should be supplied to enable installation of cabling. Approved conduits may be substituted. All raceways will be designed in a manner that will not allow cables to fall out of the raceway when the covers are removed. In most cases, this will require above-ceiling raceway to be installed with the covers removable from the top. Raceway system as illustrated on this drawing are based upon length of furnished cables. Any changes in routing of raceway system could exceed maximum allowable length of furnished cables. Conduit or raceway above-ceiling must be kept as near to finished ceiling as possible.
- Conduit sizes shall be verified by the architect, electrical engineer or contractor, in accordance with local or National Electrical Codes, whichever governs.
- Convenience outlets are not illustrated. Their number and location are to be specified by the customer/architect.
- All sections of raceway and conduit shall be grounded with an independent #6AWG green wire that is to be attached using solderless lugs. All ceiling mounted structural support members and ceiling plates shall also be grounded. All grounding connections, terminals, etc. shall be installed in a manner to provide accessibility for inspection, maintenance, repair, etc.

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**Electrical Requirements**

Electrical power distribution at the facility shall comply with:

- Utilization voltages per ANSI C84.1 - 1982 range A.
- Voltage to be supplied is 3 phase, 3 wire power and ground (delta or wye) unless otherwise noted in equipment specifications.
- Phase conductors to be sized for instantaneous voltage drop per NEC 517-73 and Philips recommendations.
- Neutral and ground conductors to be sized equivalently to phase conductors, unless otherwise noted.
- Metal conduit shall not be used as the equipment ground conductor.
- Clamping type surge suppressors are highly recommended in addition to standing facility lighting arrestors. Equipment to be protected from ANSI/IEEE C62.41-1980 location category B impulses.
- ANSI/NFPA 70 - National Electrical Code (NEC)  
Article 250 - Grounding  
Article 517 - Health Care Facilities
- ANSI/NFPA 99 - Health Care Facilities Code
- NEMA standard XR 9 - Power Supply Guidelines for X-Ray Machines

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**Power Quality Guidelines**

- Power supplied to medical imaging equipment must be separate from power feeds to air conditioning, elevators, outdoor lighting, and other frequently switched or motorized loads. Such loads can cause waveform distortion and voltage fluctuations that can hinder high quality imaging.
- Equipment that utilizes the facility power system to transmit control signals (especially clock systems) may interfere with medical imaging equipment, thus requiring special filtering.
- The following devices provide a high impedance, nonlinear voltage source, which may affect image quality: static UPS systems, series filters, power conditioners, voltage regulators.  
  
Do not install such devices at the mains supply to medical imaging equipment without consulting Philips installation or service personnel.
- Line impedance is the combined resistance and inductance of the electrical system and includes the impedance of the power source, the facility distribution system, and all phase conductors between the source and the imaging equipment. Philips publishes recommended conductor sizes based on equipment power requirements, acceptable voltage drops, and assumptions about the facility source impedance. The minimum conductor size is based on the total line impedance and NEC requirements. Unless impedance calculations are performed by an electrical engineer, the recommended values must be used.

