

GE Healthcare

Definium 8000 Pre-Installation Manual



Direction 5137435-100
Revision 14

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LEGAL NOTES

TRADEMARKS

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IMPORTANT PRECAUTIONS

LANGUAGE

WARNING

(EN)

- This Service Manual is available in English only.
- If a customer's service provider requires a language other than English, it is the customer's responsibility to provide translation services.
- Do not attempt to service the equipment unless this service manual has been consulted and is understood.
- Failure to heed this warning may result in injury to the service provider, operator, or patient, from electric shock or from mechanical or other hazards.

Предупреждение

(BG)

- ТОВА УПЪТВАНЕ ЗА РАБОТА Е НАЛИЧНО САМО НА АНГЛИЙСКИ ЕЗИК.
- АКО ДОСТАВЧИКЪТ НА УСЛУГАТА НА КЛИЕНТА ИЗИСКА ЕЗИК, РАЗЛИЧЕН ОТ АНГЛИЙСКИ, ЗАДЪЛЖЕНИЕ НА КЛИЕНТА Е ДА ОСИГУРИ ПРЕВОД.
- НЕ ИЗПОЛЗВАЙТЕ ОБОРУДВАНЕТО ПРЕДИ ДА СТЕ СЕ КОНСУЛТИРАЛИ И РАЗБРАЛИ УПЪТВАНЕТО ЗА РАБОТА.
- НЕСПАЗВАНЕТО НА ТОВА ПРЕДУПРЕЖДЕНИЕ МОЖЕ ДА ДОВЕДЕ ДО НАРАНЯВАНЕ НА ДОСТАВЧИКА НА УСЛУГАТА, ОПЕРАТОРА ИЛИ ПАЦИЕНТ В РЕЗУЛТАТ НА ТОКОВ УДАР ИЛИ МЕХАНИЧНА ИЛИ ДРУГА ОПАСНОСТ.

警告

(ZH-CN)

- 本维修手册仅提供英文版本。
- 如果维修服务提供商需要非英文版本，客户需自行提供翻译服务。
- 未详细阅读和完全理解本维修手册之前，不得进行维修。
- 忽略本警告可能对维修人员，操作员或患者造成触电、机械伤害或其他形式的伤害。

VÝSTRAHA

(CS)

- Tento provozní návod existuje pouze v anglickém jazyce.
- V případě, že externí služba zákazníkům potřebuje návod v jiném jazyce, je zajištění překladu do odpovídajícího jazyka úkolem zákazníka.
- Nesnažte se o údržbu tohoto zařízení, aniž byste si přečetli tento provozní návod a pochopili jeho obsah.
- V případě nedodržování této výstrahy může dojít k poranění pracovníka prodejního servisu, obslužného personálu nebo pacientů vlivem elektrického proudu, respektive vlivem mechanických či jiných rizik.

ADVARSEL

(DA)

- Denne servicemanual findes kun på engelsk.
- Hvis en kundes tekniker har brug for et andet sprog end engelsk, er det kundens ansvar at sørge for oversættelse.
- Forsøg ikke at servicere udstyret medmindre denne servicemanual har været konsulteret og er forstået.
- Manglende overholdelse af denne advarsel kan medføre skade på grund af elektrisk, mekanisk eller anden fare for teknikeren, operatøren eller patienten.

WAARSCHUWING

(NL)

- Deze onderhoudshandleiding is enkel in het Engels verkrijgbaar.
- Als het onderhoudspersoneel een andere taal vereist, dan is de klant verantwoordelijk voor de vertaling ervan.
- Probeer de apparatuur niet te onderhouden voordat deze onderhoudshandleiding werd geraadpleegd en begrepen is.
- Indien deze waarschuwing niet wordt opgevolgd, zou het onderhoudspersoneel, de operator of een patiënt gewond kunnen raken als gevolg van een elektrische schok, mechanische of andere gevaren.

HOIATUS

(ET)

- Käesolev teenindusjuhend on saadaval ainult inglise keeles.
- Kui klienditeeninduse osutaja nõuab juhendit inglise keelest erinevas keeles, vastutab klient tõlketeenuse osutamise eest.
- Ärge üritage seadmeid teenindada enne eelnevalt käesoleva teenindusjuhendiga tutvumist ja sellest aru saamist.
- Käesoleva hoiatuse eiramine võib põhjustada teenuseosutaja, operaatori või patsiendi vigastamist elektrilöögi, mehaanilise või muu ohu tagajärjel.

VAROITUS

(FI)

- Tämä huolto-ohje on saatavilla vain englanniksi.
- Jos asiakkaan huoltohenkilöstö vaatii muuta kuin englanninkielistä materiaalia, tarvittavan käännöksen hankkiminen on asiakkaan vastuulla.
- Älä yritä korjata laitteistoa ennen kuin olet varmasti lukenut ja ymmärtänyt tämän huolto-ohjeen.
- Mikäli tätä varoitusta ei noudateta, seurauksena voi olla huoltohenkilöstön, laitteiston käyttäjän tai potilaan vahingoittuminen sähköiskun, mekaanisen vian tai muun vaaratilanteen vuoksi.

ATTENTION

(FR)

- Ce manuel de service n'est disponible qu'en anglais.
- Si le technicien du client a besoin de ce manuel dans une autre langue que l'anglais, c'est au client qu'il incombe de le faire traduire.
- Ne pas tenter d'intervenir sur les équipements tant que le manuel service n'a pas été consulté et compris.
- Le non-respect de cet avertissement peut entraîner chez le technicien, l'opérateur ou le patient des blessures dues à des dangers électriques, mécaniques ou autres.

WARNUNG

(DE)

- Diese Serviceanleitung existiert nur in Englischer Sprache.
- Falls ein fremder Kundendienst eine andere Sprache benötigt, ist es aufgabe des Kunden für eine Entsprechende Übersetzung zu sorgen.
- Versuchen Sie nicht diese Anlage zu warten, ohne diese Serviceanleitung gelesen und verstanden zu haben.
- Wird diese Warnung nicht beachtet, so kann es zu Verletzungen des Kundendiensttechnikers, des Bedieners oder des Patienten durch Stromschläge, Mechanische oder Sonstige gefahren kommen.

ΠΡΟΕΙΔΟΠΟΙΗΣΗ

(EL)

- Το παρόν εγχειρίδιο σέρβις διατίθεται στα αγγλικά μόνο.
- Εάν το άτομο παροχής σέρβις ενός πελάτη απαιτεί το παρόν εγχειρίδιο σε γλώσσα εκτός των αγγλικών, αποτελεί ευθύνη του πελάτη να παρέχει υπηρεσίες μετάφρασης.
- Μην επιχειρήσετε την εκτέλεση εργασιών σέρβις στον εξοπλισμό εκτός εάν έχετε συμβουλευτεί και έχετε κατανοήσει το παρόν εγχειρίδιο σέρβις.
- Εάν δε λάβετε υπόψη την προειδοποίηση αυτή, ενδέχεται να προκληθεί τραυματισμός στο άτομο παροχής σέρβις, στο χειριστή ή στον ασθενή από ηλεκτροπληξία, μηχανικούς ή άλλους κινδύνους.

FIGYELMEZTETÉS

(HU)

- Ezen karbantartási kézikönyv kizárólag angol nyelven érhető el.
- Ha a vevő szolgáltatója angoltól eltérő nyelvre tart igényt, akkor a vevő felelőssége a fordítás elkészíttetése.
- Ne próbálja elkezdni használni a berendezést, amíg a karbantartási kézikönyvben leírtakat nem értelmezték.
- Ezen figyelmeztetés figyelmen kívül hagyása a szolgáltató, működtető vagy a beteg áramütés, mechanikai vagy egyéb veszélyhelyzet miatti sérülését eredményezheti.

AÐVÖRUN

(IS)

- Þessi þjónustuhandbók er eingöngu áanleg á ensku.
- Ef að þjónustuveitandi viðskiptamanns þarfnast annas tungumáls en ensku, er það skylda viðskiptamanns að skaffa tungumálþjónustu.
- Reynið ekki að afgreiða tækið nema að þessi þjónustuhandbók hefur verið skoðuð og skilin.
- Brot á sinna þessari aðvörun getur leitt til meiðsla á þjónustuveitanda, stjórnaða eða sjúklings frá raflosti, vélrænu eða öðrum áhættum.

AVVERTENZA

(IT)

- Il presente manuale di manutenzione è disponibile soltanto in inglese.
- Se un addetto alla manutenzione richiede il manuale in una lingua diversa, il cliente è tenuto a provvedere direttamente alla traduzione.
- Si proceda alla manutenzione dell'apparecchiatura solo dopo aver consultato il presente manuale ed averne compreso il contenuto.
- Il non rispetto della presente avvertenza potrebbe far compiere operazioni da cui derivino lesioni all'addetto, alla manutenzione, all'utilizzatore ed al paziente per folgorazione elettrica, per urti meccanici od altri rischi.

警告

(JA)

- このサービスマニュアルには英語版しかありません。
- サービスを担当される業者が英語以外の言語を要求される場合、翻訳作業はその業者の責任で行うものとさせていただきます。
- このサービスマニュアルを熟読し理解せずに、装置のサービスを行わないでください。
- この警告に従わない場合、サービスを担当される方、操作員あるいは患者さんが、感電や機械的又はその他の危険により負傷する可能性があります。

경고

(KO)

- 본 서비스 지침서는 영어로만 이용하실 수 있습니다 .
- 고객의 서비스 제공자가 영어 이외의 언어를 요구할 경우 , 번역 서비스를 제공하는 것은 고객의 책임입니다 .
- 본 서비스 지침서를 참고했고 이해하지 않는 한은 해당 장비를 수리하려고 시도하지 마십시오 .
- 이 경고에 유의하지 않으면 전기 쇼크 , 기계상의 혹은 다른 위험으로부터 서비스 제공자 , 운영자 혹은 환자에게 위해를 가할 수 있습니다 .

BRDINJUMS

(LV)

- Šī apkalpes rokasgrāmata ir pieejama tikai angļu valodā.
- Ja klienta apkalpes sniedzējam nepieciešama informācija citā valodā, nevis angļu, klienta pienākums ir nodrošināt tulkošanu.
- Neveiciet aprīkojuma apkalpi bez apkalpes rokasgrāmatas izlasīšanas un saprašanas.
- Šī brīdinājuma neievērošana var radīt elektriskās strāvas trieciena, mehānisku vai citu risku izraisītu traumu apkalpes sniedzējam, operatoram vai pacientam.

ISPĒJIMAS

(LT)

- Šis ekspluatavimo vadovas yra prieinamas tik anglų kalba.
- Jei kliento paslaugų tiekėjas reikalauja vadovo kita kalba – ne anglų, numatyti vertimo paslaugas yra kliento atsakomybė.
- Nemėginkite atlikti įrangos techninės priežiūros, nebent atsižvelgėte į šį ekspluatavimo vadovą ir jį supratote.
- Jei neatkreipsite dėmesio į šį perspėjimą, galimi sužalojimai dėl elektros šoko, mechaninių ar kitų pavojų paslaugų tiekėjui, operatoriui ar pacientui.

ADVARSEL

(NO)

- Denne servicehåndboken finnes bare på engelsk.
- Hvis kundens serviceleverandør trenger et annet språk, er det kundens ansvar å sørge for oversettelse.
- Ikke forsøk å reparere utstyret uten at denne servicehåndboken er lest og forstått.
- Manglende hensyn til denne advarselen kan føre til at serviceleverandøren, operatøren eller pasienten skades på grunn av elektrisk støt, mekaniske eller andre farer.

OSTRZEŻENIE

(PL)

- Niniejszy podręcznik serwisowy dostępny jest jedynie w języku angielskim.
- Jeśli dostawca usług klienta wymaga języka innego niż angielski, zapewnienie usługi tłumaczenia jest obowiązkiem klienta.
- Nie próbować serwisować wyposażenia bez zapoznania się i zrozumienia niniejszego podręcznika serwisowego.
- Niezastosowanie się do tego ostrzeżenia może spowodować urazy dostawcy usług, operatora lub pacjenta w wyniku porażenia elektrycznego, zagrożenia mechanicznego bądź innego.

ATENÇÃO

(PT)

- Este manual de assistência técnica só se encontra disponível em inglês.
- Se qualquer outro serviço de assistência técnica solicitar estes manuais noutro idioma, é da responsabilidade do cliente fornecer os serviços de tradução.
- Não tente consertar o equipamento sem ter consultado e compreendido este manual de assistência técnica.
- O não cumprimento deste aviso pode pôr em perigo a segurança do técnico, do operador ou do paciente devido a choques elétricos, mecânicos ou outros.

ATENȚIE

(RO)

- Acest manual de service este disponibil numai în limba engleză.
- Dacă un furnizor de servicii pentru clienți necesită o altă limbă decât cea engleză, este de datoria clientului să furnizeze o traducere.
- Nu încercați să reparați echipamentul decât ulterior consultării și înțelegerii acestui manual de service.
- Ignorarea acestui avertisment ar putea duce la rănirea depanatorului, operatorului sau pacientului în urma pericolelor de electrocutare, mecanice sau de altă natură.

ОСТОРОЖНО!