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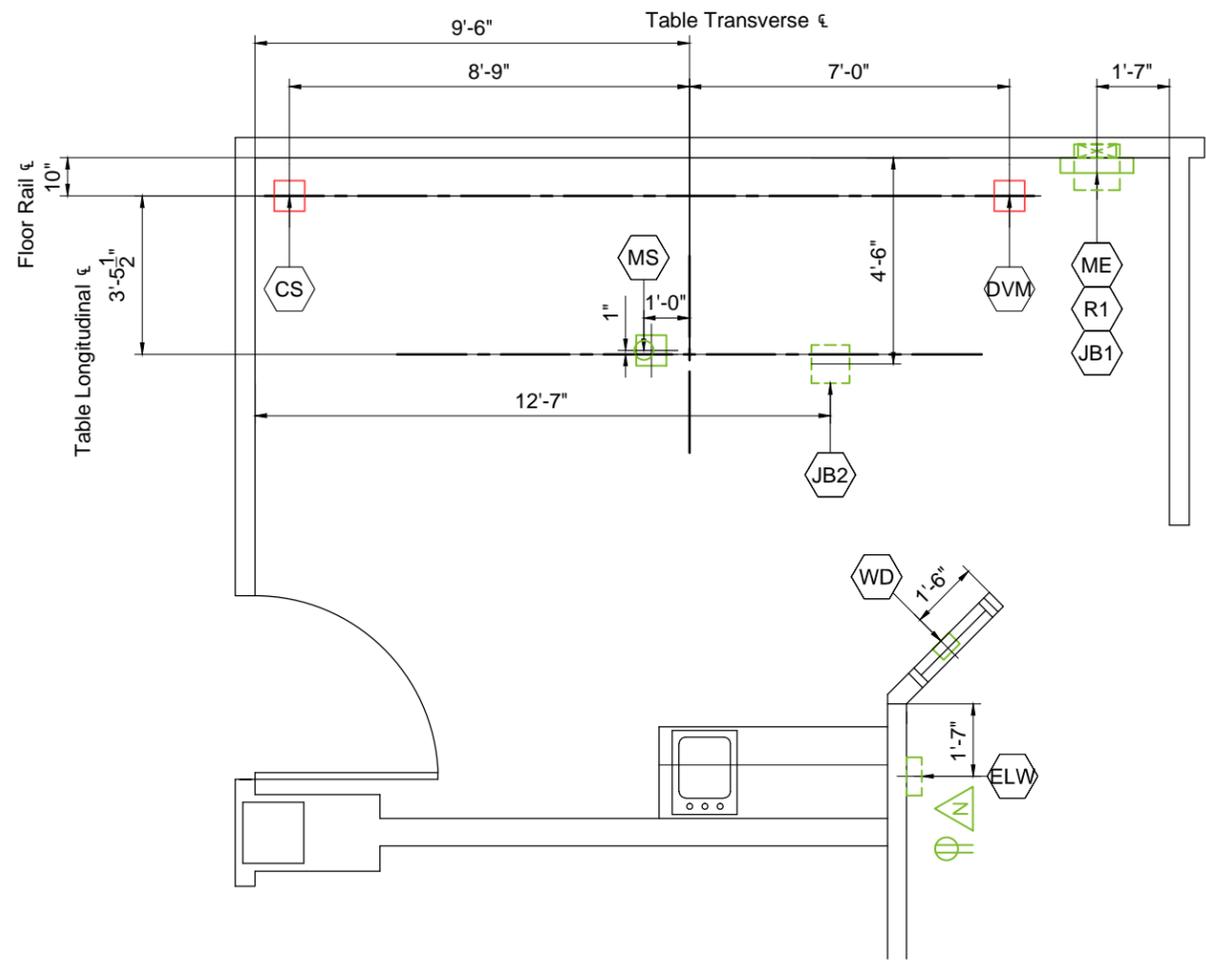
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Joliet, IL  
Room: RAD1/2131

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Drawn By: Antonio Rios

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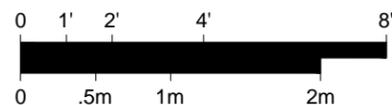


# Electrical Layout

Recommended Minimum Ceiling Height: 8'-11 1/2" (2735mm)  
 Recommended Maximum Ceiling Height: 10'-8" (3255mm)

Ceiling Heights other than recommended may impact equipment functionality - see Ceiling Height Guide and consult with Philips.

Ceiling Height measured from finished floor to bottom of Unistrut.



## Electrical Legend

- A Furnished and installed by Philips
- B Furnished and installed by customer/contractor
- C Installed by customer/contractor
- D Furnished by Philips and installed by contractor
- E Existing
- F Future
- G Optional

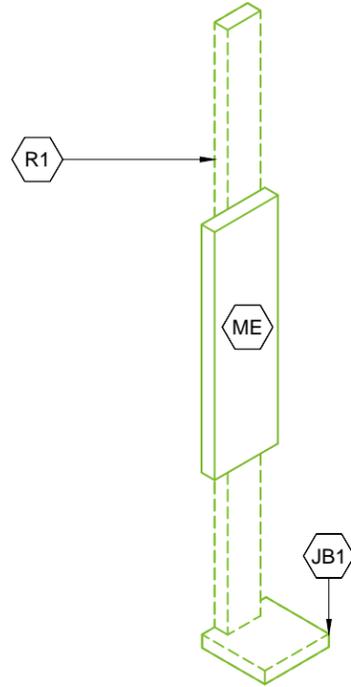
Item Number	Description	Detail Sheet
B CB	480V, 3 phase 70 AMP circuit breaker with shunt trip. Run power from breaker to ME, leaving an 8' tail. See Sheet ED1 for power quality requirements. Location per local code or owner requirements. (Not shown on plan)	ED1
B ST	Shunt Trip (emergency off) Large mushroom-head button on remote control station with contacts to operate feature of CB. Location per local code or owner requirements (mandatory for VA and DOD installations). (Not shown on plan)	ED1
B WL	Warning Light - Provide an incandescent surface or flush mounted light fixture above door to indicate when X-Ray is on. (Not shown on plan)	ED1
B DS	Door Switch - 120V, 5A switch limited to open when door is open. Mount in upper corner on strike side of main entry door(s) (Cooper no. 1665 or equivalent), if required by local code or physicist of record. (Not shown on plan)	ED1
D ME	19 1/4"W x 67"H x 4"D flanged-edge terminal wall box with removable screw-type cover plate, surface mounted 75" A.F.F. to top of box. Conduits to terminate on top & sides of the box as required. To connect to "R1".	ED1
B DVM	8"W x 8"L x 6"D ceiling box, flush mounted with removable screw-type cover plate.	
B CS	8"W x 8"L x 6"D ceiling box, flush mounted with removable screw-type cover plate.	
B MS	8"W x 8"L x 4"D floor box, mounted below finished floor with a 5" diameter core drill to cable inlet of table.	ED1
E ELW	Existing 10"W x 10"H x 4"D wall box with removable screw-type cover plate, surface mounted 22" A.F.F. to bottom of box. Verify relocation with local Philips Service. For cables to ELW. Field to verify suitability for re-use.	
E R1	Existing 10"W x 3 1/2"D riser duct with removable screw-type cover plate, flush mounted from under finished floor to above finished ceiling.	ED1
E JB1	Existing 12"W x 12"L x 6"D floor box, mounted under floor with removable gasketed screw-type cover plate. Field to verify suitability for re-use.	ED1
E JB2	Existing 10"W x 10"L x 4"D floor box, mounted under floor with removable gasketed screw-type cover plate. Field to verify suitability for re-use.	ED1
B N	RJ45 type Ethernet 10/100/1000 Mbit network connector. Access through customer's network to VPN device capable of connecting to the Philips Remote Service Network (RSN) Datacenter is needed. Refer to page N1 for RSN connectivity options. Locate within 10' of network card. Network Fiber optic and Ethernet cabling, connectors, wall boxes, patch panels, etc. are the responsibility of the purchaser. Philips assumes no responsibility for procurement, installation, or maintenance of the components.	N1
B	120V, 20A dedicated duplex outlet. Coordinate exact location with local Philips Service. (For optional M-Shield, if ordered.)	
B WD	6"W x 6"L x 4"D wall box with removable screw-type cover plate, flush mounted 16" A.F.F. to bottom of box.	

**Project**  
 High Performance Room  
 DigitalDiagnost VM 3  
 Hines VA CBOC (Joliet)  
 Joliet, IL  
 Room: RAD1/2131

**Philips Contacts**  
 Project Manager: Keith Miller  
 Contact Number: (630) 461-6567  
 Email: keith.miller@philips.com  
 Drawn By: Antonio Rios

**Project Details**  
 Drawing Number  
 N-EAS140247 B  
 Date Drawn: 4/17/2014  
 Quote: 1-Z9V10Y Rev. 9  
 Order: 6600211346.010000