(RU)

- Данное руководство по обслуживанию предлагается только на английском языке.
- Если сервисному персоналу клиента необходимо руководство не на английском, а на каком-то другом языке, клиенту следует самостоятельно обеспечить перевод.
- Перед обслуживанием оборудования обязательно обратитесь к данному руководству и поймите изложенные в нем сведения.
- Несоблюдение требований данного предупреждения может привести к тому, что специалист по обслуживанию, оператор или пациент получат удар электрическим током, механическую травму или другое повреждение.

UPOZORNENIE

(SK)

- Tento návod na obsluhu je k dispozícii len v angličtine.
- Ak zákazníkovi poskytovateľ služieb vyžaduje iný jazyk ako angličtinu, poskytnutie prekladateľských služieb je zodpovednosťou zákazníka.
- Nepokúšajte sa o obsluhu zariadenia skôr, ako si neprečítate návod na obsluhu a neporozumiete mu.
- Zanedbanie tohto upozornenia môže vyústiť do zranenia poskytovateľa služieb, obsluhujúcej osoby alebo pacienta elektrickým prúdom, do mechanického alebo iného nebezpečenstva.

ATENCION

(ES)

- Este manual de servicio sólo existe en inglés.
- Si el encargado de mantenimiento de un cliente necesita un idioma que no sea el inglés, el cliente deberá encargarse de la traducción del manual.
- No se deberá dar servicio técnico al equipo, sin haber consultado y comprendido este manual de servicio.
- La no observancia del presente aviso puede dar lugar a que el proveedor de servicios, el operador o el paciente sufran lesiones provocadas por causas eléctricas, mecánicas o de otra naturaleza.

VARNING

(SV)

- Den här servicehandboken finns bara tillgänglig på engelska.
- Om en kunds servicetekniker har behov av ett annat språk än engelska ansvarar kunden för att tillhandahålla översättningstjänster.
- Försök inte utföra service på utrustningen om du inte har läst och förstår den här servicehandboken.
- Om du inte tar hänsyn till den här varningen kan det resultera i skador på serviceteknikern, operatören eller patienten till följd av elektriska stötar, mekaniska faror eller andra faror.

DIKKAT

(TR)

- Bu servis kilavuzunun sadece ingilizcesi mevcuttur.
- Eğer müşteri teknisyeni bu kilavuzu ingilizce dışında bir başka lisandan talep ederse, bunu tercüme ettirmek müşteriye düşer.
- Servis kilavuzunu okuyup anlamadan ekipmanlara müdahale etmeyiniz.
- Bu uyariya uyulmaması, elektrik, mekanik veya diğer tehlikelerden dolayı teknisyen, operatör veya hastanın yaralanmasına yol açabilir.

DAMAGE IN TRANSPORTATION

All packages should be closely examined at time of delivery. If damage is apparent, have notation "damage in shipment" written on all copies of the freight or express bill before delivery is accepted or "signed for" by a General Electric representative or a hospital receiving agent. Whether noted or concealed, damage MUST be reported to the carrier immediately upon discovery, or in any event, within 14 days after receipt, and the contents and containers held for inspection by the carrier. A transportation company will not pay a claim for damage if an inspection is not requested within this 14 day period.

To file a report:

- Call 1-800-548-3366 and use option 8.
- Fill out a report on <http://egems.med.ge.com/edq/home.jsp>
- Contact your local service coordinator for more information on this process.

Rev. Jan. 5, 2005

CERTIFIED ELECTRICAL CONTRACTOR STATEMENT

All electrical Installations that are preliminary to positioning of the equipment at the site prepared for the equipment shall be performed by licensed electrical contractors. In addition, electrical feeds into the Power Distribution Unit shall be performed by licensed electrical contractors. Other connections between pieces of electrical equipment, calibrations and testing shall be performed by qualified GE Medical personnel. The products involved (and the accompanying electrical installations) are highly sophisticated, and special engineering competence is required. In performing all electrical work on these products, GE will use its own specially trained field engineers. All of GE's electrical work on these products will comply with the requirements of the applicable electrical codes.

The purchaser of GE equipment shall only utilize qualified personnel (i.e., GE's field engineers, personnel of third-party service companies with equivalent training, or licensed electricians) to perform electrical servicing on the equipment.

IMPORTANT...X-RAY PROTECTION

X-ray equipment if not properly used may cause injury. Accordingly, the instructions herein contained should be thoroughly read and understood by everyone who will use the equipment before you attempt to place this equipment in operation. The General Electric Company, Medical Systems Group, will be glad to assist and cooperate in placing this equipment in use.

Although this apparatus incorporates a high degree of protection against x-radiation other than the useful beam, no practical design of equipment can provide complete protection. Nor can any practical design compel the operator to take adequate precautions to prevent the possibility of any persons carelessly exposing themselves or others to radiation.

It is important that anyone having anything to do with x-radiation be properly trained and fully acquainted with the recommendations of the National Council on Radiation Protection and Measurements as published in NCRP Reports available from NCRP Publications, 7910 Woodmont Avenue, Room 1016, Bethesda, Maryland 20814, and of the International Commission on Radiation Protection, and take adequate steps to protect against injury.

The equipment is sold with the understanding that the General Electric Company, Medical Systems Group, its agents, and representatives have no responsibility for injury or damage which may result from improper use of the equipment.

Various protective materials and devices are available. It is urged that such materials or devices be used.

LITHIUM BATTERY CAUTIONARY STATEMENTS

CAUTION

Risk of Explosion.

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

ATTENTION

Danger d'Explosion

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.

Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

OMISSIONS & ERRORS

Customers, please contact your GE Sales or Service representatives.

GE personnel, please use the Healthcare PQR Process to report all omissions, errors, and defects in this publication.

Revision History

Revision	Date	Reason for change
1	Oct. 31, 2005	Initial release of document
2	Nov. 1, 2005	Updated OTS dimensional drawings.
3	Nov. 9, 2005	Updated OTS, Image Pasting Barrier sizes and weights. Also, other minor corrections.
4	Mar 10, 2006	Updated system MIS Map to revision 6. Added seismic drawings. Updated room power supply drawing.
5	May 17, 2006	Added HHS compatibility table to HHS chapter. Updated Flexi-DT stretcher specifications.
6	June 08, 2007	Corrected Flexi-DT pin spacing dimension on page 72 from 1615 mm to 1735 mm. Updated digital detector humidity and temperature specifications. Min & Max Wallstand detector movement range values (Figure 5-18 on page 68) changed. Revised Pre-Installation Site Readiness Checklist. Updated table base drawing (Figure 5-6).
7	August 15, 2007	Fixed compressed Figure 5-20 "Extended Wall Stand Dimensions (A)". Chapter 1, Section 8.0: updated Table 1-1 Magic PC part numbers. Chapter 1, Section 8.0: updated Table 1-2 to add Master Control. Chapter 3, Section 1.4: added 'feeder' item to bullet list. Chapter 4, Section 2.1: replaced 'ground' paragraph.
8	August 22, 2007	Chapter 1, Section 8, Table 1-2, add note below table. Chapter 1, Section 8, Table 1-1, update Magic PC part numbers.
9	October 25, 2007	Chapter 1, Section 8, Table 1-2, updated note below table to add Magic PC part number 5261133. Chapter 5, Table 5-2, updated OTS weight and totals. Chapter 5, Figure 5-13, updated OTS dimensions. Chapter 5, Figure 5-5, updated Table dimensions.
10	April 11, 2008	Added Image Pasting Barrier drilling template drawing to Chapter 3, page 88. Added information for the xw8200, xw8400, and xw6400 PC Towers to Definium 8000 System Component Identification Table, HHS Compliance Compatibility List Table, Product Physical Characteristics (Width/Depth/Height) Table and the Product Physical Characteristics (Weight) Table. Removed ground resistance specifications and wire impedance test.

Revision	Date	Reason for change
11	June 17, 2008	Updated dimensions and added notes in Figures 6-15, 6-16 and 6-17. Updated Flexi-DT stretcher weights, dimensions and drawings. Updated Table 1-1 to include new part numbers 5135678-2 (OTS) and 46-155400G285 (X-ray tube casing). Added specs for Weight Bearing Rolling Stand option to Tables 1-1, 5-1 and Figure 5-29. Added collimator 5234954 to Tables 1-1 and 1-2. Added tube insert 46-155318G33 to Table 1-2. Added RCIM2 details to Tables 1-1, 5-1. Updated Workstation Figures 1-2, 5-2 and 6-4. Added LCD monitor 5169069-2 (black) to Table 1-1. Updated table top width from 2295 mm to 2250 mm in Table 5-1. Updated Figures 6-6, 6-9, 6-10, 6-12, 6-13, 6-20, 6-22, 6-26 and 6-28 to change Wallstand location from 1803mm to 1680mm (Max). Updated MIS Map to add RCIM2 connection and new MIS cable 020072.
12	08DEC2008	Removed detector from Table 1-2. SPR XRYge79185 Pg.59, Figure 5-8, updated System Cabinet depth dimensions to 748mm [29.5 in.] when door is closed. Resolves PQR 13193224
13	12JUN2009	Update Table 5-1 and Figure 5-5 to change table minimum height. Added Figure 5-7 to show jam sensor.
14	24AUG2009	Updated Table 4-8, Figures 4-1 and 4-2 to add notes regarding Emergency Off safety switch and wiring. Added bullet to Chapter 1, Section 6, regarding use of GE-recommended wires/cables. Reference PCN 217574.

List of Effected Pages

PAGES	REVISION	PAGES	REVISION
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Preface

Publication Conventions

Standardized conventions for representing information is a uniform way of communicating information to a reader in a consistent manner. Conventions are used so that the reader can easily recognize the actions or decisions that must be made. There are a number of character and paragraph styles used in this publication to accomplish this task. Please become familiar with them before proceeding forward.

It is important that you read and understand hazard statements, and not just ignore them.

Section 1.0 - Safety & Hazard Information

Proper product safety labeling allows a person to safely use or service a product. The format and style for safety communications reflected in this publication represents the harmonization of IEC/ISO 3864 and ANSI Z535 standards.

Within this publication, different paragraph and character styles are used to indicate potential hazards. Paragraph prefixes, such as hazard, caution, danger and warning, are used to identify important safety information. Text (Hazard) styles are applied to the paragraph contents that are applicable to each specific safety statement.

1.1 Hazard Messages

Any action that will, or could potentially cause personal injury will be preceded by the safety alert symbol and an appropriate signal word. The safety alert symbol is the triangle with an exclamation mark within it. It is always used next to the signal word to indicate the severity of the hazard. Together, they are used to indicate a hazard exists.

Signal words describe the severity of possible human injuries that may be encountered. The alert symbol and signal word are placed immediately before any paragraph they affect. Safety information includes:

- 1.) Signal Word - The seriousness level of the hazard.
- 2.) Symbol or Pictorial - The consequence of interaction with the hazard.
- 3.) Word Message:
 - a.) The nature of the hazard (i.e. the type of hazard).
 - b.) How to avoid the hazard.

The safety alert symbol is not used when an action can only cause equipment damage.

1.2 Text Format of Signal Words

DANGER - INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY. THIS SIGNAL WORD IS TO BE LIMITED TO THE MOST EXTREME SITUATIONS.

WARNING - INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY.




































Caution - Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE - Indicates information or a company policy that relates directly or indirectly to the safety of personnel or protection of property. This signal word is associated directly with a hazard or hazardous situation and is used in place of 'DANGER,' 'WARNING,' or 'CAUTION.' It can include:

- Destruction of a disk drive
- Potential for internal mechanical damage, such as to a X-ray tube

1.3 Symbols and Pictorials Used

The following Symbols and Pictorials may be used in this publication. These graphical icons (symbols) may be used to make you aware of specific types of hazards that could possibly cause harm.

NOTICE	CAUTION	WARNING	DANGER	
 keep_up	 magnetic	 biohazard	 compressgas	 ppe-hearing
 fragile	 impact	 corrosive	 heavyobject	 ppe-2people
 static_elec	 heat	 general	 laser	 ppe-respiratory
 keep_dry	 pinch	 radiation	 poisongas	 ppe-loto
 general	 explosive	 electrical	 flammable	 ppe-eye
 torque	 crush/mechanical	 tipping	 Read Manual	 ppe-gloves
 ce	 instuction	 poisonmatl	 entanglement	 instuction

Section 2.0 - Publication Conventions

2.1 General Paragraph and Character Styles

Prefixes are used to highlight important non-safety related information. Paragraph prefixes (such as Purpose, Example, Comment or Note) are used to identify important but non-safety related information. Text styles are also applied to text within each paragraph modified by the specific prefix.