E1



Conduit Required							
<b>General Notes</b> 1. All conduit runs must take most direct route point to point. 2. All conduit runs must have a pull string.							
A Conduit supplied and installed by contractor - Philips cables installed by Philips. B Conduit supplied and installed by contractor - Philips cables installed by contractor C Conduit and cables supplied and installed by contractor D Conduit existing - cables supplied and installed by Philips E Conduit existing - cables supplied by Philips, installed by contractor F Conduit existing - cables supplied and installed by contractor						* Cable Type F Fiber Optic H High Tension Power Cables P Power / Ground S Signal Cables V Video Cables	
Run No.	Conduit		Conduit Quantity	Cable Type *	Minimum Conduit Size	Maximum Conduit Length	Special Requirements
	From	To					
C 1	Power Panel	CB	1	P	Per N.E.C.	Per N.E.C.	
B 2	CB	ME	1	P	2"	50'	
C 3	CB	ST	1	P	3/4"	50'	
C 4	ME	WL	1	P	1/2"	50'	
C 5	ME	DS	1	P	1/2"	50'	
A/D 6	ME	ELW	1	P	1"	--	Via "R1" and "JB1". Field to verify reusability. Recommend to add new 1 1/2" size conduit.
D 7	ME	ELW	1	S	3 1/2"	--	Via "R1" and "JB1". Max cable length = 55'.
D 8	ME	JB2	1	P	2"	--	
D 9	ME	JB2	1	S	2 1/2"	--	Via "R1" and "JB1". Max cable length = 55'. Total travel from ME to MS cannot exceed 55'.
A 10	JB2	MS	1	P	1 1/2"	--	
A 11	JB2	MS	1	S	2"	--	
A 12	ME	DVM	1	P	1 1/2"	49'	
A 13	ME	DVM	1	S	2"	49'	
A 14	ME	CS	1	H / P	2 1/2"	45'	
A 15	ME	CS	1	S	2"	45'	
A 16	ELW	MS	1	F / S	1 1/2"	98'	
A 17	ELW	DVM	1	F / S	1 1/2"	72'	
A 18	ME	WD	1	P	2"	65'	
A 19	ME	WD	1	F	1"	65'	
A 20	ELW	WD	1	S	1"	98'	

Refer to Electrical Layout and Legend - Sheet E1

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 High Performance Room  
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**Philips Contacts**  
 Project Manager: Keith Miller  
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 Email: keith.miller@philips.com  
 Drawn By: Antonio Rios

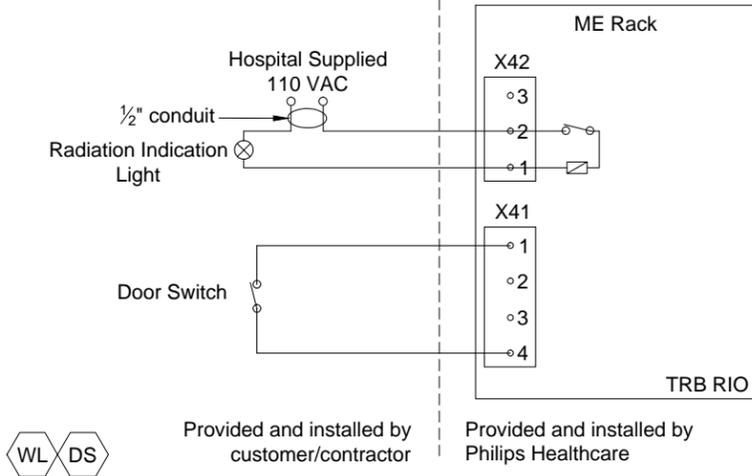
**Project Details**  
 Drawing Number  
**N-EAS140247 B**  
 Date Drawn: 4/17/2014  
 Quote: 1-Z9V10Y Rev. 9  
 Order: 6600211346.010000

**E2**

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### Detail - X-Ray On Light and Door Switch

(CXA Generator)  
Not to Scale



WL DS

Provided and installed by customer/contractor

Provided and installed by Philips Healthcare

(13.0)

### Power Quality Requirements

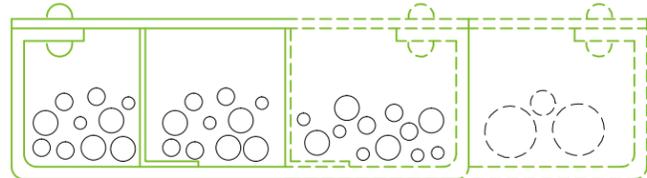
(M-Cabinet CXA 80)

Power Output:	80 kW
Supply Configuration:	3 phase, 3 wire power, neutral and ground. Wye. or 3 phase, 3 wire power, ground. Delta.
Nominal Line Voltage:	400, 440, 460, or 480 VAC, 60 Hz
Line Voltage Variation:	± 8% steady-state
Line Voltage Balance:	2% maximum of nominal voltage between phases
Frequency Variation:	± 1% (± 0.6 Hz)
Voltage Surges:	To 110% of steady-state voltage 100 msec. maximum duration, 6 per hour maximum
Voltage Sags:	To 90% of steady-state voltage 100 msec. maximum duration, 6 per hour maximum
Line Impulses:	1000 VPK above phase-neutral RMS absolute maximum. No more than 1 impulse per hour to exceed 500 VPK.
Neutral-ground Voltage:	2.0 volts maximum RMS value
Neutral-ground Impulses:	No more than 1 per hour that exceeds 25 volts and 1 Mjoule
High Frequency Noise:	3.0 volts steady-state maximum. Over 3.0 volts permitted for 100 msec. maximum, 1 per hour maximum
Ground and Neutral Conductor Impedance:	0.1 Ω @ 60Hz maximum

### Detail - Cable Trough Divisions

Not to Scale

- Troughs or ducts must be separated by metal barriers into three sections.
- High voltage (H.T.) cables to be run separately from all other cables.
  - Power cables and ground cables can be run together.
  - Signal cables and data cables can be run together but must be separated from power cables.
  - Video cables to be run separately from all other cables.
  - It is important that all cables are placed in the appropriate trough and at no given point do any cables from one division cross with cables from another. Trough separation must be continuous from the beginning to the end of the run. Utilize crossover tunnels as appropriate.
  - Trough or ducts: steel with steel dividers grounded to building ground.
  - Contractor to provide cable restraints in all troughs.



R1

Power & Ground

Signal & Data

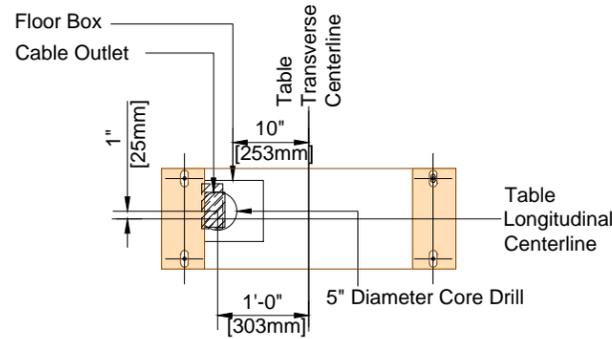
Video (if not in conduit)

High Tension (if not in conduit)

(13.0)

### Detail - Diagnost TH Table Base

Not to Scale



Provide a 5" diameter core drill if the floor cannot accommodate a standard 8"W x 8"L x 4"D floor box for "MS".

MS

(13.0)

### Branch Circuit and Wire Gauge Requirements

Branch Power:	112.5 kVA minimum
Circuit Breaker:	3 pole, 70 amperes (@ 480V)
Maximum Instantaneous Power:	105 kVA (800 mA @ 100 kV) (Short-term), < 5 amperes (Long-term)

Recommended conductor sizes for 1% impedance of branch conductors to circuit breaker (CB), based on 20°C copper conductors:

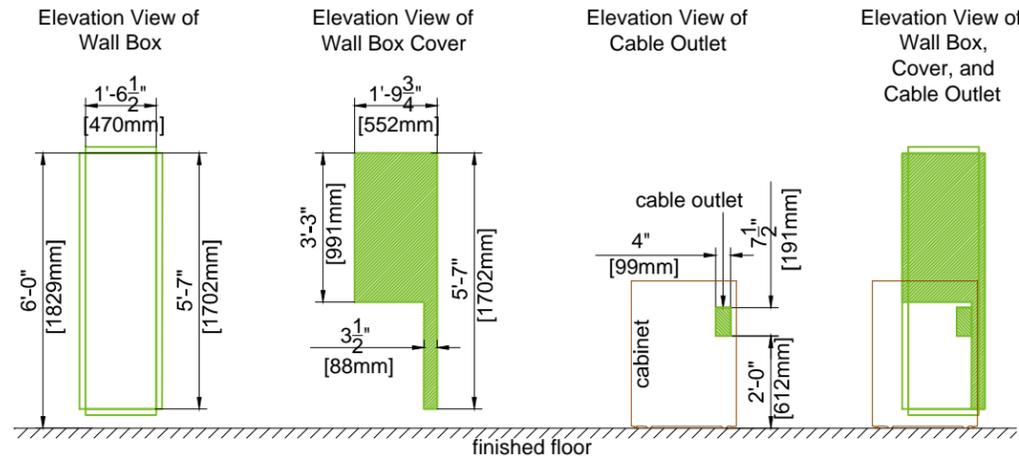
	400 VAC	440 VAC	460 VAC	480 VAC
#2 AWG	80 feet	96 feet	105 feet	115 feet
#1 AWG	101 feet	122 feet	134 feet	146 feet
1/0 AWG	128 feet	154 feet	168 feet	184 feet
2/0 AWG	161 feet	194 feet	212 feet	232 feet
3/0 AWG	203 feet	244 feet	267 feet	292 feet
4/0 AWG	258 feet	311 feet	340 feet	372 feet
250 MCM	303 feet	364 feet	399 feet	436 feet
300 MCM	363 feet	437 feet	478 feet	523 feet

Instantaneous Current	160 A	--	--	135 A
Maximum Phase-Phase Impedance	0.2 Ω	--	--	0.3 Ω
Maximum Load Voltage Drop	45.6 V	42.0 V	40.0 V	38.0 V
Percent Regulation at Maximum Load	11.4%	9.5%	8.7%	7.9%

Minimum copper wire size, circuit breaker (CB) to equipment: #4 AWG, maximum 50' in length.

### Detail - M-Cabinet CXA Wall Box

(Not to scale)



Wall Box  
General contractor to cut bottom of box as required.

Wall Box Cover  
Cover for top and one side of wall box. Provided by Philips (NA only).

MEX100 Terminal Block (not shown)  
Must be located behind the Wall Box Cover (in the upper 990mm of the Wall Box)

ME

(13.0)

CB

(14.0)

**Project**  
High Performance Room  
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ED1

## Philips Healthcare Remote Services Network (RSN)

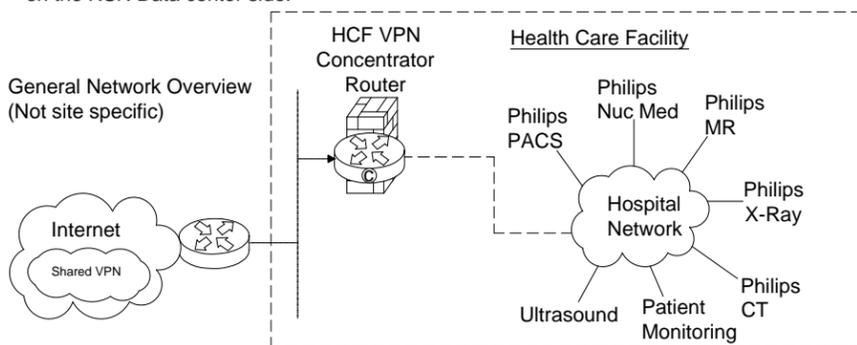
Secure broadband connection required for Philips remote technical support, diagnostics, and applications assistance

### Broadband Site-to-Site Connectivity (Preferred)

This connectivity method is designed for customers who prefer a connection from the RSN Data Center to the Health Care Facility (HCF) utilizing their existing VPN equipment.

#### Connectivity Details:

- A Site-to-Site connection from the RSN data center's Cisco router will be established to the HCF's VPN concentrator.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE as standard, but alternative standards are also available, such as AES, MD5, SHA, Security Association lifetime and Encryption Mode.
- Every system that we will be servicing remotely will have a static NAT IP that we configure on the RSN Data center side.



#### Action Required by Hospital:

- Review and approve connection details.
- Complete appropriate Site Checklist.
- Configure and allow Site-to-Site access prior to setting up connectivity depending on the access criteria that the HCF decides to implement (ex: Source IP filtering, destination IP filtering, NAT assignment, etc.).
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to the designed IP provided by Philips.