EXAMPLES OF PREFIXES USED FOR GENERAL INFORMATION:

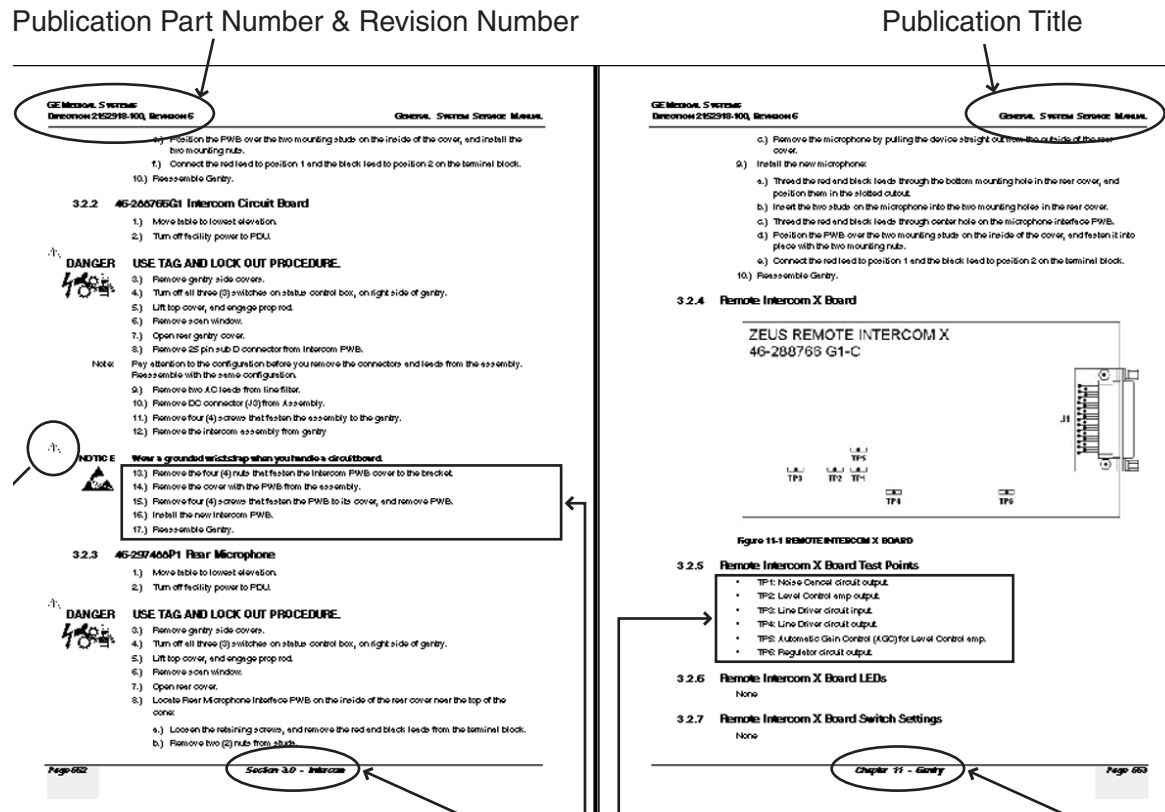
Purpose: Introduces and provides meaning as to the information contained within the chapter, section or subsection (such as used at the beginning this chapter, for example).

Note: Conveys information that should be considered important to the reader.

Example: Used to make the reader aware that the paragraph(s) that follow are examples of information possibly stated previously.

Comment: *Represents “additional” information that may or may not be relevant to your situation.*

2.2 Page Layout



The current section and its title are always shown in the footer of the left (even) page.

An exclamation point in a triangle is used to indicate important information to the user.

Paragraphs preceded by **Alphanumeric** characters (e.g. numbers) contain information that must be followed in a **specific order**.

The current chapter and its title are always shown in the footer of the right (odd) page.

Paragraphs preceded by a **symbol** (e.g. bullets) contain information that has **no specific order**.

Figure 0-1 Definium 8000 system Component Identification

Headers and footers in this publication are designed to allow you to quickly identify your location. The document part number and revision number appear in every header on every page. Odd numbered page footers indicate the current chapter, its title and current page number. Even numbered page footers show the current section and its title, as well as the current page number.

2.3 Computer Screen Output/Input Text Character Styles

Within this publication, mono-spaced character styles (fonts) are used to indicate computer text that is either screen input or output. Mono-spaced fonts, such as courier, are used to indicate text direction. When you type at your keyboard, you are generating computer input. Occasionally you will see the math operator “greater-than” and “less-than” symbols used to indicate the start and finish of variable output. When reading text generated by the computer, you are reading it as computer generated output. In addition to direction, characters are italicized (e.g. *italics*) to indicate information specific to your system or site.

Example: This paragraph's font represents computer generated screen "fixed" output. Its output is fixed from the sense that it does not vary from application to application. It is the most commonly used style used to indicate filenames, paths and text that do not change from system to system. The character style used is a fixed width such as courier.

Example: *This paragraph's font represents computer screen output that is "variable". It is used to represent output that varies from application to application or system to system. Variable output is sometimes found placed between greater-than and less-than operators for clarification. For example: <variable_output> or <3.45.120.3>. In both cases, the < and > operators are not part of the actual input.*

Example: **This paragraph's font represents fixed input. It is computer input that is typed-in via the keyboard. Typed input that does not vary from application to application or system to system. Fixed text the user is required to supply as input. For example: cd /usr/3p**

Example: *This paragraph's font represents computer input that can vary from application to application or system to system. With variable text, the user is required to supply system dependent input or information. Variable input sometimes is placed between greater-than and less-than operators. For example: <variable_input>. In these cases, the (<>) operators would be dropped prior to input. For example: ypcat hosts | grep <3.45.120.3> would be typed into the computer as*
ypcat hosts | grep 3.45.120.3
without the greater-than and less-than operators.

2.4 Buttons, Switches and Keyboard Inputs (Hard & Soft Keys)

Different character styles are used to indicate actions requiring the reader to press either a hard or soft button, switch or key. Physical hardware, such as buttons and switches, are called hard keys because they are hard wired or mechanical in nature. A keyboard or on/off switch would be a hard key. Software or computer generated buttons are called soft keys because they are software generated. Software driven menu buttons are an example of such keys. Soft and hard keys are represented differently in this publication.

Example: A power switch **ON/OFF** or a keyboard key like **ENTER** is indicated by applying a character style that uses both over and under-lined bold text. This is a hard key.

Example: Whereas the computer **MENU** button that you would click with your mouse or touch with your hand uses over and under-lined regular text. This is a soft key.

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2.5

Table (TBL) - Upper Floor - Sheet 1 of 2

147

2.6

Wall Stand (WLS) - Slab on Grade

149

2.7

Wallstand (WLS) - Upper Floor

150

2.8

Extended Wall Stand (WLS) - Slab on Grade

151

2.9

Extended Wall Stand (WLS) - Upper Floor

152

2.10

Detector Support Assembly (DSA) - Slab on Grade

153

2.11

Detector Support Assembly (DSA) - Upper Floor

154

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Grid Holder (GH)

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Chapter 1 - Introduction

Section 1.0 - Objective and Scope of this Manual

This document is intended as a guide and informational resource for planning and properly preparing a location for the installation of a Definium 8000 system.

Section 2.0 - Avoiding Unnecessary Expenses and Delays

To avoid unnecessary expenses and delays, use the “Pre-Installation” checklist located in [Chapter 7](#) to determine if you are ready for the installation to begin. Once you believe that your room/location is ready for installation to begin, complete the “Pre-Installation” checklist. The checklist is an important tool that helps verify that nothing has been missed. The checklist summarizes the preparations and allows you to record a permanent record of the activities that have taken place.

Section 3.0 - An Overview of the Pre-Installation Process

Pre-installation is a co-operative effort between the customer/purchaser and GE Healthcare (GEHC). Complete the checklists contained in this manual. They are an important part of the pre-installation process. The checklists summarize the required preparations and verify the completion of the pre-installation procedures.

[Figure 1-1](#) outlines the information in this document and its place in the pre-installation process.

Chapter 2 - -
Room
Requirements

Chapter 5 - -
Product
Characteristics
Chapter 6 - -
Room Layout

Chapter 3 - -
Planning
Electrical

Chapter 4 - -
System Facility
Power &

Chapter 7 - -
Planning Aids

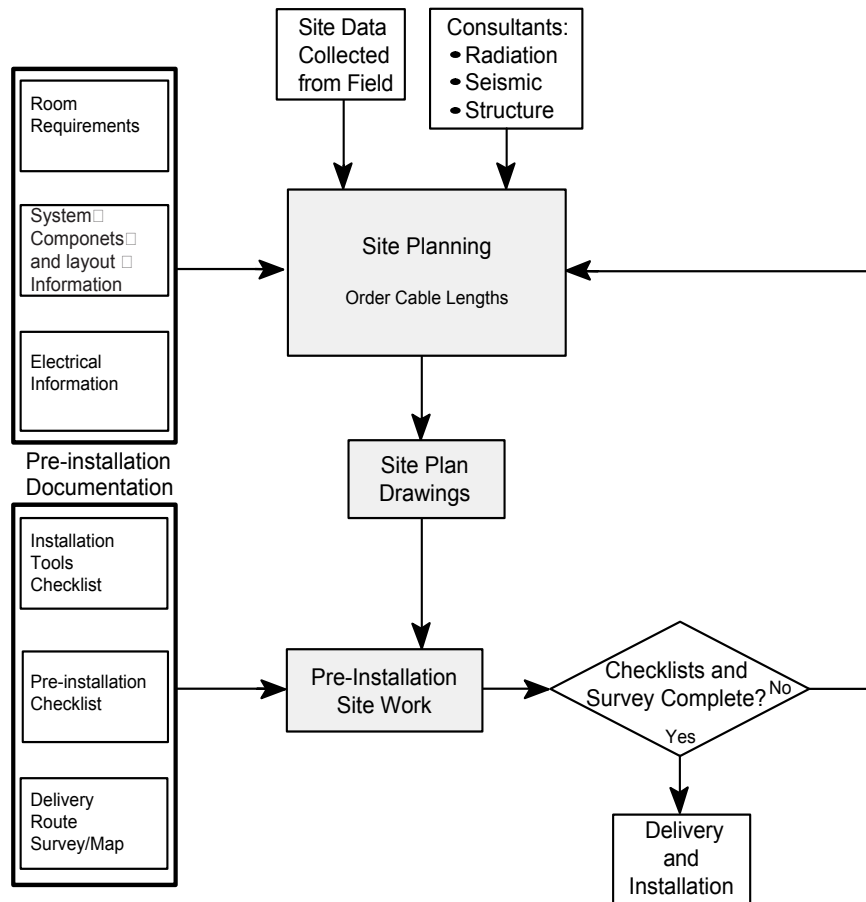


Figure 1-1 Pre-Installation Overview

Section 4.0 - Responsibility of Purchaser/Customer

To ensure that the installation of a Definium 8000 system meets the purchaser or Customer expectations, it is important to determine who will take responsibility for various items in the course of the system installation process. To aid you in determining these responsibilities, review the following checklists with the customer and assign responsibilities as appropriate:

- Tools and Equipment Checklist (see [page 117](#))
- Site Readiness Checklist (see [page 129](#))
- Networkflow Audit Checklist (see [page 119](#))

Section 5.0 - Contract Changes

Be sure to inform the customer that the cost of any alterations or modifications not specified in the sales contract are the responsibility of the customer.

Section 6.0 - Responsibilities of the Purchaser

The purchaser is responsible for completion of “Pre-Installation”. This includes the procurement and installation of all required materials and services to get the room ready for installation of the product. This responsibility includes providing:

- A clean and safe work environment for installation of the product (finished floor, ceiling, walls, and proper room lighting).
- A location suitable for the installation of the product. See [Chapter 2 - - Room Requirements](#).
 - Suitable support structures in the floor, walls, or ceiling necessary for the mounting of the product and/or its components.
 - Installation of conduit, ducts and/or raceways necessary to route cables safely. See [Chapter 4 - - System Facility Power & Grounds](#) and [Chapter 5 - - Product Characteristics](#).
 - Electrical power and grounds of specified quality and reliability. See [Chapter 4 - - System Facility Power & Grounds](#).
 - * Electrical power of the required voltage, including an Emergency-Off safety switch in the room. Power and ground cables to the PDU.
 - * Properly installed and sized junction boxes, including covers and fittings at locations required and called out in architectural drawings.
 - * Use GE-recommended wires and cables as defined in this document.
- A location suitable for operation of the product. See [Chapter 6 - - Room Layout](#).
- Installation of non-electric services.