### Broadband Router Installed at Health Care Facility

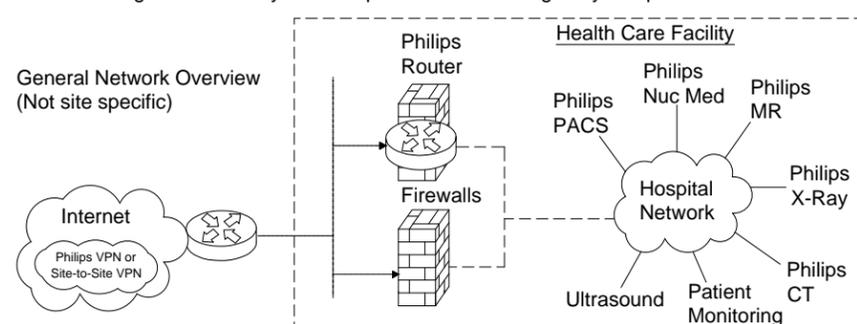
This connectivity method is designed for customers who have a dedicated high speed connection for Philips equipment.

#### Connectivity Details:

- An RSN Cisco 1711 or 1712 router will be preconfigured and installed at the HCF by Philips in conjunction with the HCF IT representative.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE and will be established from the RSN-DC and terminated at the RSN Router on-site.
- One to One NAT is used to limit access to Philips equipment only.
- Router Config and IP auditing is enabled for Customer IT to view via website 24/7.
- Dedicated DSL connections are also supported.

### Option 1: Parallel to HCF Firewall Connectivity Method

This connectivity method is designed for customers who prefer a Philips RSN Router installed on site utilizing all the security features provided and managed by Philips.

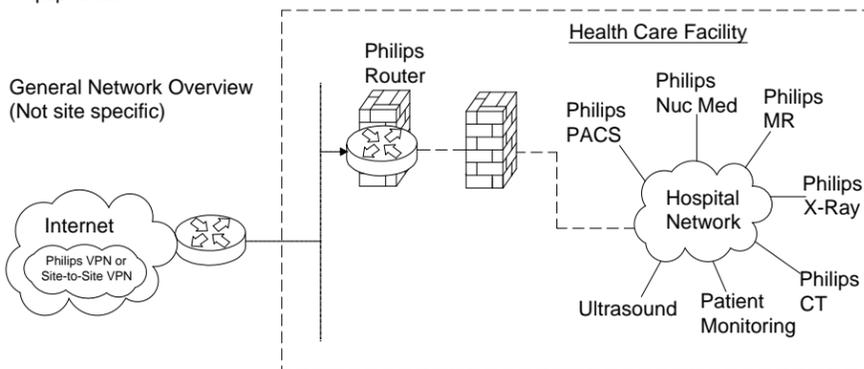


#### Action Required by Hospital:

- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.

### Option 2: Back End Connected to the HCF Firewall Connectivity Method

This connectivity method is designed for customers who prefer a Philips RSN Router installed on site by setting up an IP-Based policy allowing access thru existing HCF Firewall to Philips equipment.

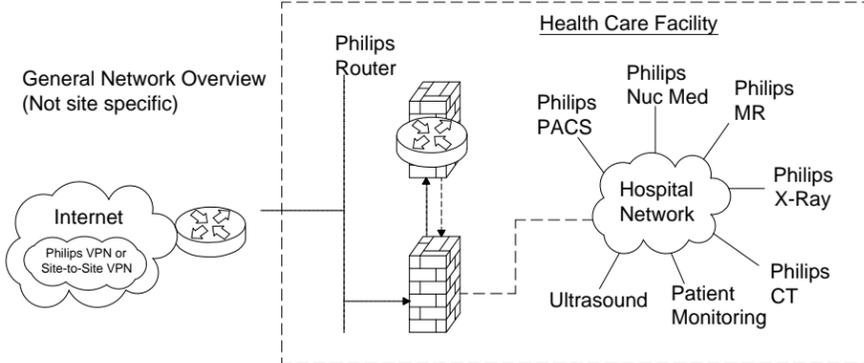


#### Action Required by Hospital:

- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

### Option 3: Router Installed Inside the HCF's DZM

This connectivity method is designed for customers who prefer the RSN Router installed inside an existing or new DMZ, allowing access to Philips equipment.