Section 7.0 - What You Will Receive (System Components)

The Definium 8000 system may consist of the following main components (see [Figure 1-2](#), [Table 1-1](#), and [Table 1-2](#)):

- Elevating Table with Digital Detector, Conditioner and Power Supply
- Digital Imaging, JEDI X-ray Control sub-system and Power Unit (1 System Cabinet)
- Overhead Tube Support (OTS)
- Digital Detector Wall Stand with tilting receptor, AEC and removable grid
- Workstation with 2 Monitors, Keyboard, Mouse, RCIM, and Bar Code Reader

The Definium 8000 system can include the following free standing components, which can be purchased as options (see [Figure 1-3](#)):

- Extended Wall Stand Stretcher
- Patient Barrier (included with the Image Pasting option)
- Weight Bearing Rolling Stand

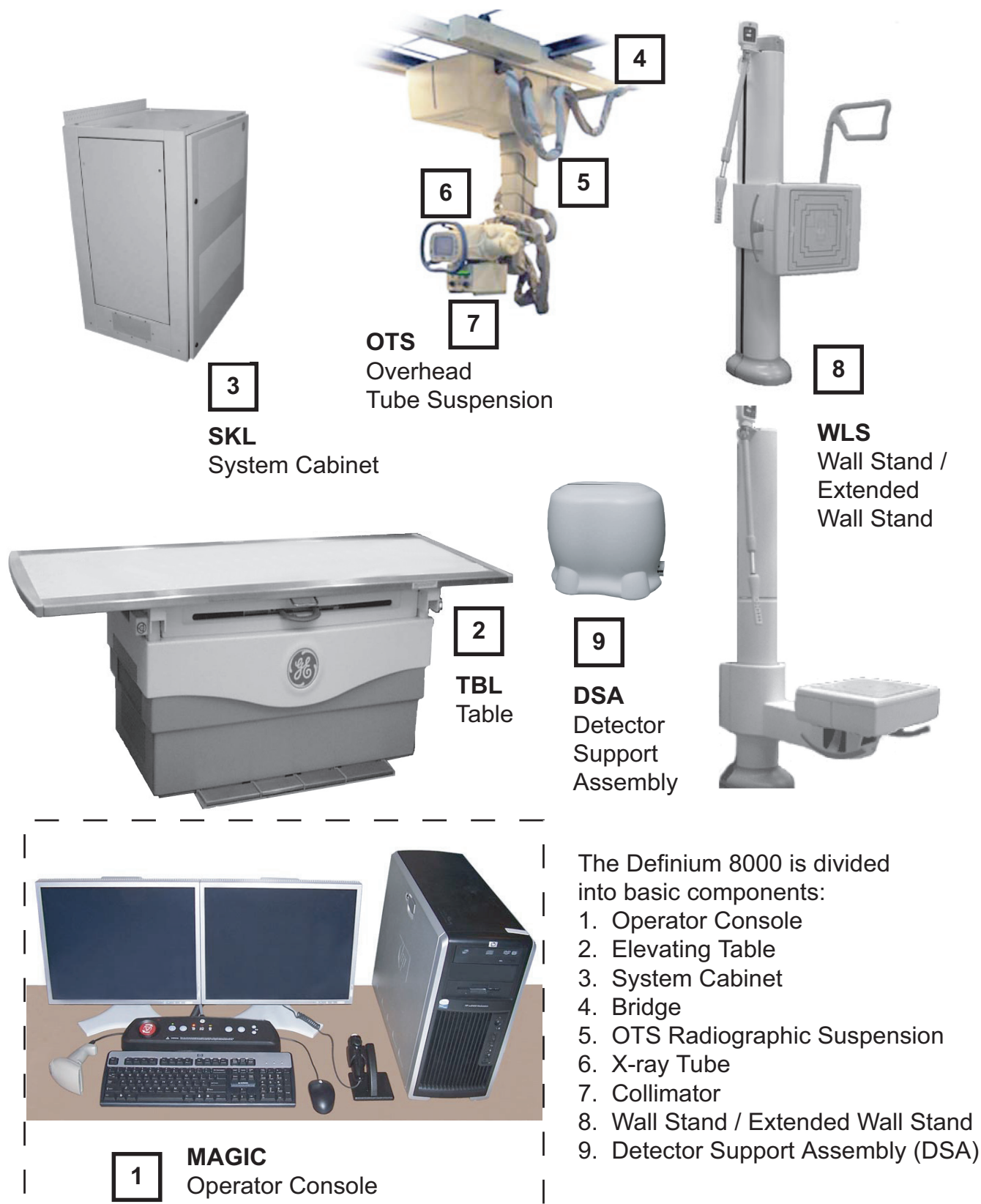
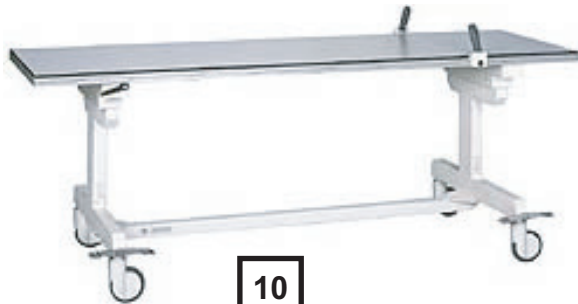


Figure 1-2 Definium 8000 System Component Identification



10

Non-elevating Stretcher

Image Pasting Barrier



12



11

Elevating Stretcher



13

Weight Bearing Rolling Stand

- Optional Definium 8000 Accessories:
- 10. Non-elevating Stretcher (E6401J)
 - 11. Elevating Stretcher (S1200SY)
 - 12. Imaging Pasting Barrier (S1200RD/RE/RF)
 - 13. Weight Bearing Rolling Stand (E7061A)

Figure 1-3 Definium 8000 System Component Identification - Optional Accessories

Item	Component	Model Number
1	Operator Console <ul style="list-style-type: none"> Magic PC and Mouse LCD Monitors (2) RCIM or RCIM2 Keyboard Bar Code Reader 	<ul style="list-style-type: none"> 5117866-27 or 5261130 (xw8200) 5183547-28 or 5261133 (xw8400) 5272650 (xw6400) 5169069 (silver) or 5169069-2 (black) 2383880 or 5270661 5270661-2 (China only) 2275756 (white) or 5183547-4 (black) 2399877
2	Table Table Top	5131070 2382307
3	System Cabinet	5128145
3a	JEDI Generator, 65, 80 kW	Jedi 80 RD 1T
4	Bridge	5127305
5	OTS - Overhead Tube Suspension	5135678 or 5135678-2
6a	MX 100-09 X-ray Tube Casing	46-155400G46 or 46-155400G285
6b	Maxiray 100 X-ray Tube Insert; Focal Spots 0.6 - 1.25; 12.5°	2336058 or 46-155318G33
7	Beam Limiting Device (Collimator)	2266999 or 5234954
8a	Wall Stand	5141608
8b	Extended Wall Stand	5141608-2
9	Detector Support Assembly	5137888
10	Non-elevating Stretcher Accessory (Americas-only)	E6401J
11	Elevating Stretcher Accessory	S1200SY
12	Image Pasting Barrier (option)	5134183
13	Weight Bearing Rolling Stand (option)	E7601A

Table 1-1 Definium 8000 System Component Identification

Section 8.0 - HHS Compliance Compatibility List

Product Category	Product Description	Model Number
Master X-ray Control - Console	Magic PC	<ul style="list-style-type: none"> HP Workstation xw8200 HP Workstation xw8400 HP Workstation xw6400
Generator	JEDI Generator	Jedi 80 RD 1T
		46-155400G46
		or
X-ray Tube Housing (Casing)	MX-100	46-155400G285
Beam Limiting Device (Collimator)	AL01C Auto Collimator or AL01CII Auto Collimator	2266999 or 5234954
Table	Table	5131070
Wall Stand	Wall Stand	5141608
Extended Wall Stand	Extended Wall Stand	5141608-2
Table - Extended Wall Stand Stretcher (optional)	Stretcher	<ul style="list-style-type: none"> E6401J - non-elevating S1200SY - elevating

Table 1-2 HHS Compliance Compatibility List

The OTS console (UIF) is not a certified component. However, it is HHS sensitive. Refer to the service manual for replacement procedure.

Note: For systems with an HP Workstation xw8200 or xw8400, the Magic PC part number 5261130 or 5261133 Manufactured On or After August 17, 2007 is the Master X-ray Control - Console. For all previous system configurations, the Jedi Generator is the Master Control

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Chapter 2 - Room Requirements

Section 1.0 - Environmental Requirements

1.1 Relative Humidity and Temperature

Product and/ or Component	RELATIVE HUMIDITY (Non-Condensing)				TEMPERATURE			
	IN-USE		STORAGE		IN-USE		STORAGE	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
Digital Detector	10%	70%	5%	80%	50° F (10° C)	95° F (35° C)	41° F (5° C)	113° F (45° C)
Wall Stand / Extended Wall Stand	20%	80%	5%	95%	50° F (10° C)	104° F (40° C)	-40° F (-40° C)	158° F (70° C)
Table (TBL)	20%	85%	20%	95%	50° F (10° C)	104° F (40° C)	0° F (-18° C)	158° F (70° C)
Stretcher (optional):								
• Non-elevating	20%	95%	20%	95%	50 F (10 C)	104 F (40 C)	0 F (-18 C)	158F (70 C)
• Elevating	20%	85%	10%	95%	50 F (10 C)	104 F (40 C)	-4 F (-20 C)	158 F (70 C)
OTS	20%	85%	20%	95%	50° F (10° C)	104° F (40° C)	0° F (-18° C)	158° F (70° C)
System Cabinet (SKL1)	20%	80%	5%	95%	59° F (15° C)	95° F (35° C)	-40° F (-40° C)	158° F (70° C)
Maxiray 100-09 X-ray Tube (RAD)	-	-	-	-	0	104° F (40° C)	-20° F (-29° C)	104° F (40° C)
Operator Console:								
• PC Tower	8%	85%	8%	90%	40° F (5° C)	95° F (35° C)	-40° F (-40° C)	140° F (60° C)
• LCD Monitor	30%	80%	10%	85%	41° F (5° C)	95° F (35° C)	-14° F (-10° C)	140° F (60° C)

Table 2-1 Environmental Requirements (Relative Humidity & Temperature)

Limits for rates of change:

In-Use

Storage

< 10 degree C / hour

< 20 degree C / hour

< 30% / hour

< 30% / hour

Note: STORAGE values only refer to equipment that is still in shipping containers. If the equipment is partially or completely installed, refer to IN-USE values.

1.2 Atmospheric Pressure

Product or Component	ATMOSPHERIC PRESSURE			
	IN-USE		STORAGE	
	MIN.	MAX.	MIN.	MAX.
Digital Detector	70 kPa	102.5 kPa	70 kPa	102.5 kPa
Digital Support Assy. (DSA)	70 kPa	102.5 kPa	11.5 kPa	106.2 kPa
Wall Stand / Extended Wall Stand (WLS)	70 kPa	106 kPa	12 kPa	106 kPa
Table (TBL)	69 kPa	106 kPa	48 kPa	106 kPa
Stretchers (optional):				
• Non-elevating	69 kPa	106 kPa	48 kPa	106 kPa
• Elevating	70 kPa	130 kPa	70 kPa	130 kPa
Overhead Tube Suspension (OTS)	69 kPa	106 kPa	48 kPa	106 kPa
System Cabinet (SKL)	70 kPa	101.7 kPa	11.5 kPa	101.7 kPa
Operator Console:				
• PC Tower	71 kPa	101.3 kPa	35 kPa	101.3 kPa
• LCD Monitor	58 kPa	101.3 kPa	21 kPa	101.3 kPa
Total System Limits	71 kPa	101.3 kPa	70 kPa	101.3 kPa

Table 2-2 Environmental Requirements - (Altitude & Atmospheric Pressure)

Limits for rates of change:

In-Use	Storage
< 1.8 hPa / hour	< 76 hPa / hour

Note: STORAGE values only refer to equipment that is still in shipping containers. If the equipment is partially or completely installed, refer to IN-USE values.

1.3 Heat Output

The continuous and peak power consumption of this system is as follows:

- 4.3 kW Continuous Power
- 9 kW Peak Power (Duration is 22 seconds maximum)

Heat dissipation by X-ray tube not included.

PRODUCT OR COMPONENT	HEAT OUTPUT (BTU/hr.)	
	STANDBY	IN-USE
Wall Stand / Extended Wall Stand total (conditioner + power supply + detector)	820 BTU/h (0.20 kW)	7170 BTU/h (2.10 kW)
Table total (conditioner + power supply + detector)	1100 BTU/h (0.32 kW)	7450 BTU/h (2.18 kW)
OTS & Collimator	500 BTU/h (0.15 kW)	1500 BTU/h (0.44 kW)
System Cabinet	1100 BTU/h (0.32 kW)	7450 BTU/h (2.18 kW)
Operator Console:		
PC Tower	1207 BTU/h (0.35 kW)	3151 BTU/h (0.92 kW)
LCD Monitors (2)	14 BTU/h [each] (0.004 kW)	390 BTU/h [each] (0.12 kW)
Total System Output	4755 BTU/h (1.39 kW)	27501 BTU/h (8.05 kW)

Table 2-3 Heat Outputs by Component

1.4 Acoustic Output

COMPONENT	SOUND OUTPUT (dBA)	
	IN-USE (measured 1m from any point in system)	STAND-BY (measured 1m from any point in system)
System	<60	<55

Table 2-4 Definium 8000 Acoustic Output

1.5 Light Specification

The monitor screens are adjusted for an optimum ambient light level of 50 lux.

1.6 Radiation Protection

Because X-ray equipment produces radiation, special precautions may need to be taken or special site modifications may be required. The General Electric Company does not make recommendations regarding radiation protection. It is the purchasers responsibility to consult a radiation physicist for advice on radiation protection in X-ray rooms.

Section 2.0 - Structural Requirements

2.1 Door Size Requirements

Minimum door sizes also apply to hallway and elevator. [See Chapter 5 “- Product Characteristics” on page 53.](#), for additional details.

Door Height: The minimum door height to accommodate the Wall Stand on its dolly is 186 cm (73 in).

Door Width:

- The minimum door width to accommodate the Table is: 110 cm (44 in) [crated] or 94 cm (37 in) [uncrated].
- The minimum door width is calculated based on a straight-in approach requiring a 2.5 m (8 ft) wide corridor. Minimum widths will change based on narrower corridors.

2.2 Floor Requirements

The preferred method of installing the table is to use the provided floor anchors.

2.2.1 Floor Requirements when using provided Floor Anchors

⚠ CAUTION

Potential for Injury and/or Equipment Damage: Anchors must be a minimum of 150 mm from any concrete edge including ducts and cracks. In addition, the general condition of the concrete in the immediate mounting area should be inspected to ensure that anchors will be set in good quality concrete.

2.2.1.1 Table

The Table Assembly is placed on the floor, which must accept the weight and the weight/area defined in [Chapter 5](#), Section 3.1.

- The weight of the complete table is 480 kg (1058 lb.).
- The ground surface must be approximately level.
- The Definium 8000 Table system must be attached to the floor.

The floor bearing the Definium 8000 system must be concrete and the thickness to be determined by a Structural Engineer to properly support the equipment loads. The supplied anchors require a minimum embedment of 80 mm (3.15 in.) into the concrete. If the floor thickness is less than 4 inches, it is recommended that the unit be secured using a through-bolt method with a reinforcement plate on the back side. For additional details, see [Chapter 5](#), Section 3.1 - [Floor / Ceiling Loading and Recommended Mounting Methods](#).

2.2.1.2 Flexi-DT Stretcher

If the Flexi-DT Stretcher option has been purchased, the floor where the stretcher is to be installed must be flat and with a minimum thickness of 150 mm to enable lodgings installation.

2.2.2 Pan-Type Floor Construction Requirement

For pan-type floor construction, steel channels must be designed by a local structural engineer to span floor joists. See [Figure 2-1](#).

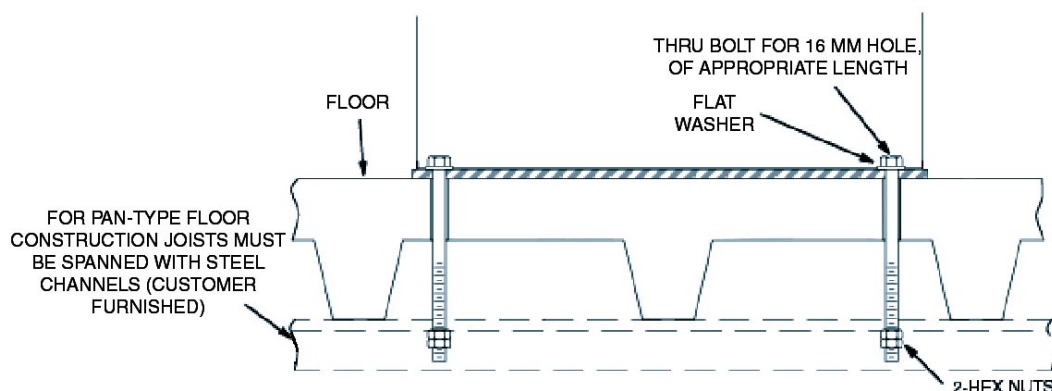


Figure 2-1 Thru-Bolt Floor Mounting (Pan-Type Floor Construction)

2.3 Ceiling Requirements

Note:

- To allow installation of the stationary rail cross-members, clearance is required between the ends of the stationary rails and the walls. Refer to [Figure 2-4](#).
- It is recommended that sprinkler heads not be placed between the stationary rails. All sprinkler heads should be mounted so they do not extend downward more than 1/4" from the ceiling while in the 'resting' position.
- In addition, there should not be anything mounted in the ceiling (i.e. lights, A/C returns, etc) between the stationary rails. This is because the OTS longitudinal drive belt assembly is located on the movable bridge, approximately centered between the two stationary rails, and may come into contact with those ceiling-mounted items during normal use. Refer to [Figure 2-4](#).

Stationary rails are designed for top (ceiling) mounting. Rails can be ordered and are supplied in 4 inch (10.2 cm) increments between 134 inches (3.4 m) and 222 inches (5.64 m), plus a 228 inch (5.79 m) length totaling 24 different sizes. The choice of length depends on room size, configuration and the possible presence of obstructions. Complete details of room dimensions must be known when planning an installation. Work with the architect or building engineer and obtain approval from the customer before proceeding with the layout plan. Methods of support that will permit attachment to structural steel or through bolts in concrete construction should be favored. Do not use anchors in direct tension. Each rail has mounting holes on 26 inches (66 cm) centers with the first hole located 2 inches (5.1 cm) from the rail end. The last hole is located either 2 inches (5.1 cm) or 4 inches (10.2 cm) from the other end with a variable space of less than 26 inches (66 cm) between it and the second last hole.

Specifications	Ceiling
Recommended	2900 mm (114 in.)
Minimum	2692 mm (106 in.)

Table 2-5 Recommended and Minimum Room Height



Potential for Injury and/or Equipment Damage:

Rails are mounted on 1/2 inches (12.7 mm) bolts. Maximum load per bolt is 350 lbs. (159 kg); however, each mounting bolt must not “pull-out” or otherwise fail under a vertically downward “dead” load of 1,400 lbs. (636 kg).

Referring to the layout drawings, the +/- 1/8 inches (3 mm) requirement for parallelism of the stationary rail is critical. Therefore, great care must be exercised in locating the mounting points. [Figure 2-2](#) and [Figure 2-3](#) outline requirements that the stationary rail mounting interface must meet. For low ceiling height, the stationary rails may be mounted directly to the ceiling slab or to flush-mounted Unistrut or similar structure. For higher rooms in which a false ceiling is to be used, the stationary rails may be attached to rigid vertical members hung from the ceiling slab. A supplementary channel may be secured to the bottom of the vertical members to facilitate provision for mounting holes. A Unistrut system or equivalent is a convenient type of support to employ. Refer to [Figure 2-3](#).

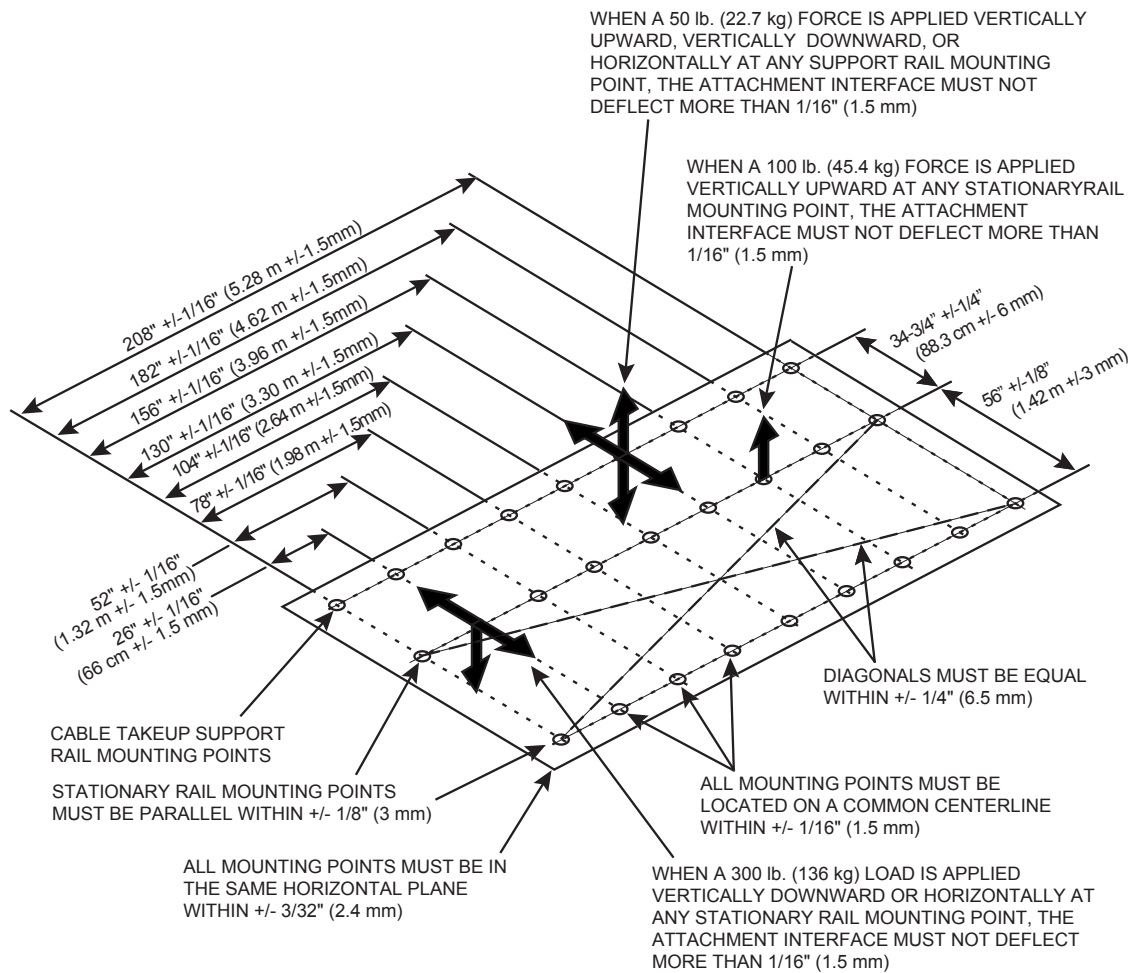
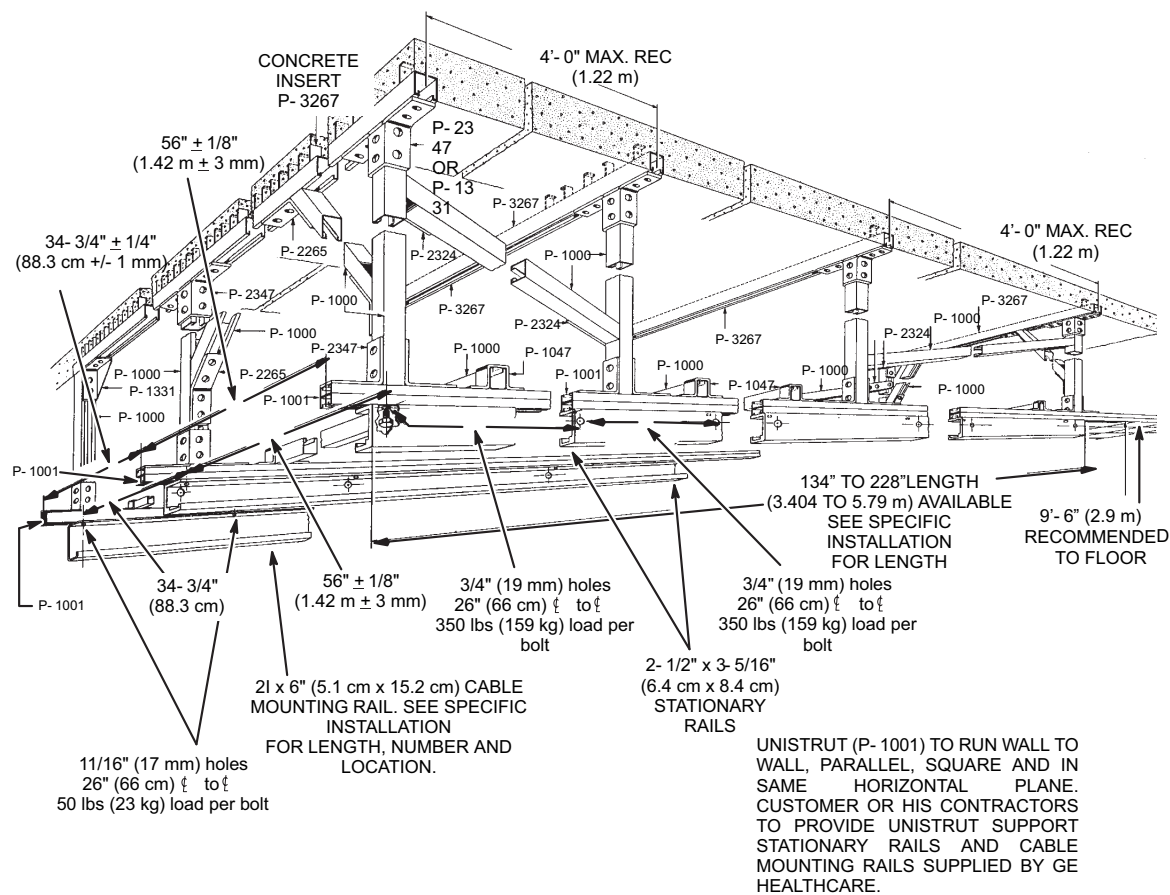


Figure 2-2 Specifications for a Typical 17 foot-10 inch (5.44 m) Stationary Rail Mounting Interface (Both Rails Ceiling Mounted)