#### Action Required by Hospital:

- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface IPSec protocol communication by opening protocol 500, 50, 51, 47 and port 23 + TACACS. Traffic should be between external IP Address located on the Philips router and the RSN Data center IP address 192.68.48/24 and IP address AOSN TACAS.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

## System Network Information

### IMPORTANT NOTE:

It is the customer's responsibility to coordinate with the local Philips Engineer to provide ALL required network information and install ALL required network cabling & drops according to Philips specifications PRIOR to the scheduled installation start date. Failure to do so may delay system installation and jeopardize the customer hand over date.

DigitalDiagnost (filled out by FSE)		
MAC Address:		
System SN:		
X-Ray Control SN:		
DigitalDiagnost Network Settings		
	TCP / IP settings	DICOM settings (System)
IP Address:		
Subnet Mask:		
Default Gateway:		
AE Title:		
PACS - DICOM Store (Export)		
	Primary	Backup
AE Title:		
Port Number:		
IP Address:		
RIS Node - DICOM		
	RIS	MPPS [ ]yes [ ]no
AE Title:		
Port Number:		
IP Address:		
MPPS		
AE Title:		
Port Number:		
IP Address:		
Timeserver		
IP Address:		
Audit Trail Server		
UDP/TCP Protocol		
IP Address:		
Port Number:		
Dose Report Printer (optional)		
Shared Printer Name:		
IP Address:		
Port Number:		
User Name (if restricted to domain):		
Password (if restricted to domain):		

**Site Readiness Checklist**

**Instructions**

This form is to be used by Project Manager, Contractor and Service Engineer.

Information is used to develop and determine site ready date.

Items listed are go/no go items for delivery unless noted as delay only items.

Items identified with \*\*\* as delayed items must be completed after hours or on weekend. These items cannot be accomplished while installation is in progress. Also, these items must be completed within two days of installation start or they may stop installation.

**General Checklist**

- Customer site preparation verified in general against the Philips final planning drawings.
- Walls finished including painting.
- Doors installed.
- Floor leveled according to Philips drawings and specifications.
- Floors are tiled/covered finished. Flooring is covered with protective covering (scratch protection).
- Ceiling lights installed.
- Cable conduit and ductwork installed and clean. Position checked. Duct covers in place but not finally closed. Cable opening are clear, without sharp edges. Pull strings in conduit. Installation per Philips specifications.
- HVAC environmental equipment installed and working according to Philips specifications.
- Ceiling installation completed.
- Electrical preparation according to Philips specifications.
- All network cabling, drops installed according to Philips specifications (including hardcopy cameras).
- All network cabling, drops activated and tested by Philips Field Service Engineer with hospital IT information provided.
- All pre-cabling identified on Philips drawings has been installed.
- Pre-move survey completed - Delivery route identified.
- Lead glass installed. \*\*\*
- X-ray warning lights installed. \*\*\*
- Dedicated phone line for modem use. \*\*\*
- Room has been cleaned. \*\*\*
- Cabinets and casework installed. \*\*\*

**Modality Checklist**

- Unistrut installed and level according to Philips specifications.
- Blocking support for wall stand.
- Conduit lengths measured according to Philips specifications. NOTE: Specifications are from source box to destination box (not just conduit run length).
- Wall support for wall stand.

**Approved for Delivery**

Project Manager \_\_\_\_\_ Date \_\_\_\_\_

Service Engineer \_\_\_\_\_ Date \_\_\_\_\_

<b>Project Details</b> Drawing Number <b>N-EAS140247 B</b> Date Drawn: 4/17/2014 Quote: 1-Z9V10Y Rev. 9 Order: 6600211346.010000	<b>Philips Contacts</b> Project Manager: Keith Miller Contact Number: (630) 461-6567 Email: keith.miller@philips.com Drawn By: Antonio Rios	<b>Project</b> High Performance Room DigitalDiagnost VM 3 Hines VA CBOC (Joliet) Joliet, IL Room: RAD1/2131
		