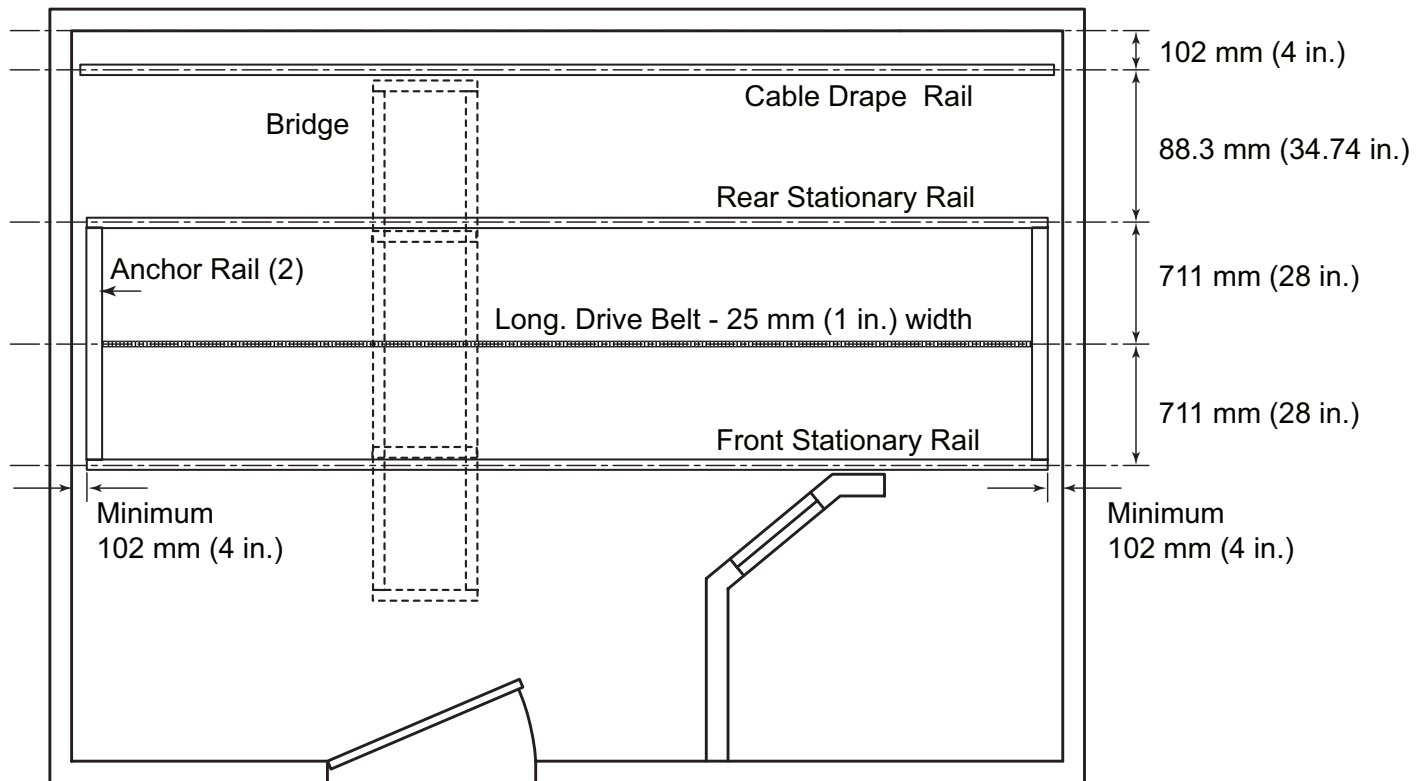


Figure 2-4 Stationary Rail Mounting Locations and Clearances

2.3.1 Wall Requirements

In addition to providing wall space for the System Cabinet, a 1 meter (3 ft) space must be available within the exam room to hang the image quality phantom carrier/grid holder.

2.3.2 Seismic Requirements

For seismic calculations and seismic anchoring methods (slab-on-grade and upper floor), [See Chapter 9 “- Seismic Calculations” on page 139.](#)

2.3.3 Service Access Requirements

Allow appropriate space for service access of equipment, per country and regional requirements. For additional details, [See Section 2.0 “- Service Access” on page 83.](#)

Chapter 3 - Planning Electrical Connections

Section 1.0 - Routing Cables

1.1 General

High voltage and power cables must be separated from other cables. Use a separate trough in the duct system, or use a separate conduit. Minimize cable length between the line disconnect and the System Cabinet power unit to reduce voltage regulation problems and wiring costs.

For information about the cables supplied with your system, please refer to [Chapter 8 - - System Cable Information](#).

1.2 Conduit

Separate conduits must be used for power and signal wires. These wires must be kept separated from each other. Using conduit imposes some important considerations when used with this system. Of primary concern, the majority of cables used are pre-terminated. Pre-termination greatly simplifies interconnection but makes cable-pulling difficult because of the added dimensions of the connectors.

Conduit must be large enough to pass the cable and connector through with all other cables already in the conduit. Also, the size of conduit chosen must allow for future growth. There is the possibility of additional cables being added later as the system is developed and options are added.

The use of conduit is recommended for cables running overhead between rooms, especially when a diagonal run provides the shortest cable path.

1.3 Electrical Ducts

It's important that electrical ducts have separate compartments for power and signal wires. These wires must be kept separated from each other for proper system operation.

Electrical ducts have advantages, when used with a single room or two adjacent rooms. Electrical ducts combine cabling in a neat and functional appearance, with accessibility and room for expansion.

1.4 Power Distribution

Definium 8000 system power distribution consists of two major components that must either be customer supplied or GE Healthcare supplied. These are:

- Feeder power from Hospital distribution center to the Definium 8000 System Cabinet load power unit (SKL).
- Feeder power must be provided via a WYE transformer only with dedicated ground. Neutral is not used.
- Power distribution from the Definium 8000 System Cabinet load power unit (SKL) to all the components in the Definium 8000 system room.

Usually the feeder power from the Hospital distribution center is customer supplied and the power distribution within the Definium 8000 system is supplied by GEHC.

Note: Additional Reference Material Exists: For hospital facility feeder power and ground requirements to the Definium 8000 system power unit, refer to: [Chapter 4 - - System Facility Power & Grounds](#). For Definium 8000 system power distribution from the System Cabinet power unit, refer to Definium 8000 MIS Map, Direction 5137438-100, *Definium 8000 System Drawings (Schematics, MIS Map, MIS Charts)*. This information is also present in this manual; see [Chapter 8 - - System Cable Information](#).

Section 2.0 - Hospital Network and Phone Connections

2.1 Broadband Network Connection

Definium 8000 systems are equipped with Broadband fast Ethernet hardware for Service diagnostics. Definium 8000 systems equipped with Digital Imaging are capable of placing electronic images on the Hospital image Ethernet Network. It is the purchasers responsibility to provide the Ethernet connection (rated at 100Mb/sec transfer rate for optimal performance) within 3 feet (0.91 meters) of the Operator Console. If a Broadband connection is not used, customer must provide a dedicated telephone connection within 3 feet (0.91 meters) of the Operator Console for use with a modem.

The network connection is made at the Operator Console.

- 100BaseT network connection is preferred
- 10BaseT network connection is acceptable

Note: If using GE PACS LITE BOX software, the GE PACS LITE BOX software revision must be 6.1d02 or greater. Older versions will not work with the Definium 8000 system.

For DICOM information, refer to: Definium 8000 DICOM Conformance Statement, Direction 5137440-100.

2.2 Phone Line(s) - Voice and Optional Modem

Phone line(s) must be installed within 3 feet (0.91 meters) of the Operator Console and be operational prior to installation.

- One (1) voice line
- One (1) analog line (for modem use if broadband connection is not present)

2.3 Remote Service Broadband Pre-Installation Requirements for Europe

- To enable an easier installation and to benefit from remote support (service and engineering teams), equipment should be Insite connected at installation.
- Thus, the connectivity solution to implement should be decided during pre-installation and all related data should be available before installation starts.
- For all installations, make sure that you have at least one RJ45 dedicated to connect the new equipment on the LAN. In case of Broadband, this connection will also be used for the remote service of the equipment.
- GEHC offers a wide range of connectivity solutions: From full GE packages (GE supplies Router and customer buys the line) to customized solutions (GE adapts to customer infrastructure).
- Network devices (like CISCO Routers for instance) can be shipped with the equipment only if the Sales Representative has added the connectivity item in the order.
- For complete descriptions of these connectivity solutions, please refer to the Broadband Solutions catalogue available through your local GEHC sales and service representative.
- Connectivity Process and pre-installation checklist are available in the Broadband Connectivity PIM. Available through your local GEHC sales and service representative.
- For each solution selected by the customer the pre-installation checklist must be fulfilled by site IT manager in order to get connectivity information (site IT manager contacts, IP address...) available at installation.
- In case Broadband is not available: Modem
 - A dedicated phone line using a RJ11 (34600 bauds) used only for the connection to a modem must be located at 1 m maximum from the operator console.
 - This line will be a direct standard phone line.

Section 3.0 - Master Interconnect System (MIS)

System interconnect cables are described in MIS (Master Interconnect System) documents shipped with the system. These documents specify all interconnections between components within the system and its options.

Note: Additional Reference Material Exists

For specific Definium 8000 system interconnect maps and connection details, please refer to the following Service Manual: Direction 5137438-100, *Definium 8000 System Drawings (Schematics, MIS Map, MIS Charts)*. This information is also present in this manual; see [Chapter 8 - - System Cable Information](#).

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Chapter 4 - System Facility Power & Grounds

Section 1.0 - Introduction

The purpose of this chapter is to ensure that the product is properly powered and grounded, thus ensuring the proper operation of the product installed. The information in this chapter should be adhered to, unless there are written deviations approved by GE Healthcare.

This chapter gives the sizes and procedures on how to power and ground your system. If these power and grounding instructions are not adhered to, proper operation cannot be guaranteed. Any cost associated and found to be a result of non-conformity, as stated in this chapter, may result in additional cost charged back to the institution and/or their contractor.

NOTICE

All Definium 8000 system and sub-system power connections shall be made ONLY to power outlets that are connected to the Definium 8000 system.

All Definium 8000 system component power connections must be made in accordance with the Definium 8000 MIS Map, Direction 5137438-100, *Definium 8000 System Drawings (Schematics, MIS Map, MIS Charts)*. This information is also present in this manual; see [Chapter 8 - - System Cable Information](#).

1.1 Power Quality

The electrical power, from its origination to the system, must adhere to the wire size and transformer sizes as prescribed in the installation drawings. The feeder voltage-drops, as well as the supplying power, must be within the given parameters. Sizing for feeder is usually calculated for a maximum of 2% voltage drop at the minimum voltage range. The actual feeder sizing may vary from the installation drawing for a facilities voltage.

Calculate feeder losses before you begin. Total feeder losses must be calculated to ensure that the losses are less than those specified in the installation drawings. Calculating the recommended minimum transformer sizing for feeding a system ensures the transformer losses are less than half of the maximum regulation for the system.

Regulation is the calculated voltage losses for the entire power distribution system (No-Load Voltage minus Full-Load Voltage) divided by the no-load voltage minus the system losses (Full-Load Voltage):

$$\text{Regulation} = \frac{\text{NoLoadVoltage} - \text{FullLoadVoltage}}{\text{FullLoadVoltage}} \times 100$$

In the X-ray room, there must be a lockable facility power disconnect. It must be installed electrically before the equipment, for the purpose of locking out the power. This must be done before service to the high voltage system is performed.

1.2 Electrical Requirements

All system components obtain their power from the Power Distribution Unit (PDU) in the System Cabinet. **Providing power and ground wires to the PDU are the responsibility of the customer.** As an aid, wire sizes for various lengths of the power supply cable are shown in the following tables.

1.2.1 Generator Electrical Requirements

Note: Shunt trip circuit breaker required.

The main circuit breaker supplied by the customer must be sized in accordance to local regulations and have remote (shunt) trip.

1.2.1.1 Generator Power Specifications

Input Voltage	380/400/415/440/460/480 VAC Wye 3-Phase and ground without neutral																				
Daily Voltage variations	+/- 10% (VAC) In this range, the generator will operate without any de-rating in accuracy.																				
Nominal line frequency (Hz)	50 Hz / 60 Hz																				
Daily frequency variation (Hz)	+/- 3%																				
Line Impedance	<p>The apparent line impedance guaranteed by the customer should be equal or less than the values indicated below, according to the voltage value and the commercial power of the generator.</p> <p>Voltage range (V) Line Impedance (ohms)</p> <table><tr><th><u>3 phase</u></th><th><u>65KW</u></th><th><u>80KW</u></th></tr><tr><td>380</td><td>0.118</td><td>0.096</td></tr><tr><td>400</td><td>0.131</td><td>0.100</td></tr><tr><td>415</td><td>0.138</td><td>0.113</td></tr><tr><td>440</td><td>0.154</td><td>0.125</td></tr><tr><td>480</td><td>0.185</td><td>0.150</td></tr></table> <p>Note: 400-480 VAC impedance values are based on IEC 601-2-7 standard. Values are interpolated from values in standard.</p>			<u>3 phase</u>	<u>65KW</u>	<u>80KW</u>	380	0.118	0.096	400	0.131	0.100	415	0.138	0.113	440	0.154	0.125	480	0.185	0.150
<u>3 phase</u>	<u>65KW</u>	<u>80KW</u>																			
380	0.118	0.096																			
400	0.131	0.100																			
415	0.138	0.113																			
440	0.154	0.125																			
480	0.185	0.150																			
Inrush current	1000 Amps																				
HV cable type	USA: 22mm DSI (<= 165 pF/m) HV cable connector = Federal standard																				
Ground wire	Same as power cable																				

Table 4-1 Generator Power Specifications - JEDI

1.2.1.2 65kW Generator Wire Sizes & kVA Load Characteristics

- Calculations based upon nominal voltage, wire size in AWG. To convert AWG wire size to mm², refer to [Table 4-2](#).
- Recommended feeder sizes from distribution transformer to the power cabinet.
- Neutral must be terminated inside the main disconnect panel and not at any GE cabinet.
- The grounding conductor () will be of same size as the feeder wires with a 1/0 minimum. This ground will run from equipment back to the facility power source / main grounding point and always travel in the same conduit with the feeders and neutral.
- * minimum wire size for circuit breaker, based on recommended overcurrent protection.

American Wire Gauge (AWG)	Diameter (inches)	Diameter (mm)	Cross Sectional Area (mm ²)
4	0.2043	5.19	21.14
3	0.2294	5.83	26.65
2	0.2576	6.54	33.61
1	0.2893	7.35	42.39
1/0	0.3249	8.25	53.46
2/0	0.3648	9.27	67.40
3/0	0.4096	10.40	84.97
4/0	0.46	11.68	107.16
250M	0.2472	6.28	124
300M	0.2799	7.11	159
350M	0.2929	7.44	174
400M	0.3142	7.98	200

Table 4-2 AWG Wire Size Conversion to mm² Size

Wire RUN Length	Input voltage (VAC)					
	342-418 380	360-440 400	373-456 420	396-484 440	414-506 460	432-528 480
15m (50 ft.)	* 4 (1/0)	* 4 (1/0)	* 4 (1/0)	* 4 (1/0)	* 4 (1/0)	* 4 (1/0)
30m (100 ft.)	3 (1/0)	* 4 (1/0)	* 4 (1/0)	* 4 (1/0)	* 4 (1/0)	* 4 (1/0)
46m (150 ft.)	2 (1/0)	2 (1/0)	2 (1/0)	3 (1/0)	3 (1/0)	4 (1/0)
61m (200 ft.)	1/0 (1/0)	1 (1/0)	1 (1/0)	2 (1/0)	2 (1/0)	2 (1/0)
77m (250 ft.)	2/0 (2/0)	2/0 (2/0)	1/0 (1/0)	1 (1/0)	1 (1/0)	1 (1/0)
92m (300 ft.)	3/0 (3/0)	2/0 (2/0)	2/0 (2/0)	1/0 (1/0)	1/0 (1/0)	1/0 (1/0)
107m (350 ft.)	4/0 (4/0)	3/0 (3/0)	3/0 (3/0)	2/0 (2/0)	2/0 (2/0)	1/0 (1/0)
122m (400 ft.)	250M (250M)	4/0 (4/0)	4/0 (4/0)	3/0 (3/0)	3/0 (3/0)	2/0 (2/0)
138m (450 ft.)	300M (300M)	250M (250M)	4/0 (4/0)	4/0 (4/0)	3/0 (3/0)	3/0 (3/0)

Table 4-3 JEDI Generator 3-Phase 65 kW - Minimum Wire Size

Item	Specification					
Phase	Three Phase					
Nominal line voltage (VAC)	380	400	420	440	460	480
Voltage range (VAC)	+/-10%	+/-10%	+/-10%	+/-10%	+/-10%	+/-10%
Momentary line current (Amps)	147	140	133	127	122	117
Continuous line current (Amps)	7	6.7	6.2	6	5.7	5.5
Power demand (kVA)	97	97	97	97	97	97
Line frequency (Hz)	47/53 Hz and 57/63 Hz					

Table 4-4 JEDI Generator 3-Phase 65 kW - kVA Load Characteristics

1.2.1.3 80kW Generator Wire Sizes & kVA Load Characteristics

- Calculations based upon nominal voltage, wire size in AWG. To convert AWG wire size to mm², refer to [Table 4-2](#).
- Recommended feeder sizes from distribution transformer to the power cabinet.
- Neutral must be terminated inside the main disconnect panel and not at any GE cabinet.
- The grounding conductor () will be of same size as the feeder wires with a 1/0 minimum. This ground will run from equipment back to the facility power source / main grounding point and always travel in the same conduit with the feeders and neutral.
- * minimum wire size for circuit breaker, based on recommended overcurrent protection.

WIRE RUN LENGTH	INPUT VOLTAGE (VAC)					
	342-418 380	360-440 400	373-456 420	396-484 440	414-506 460	432-528 480
15m (50 ft.)	* 2 (1/0)	* 2 (1/0)	* 2 (1/0)	* 2 (1/0)	* 2 (1/0)	* 2 (1/0)
30m (100 ft.)	* 2 (1/0)	* 2 (1/0)	* 2 (1/0)	* 2 (1/0)	* 2 (1/0)	* 2 (1/0)
46m (150 ft.)	1/0 (1/0)	1 (1/0)	1 (1/0)	* 2 (1/0)	* 2 (1/0)	* 2 (1/0)
61m (200 ft.)	2/0 (2/0)	2/0 (2/0)	1/0 (1/0)	1/0 (1/0)	1 (1/0)	1 (1/0)
77m (250 ft.)	3/0 (3/0)	3/0 (3/0)	2/0 (2/0)	2/0 (2/0)	1/0 (1/0)	1/0 (1/0)
92m (300 ft.)	4/0 (4/0)	4/0 (4/0)	3/0 (3/0)	3/0 (3/0)	2/0 (2/0)	2/0 (2/0)
107m (350 ft.)	300M (300M)	250M (250M)	4/0 (4/0)	4/0 (4/0)	3/0 (3/0)	3/0 (3/0)
122m (400 ft.)	350M (350M)	300M (300M)	250M (250M)	4/0 (4/0)	4/0 (4/0)	3/0 (3/0)
138m (450 ft.)	400M (400M)	350M (350M)	300M (300M)	250M (250M)	250M (250M)	4/0 (4/0)

Table 4-5 JEDI Generator 3-Phase 80 kW - Minimum Wire Size

Item	Specification					
Phase	Three Phase					
Nominal line voltage (VAC)	380	400	420	440	460	480
Voltage range (VAC)	+/-10%	+/-10%	+/-10%	+/-10%	+/-10%	+/-10%
Momentary line current (Amps)	190	180	170	163	156	150
Continuous line current (Amps)	7	6.7	6.2	6	5.7	5.5
Power demand (kVA)	125	125	125	125	125	125
Line frequency (Hz)	47/53 Hz and 57/63 Hz					

Table 4-6 JEDI Generator 3-Phase 80 kW - kVA Load Characteristics

1.2.2 Recommended Wall “Circuit-Breaker” Ratings

Power / Voltage	65 kW	80 kW
380 V	74 A / 600 V	95 A / 600 V
400 V	70 A / 600 V	90 A / 600 V
415 V	67 A / 600 V	85 A / 600 V
440 V	64 A / 600 V	82 A / 600 V
460 V	61 A / 600 V	78 A / 600 V
480 V	59 A / 600 V	75 A / 600 V

Table 4-7 Wall Breaker Parameter (Theoretical Current Values)

1.2.3 Wiring Electrical Power and Disconnects

This section provides additional data regarding power circuits the customer must provide, and internal electrical circuits necessary to supply the correct power to the Definium 8000 system. [Figure 4-1](#) shows the room power supply installed.

1.2.3.1 Room Power Supply

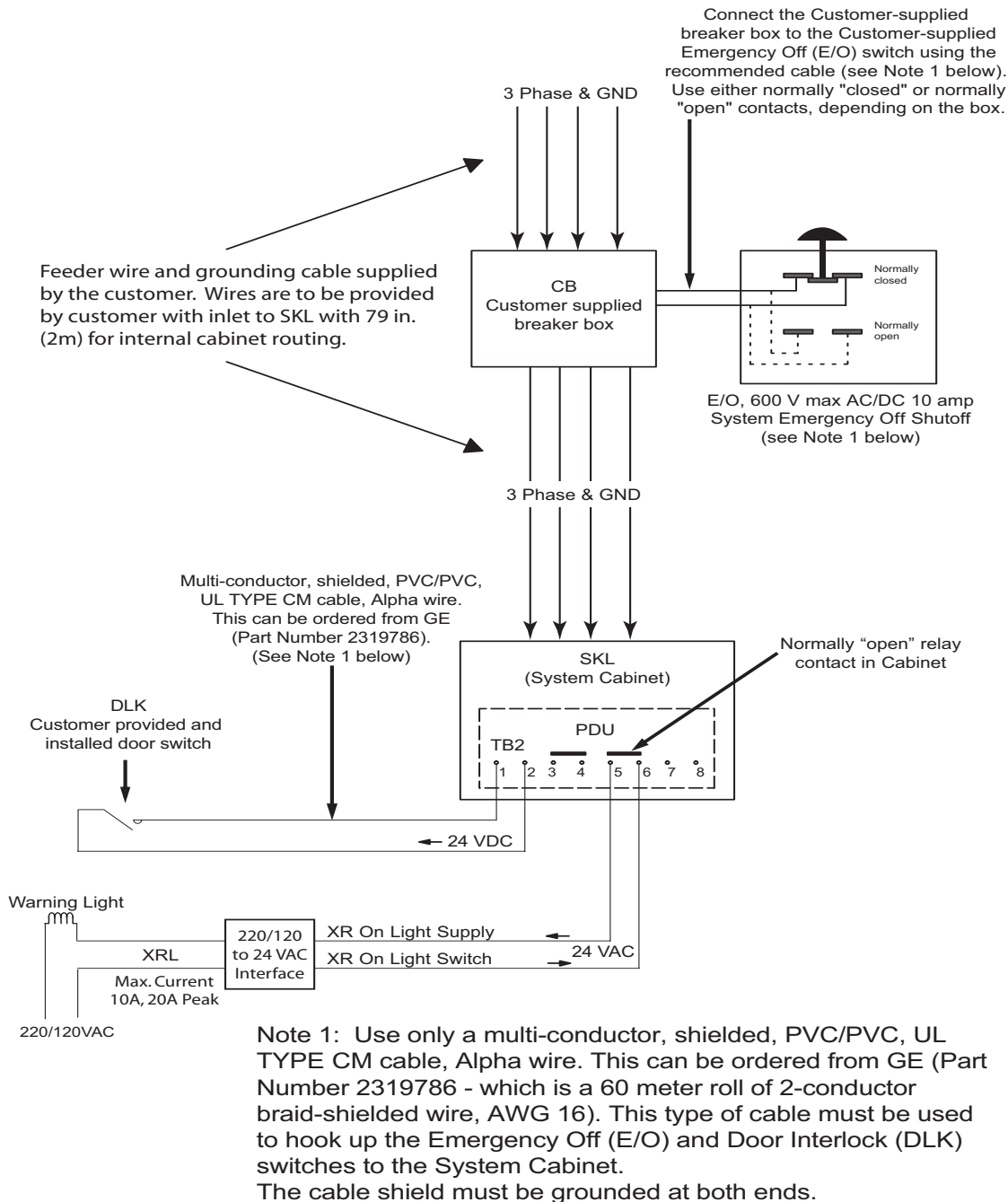


Figure 4-1 Room Power Supply (see [Table 4-8](#) for Legend)

Key for Figure 4-1 & Figure 4-2	Description
Feeder Wires and Grounding Cable	Feeder wire and grounding cable supplied by the customer. Wires are to be provided by customer with inlet to SKL with 2 meters for internal cabinet routing).
E/O (see Note below)	Emergency Off switch located near room access door. The switch is supplied by the Hospital. The recommended distance above the floor is 1.5 meters. Use only a multi-conductor, shielded cable to connect to System Cabinet.
XRL	Yellow X-ray emission indicator lamp above the room access door. 220 V in Europe/120 V in USA with 25 W max. bulb (per local regulations). Wires and light fixtures supplied by customer.
DLK (see Note below)	Open-door detector (per local regulations). SKL provides 24 VDC.
CB	Circuit breaker with remote trip (shunt) capabilities supplied by customer.

Note: Use only a multi-conductor, shielded, PVC/PVC, UL TYPE CM cable, Alpha wire. This can be ordered from GE (Part Number 2319786 - which is a 60 meter roll of 2-conductor braid-shielded wire, AWG 16). This type of cable must be used to hook up the Emergency Off (E/O) and Door Interlock (DLK) switches to the System Cabinet. The cable shield must be grounded at both ends.

Table 4-8 Legend for Figure 4-1 and Figure 4-2

1.2.3.2 Multiple Emergency “OFF” Switches

The facility designer determines the quantity and locations of the Emergency OFF (E/O) switches. GE recommends placing at least one Emergency OFF switch near the doorway of every room in the system scan suite.

Figure 4-2 shows how multiple emergency “OFF” switches could be wired.

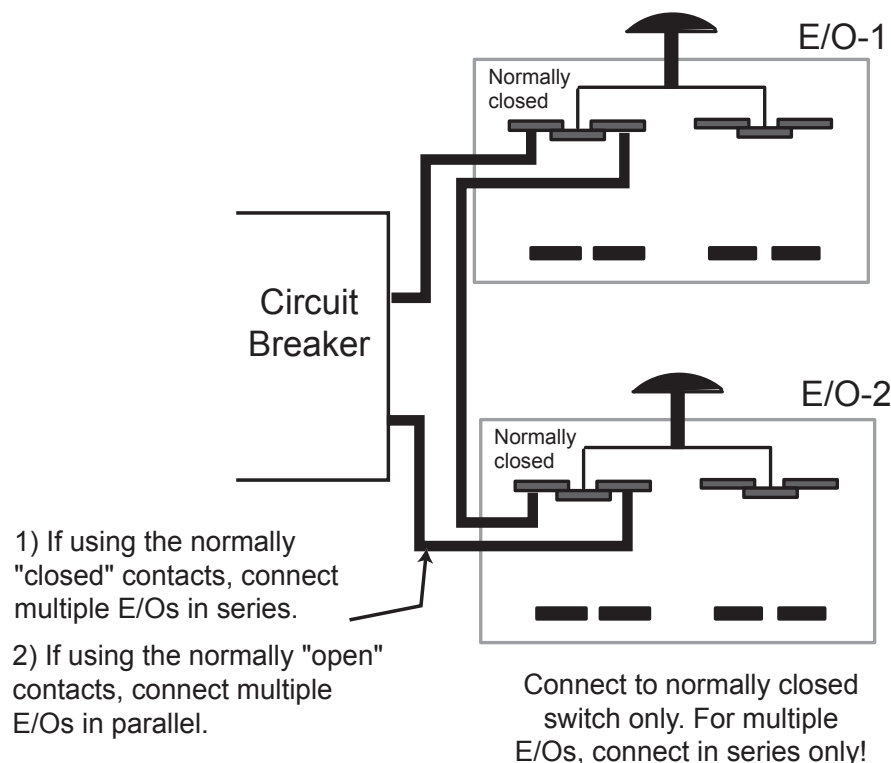


Figure 4-2 Wiring Multiple “Emergency OFF” (E/O) Switches

1.2.3.3 Customer-supplied Electrical Outlet

Customer must provide an electrical outlet of appropriate voltage rating within 3 feet (0.91 meters) of the System Cabinet.

Section 2.0 - Electrical Grounds

2.1 System and Facility Grounds

The ground for this system must originate at the system's power source and be continuous (i.e., transformer or first access point of power into a facility, and be continuous to the system power disconnect in the room). Ground connection at the power source must be at the grounding point of the "Neutral/Ground" of the "Wye" transformer. In the case of an external facility, it must be bonded to the facility ground point at the electrical service entrance.

The "system" ground can be spliced using "High Compression Fittings" but must be properly terminated at each distribution panel it passes through. When it is terminated, it must be connected into an approved grounding block. Incoming and outgoing grounds must terminate at this same grounding block. Grounds must only be terminated to approved grounding blocks. Grounds must never connect directly to the panels, frames or other materials in a cabinet or distribution panel.

2.2 Recommended Ground Wire Sizes

The ground wire must be copper and never smaller than 1/0 AWG (53.46 mm²).

Note: Additional Reference Material Exists

For general system grounding requirements and information on establishing an equi-potential grounding system, refer to:

- Direction 46-014505, *Electrical Safety - Equipment Grounding*
- Direction 46-014546, *Electrical Safety - Leakage Currents*

For specific system grounding requirements and information on establishing an equi-potential grounding system, refer to: [Chapter 4 - - System Facility Power & Grounds](#). For specific Definium 8000 system grounding maps and connection details, refer to Direction 5137438-100, *Definium 8000 System Drawings (Schematics, MIS Map, MIS Charts)*.

Additional cable information is present in this manual; see [Chapter 8 - - System Cable Information](#).

2.3 Final Checks, Before System Installation Can Begin

The customer must provide GE Healthcare or its representative (installation specialist) evidence that grounds and electrical power meet GE Healthcare's specifications.

Prior to product installation, a local service or installation specialist, to be determined by GEHC, will do a physical walk through of the exam suite to ensure the following:

- 1.) Ground wires are of the same size as the power feeder or AWG 1/0 (53.46 mm²), whichever is larger.
- 2.) Grounds at junction points are connected properly and securely to an approved ground bus.
- 3.) Grounds within an enclosure are tied together by copper wire or to an appropriate buss bar (i.e., separate buss bars within an enclosure must be tied together with copper wire of appropriate size).
- 4.) Grounds originate at the power source (i.e., transformer or entrance panel into facility).

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Chapter 5 - Product Characteristics

Section 1.0 - Overview

Refer to this section for dimensional drawings for the components of the Definium 8000 system. These components include:

- Operator Console - [Figure 5-2](#) through [Figure 5-4](#) and [Figure 5-1](#) (wall plate).
- Table (TBL) - [Figure 5-5](#) and [Figure 5-6](#).
- System Cabinet (SKL) - [Figure 5-8](#) through [Figure 5-11](#).
- Grid Holder - [Figure 5-12](#).
- Overhead Tube Suspension (OTS) - [Figure 5-13](#) through [Figure 5-17](#).
- Wall Stands (WLS), DSA and Stretchers - [Figure 5-18](#) through [Figure 5-26](#) and [Figure 5-27](#) (pin lodging).
- Image Pasting Barrier - [Figure 5-28](#) and [Figure 5-29](#) (drilling template).
- Weight-bearing Rolling Stand - [Figure 5-30](#).

Note: Drawings are not to scale. Dimensions are called out on each drawing.

Section 2.0 - System Components Dimensions and Weights

2.1 Dimensions

PRODUCT OR COMPONENT	DIMENSIONS			References
	Width	Depth	Height	
Operator Console:				
• PC Tower xw8200	210 mm (8.3 in)	525 mm (20.7 in)	455 mm (17.9 in)	See Figure 5-2 through Figure 5-4
• PC Tower xw8400	210 mm (8.3 in)	525 mm (20.7 in)	455 mm (17.9 in)	
• PC Tower xw6400	165 mm (6.5 in)	440 mm (17.32 in)	440.7 mm (17.35 in)	
• LCD Monitor	387 mm (15.2 in)	180 mm (7.1 in)	504 mm (19.9 in)	
• RCIM	451 mm (17.8 in)	135 mm (5.3 in)	70 mm (2.8 in)	
• RCIM2	404 mm (15.9 in)	101 mm (4.0 in)	78 mm (3.1 in)	
• Keyboard	460 mm (18.1 in)	165 mm (6.5 in)	50 mm (2 in)	
• Mouse	65 mm (2.6 in)	116 mm (4.6 in)	40 mm (1.6 in)	
Table Assembly	2250 mm (98.6 in)	938 mm (36.9 in)	575-820 mm (22.6-32.3 in) (for Table without jam sensor) 585-820 mm (23.0-32.3 in) (for Table with jam sensor)	See Figure 5-5, Figure 5-6, Figure 5-7
Stretchers (optional):				
• Non-elevating	2150 mm (84.7 in)	870 mm (34.25 in)	705 mm (27.75 in)	See Figure 5-25
• Elevating	2436 mm (95.9 in)	895 mm (35.24 in)	1010 mm (39.8 in) max.	See Figure 5-26
Stationary Rail (5.79 m) each	5.79 m (19 ft)	62.3 mm (2.45 in)	84.3 mm (3.32 in)	See Figure 5-13, Figure 5-14
3 Meter Bridge or	3060 mm (120.5 in)	655 mm (25.8 in)	158.7 mm (6.25 in)	See Figure 5-13
2 Meter Bridge	2122 mm (83.6 in)	655 mm (25.8 in)	158.7 mm (6.25 in)	
Overhead Tube Support Includes: carriage, covers, collimator, tube, and UIF	607 mm (24 in)	1016 mm (40 in)	889 mm (35 in)	See Figure 5-13
System Cabinet	907 mm (35.7 in)	748 mm (29.5 in)	1296 mm (51 in)	See Figure 5-8, Figure 5-10
Detector Support Assembly	622 mm (24.5 in)	416 mm (18.5 in)	526 mm (21.0 in)	See Figure 5-24
Grid Holder	544 mm (21.4 in)	237 mm (9.35 in)	599 mm (23.6 in)	See Figure 5-12
Wall Stand	860 mm (33.9 in)	650 mm (25.6 in)	2286 mm (90.0 in)	See Figure 5-18, Figure 5-19, Figure 5-20
Extended Wall Stand	860 mm (33.9 in)	1387 mm (54.61 in)	2286 mm (90.0 in)	See Figure 5-21, Figure 5-22, Figure 5-23
Image Pasting Barrier (option)	1517 mm (58 in)	718 mm (28.3 in)	2054 mm (80.9 in)	See Figure 5-28
Weight Bearing Rolling Stand	620 mm (24 in)	1397 mm (55 in)	1499 mm (59 in)	See Figure 5-30

Table 5-1 Product Physical Characteristics (Width / Depth / Height)

2.2 Dimensioned Figures and Drawings

2.2.1 Wall Plate

Note: The use of a wall plate and wall box is required with this system. The cables used with this system are terminated with connectors that can only be used with this specific wall plate.

The wall plate will fit best over a 10" x 10" x 4" wall box (installed by electrical contractor).

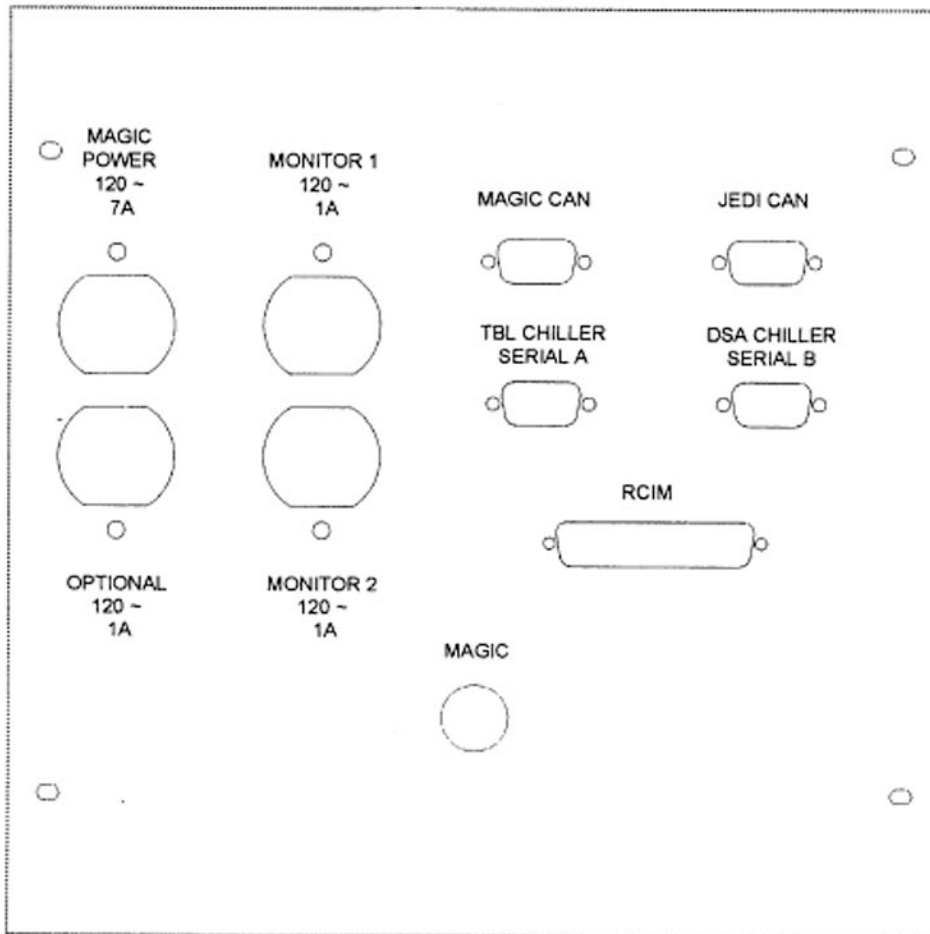


Figure 5-1 Wall Plate Dimensions 266.7 x 266.7 mm (10.5 x 10.5 in)

2.2.2 Operator Console



Figure 5-2 Operator Console - Keyboard / Mouse / RCIM / Exposure Handswitch



Figure 5-3 Operator Console - Monitors



Figure 5-4 Operator Console - Computer

2.2.3 Table

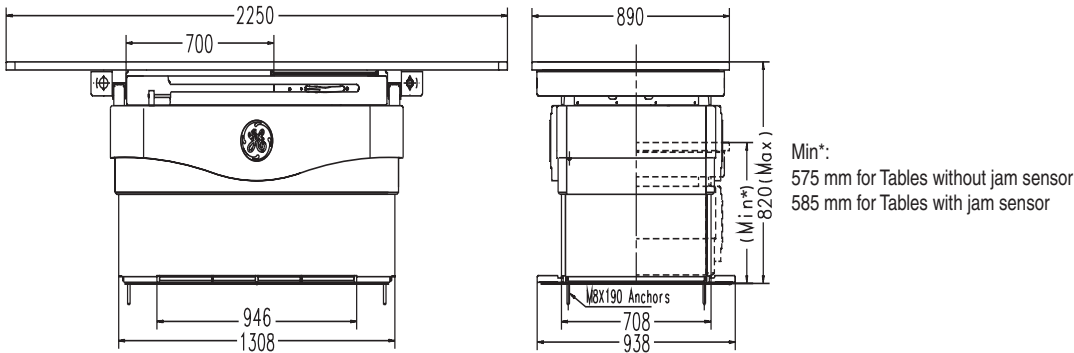
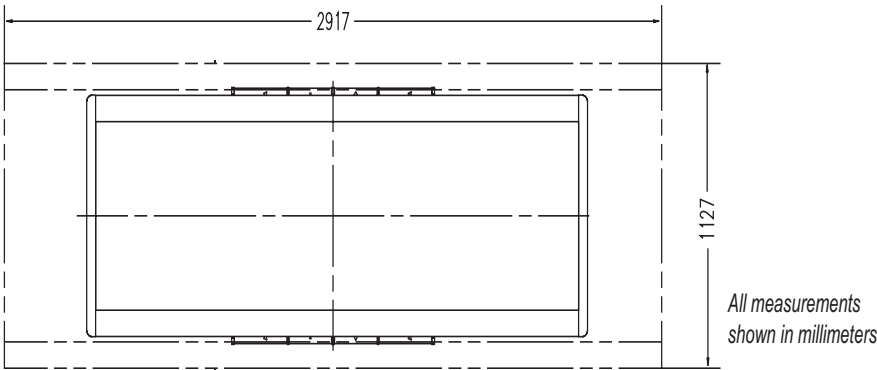


Figure 5-5 Definium 8000 Table Views

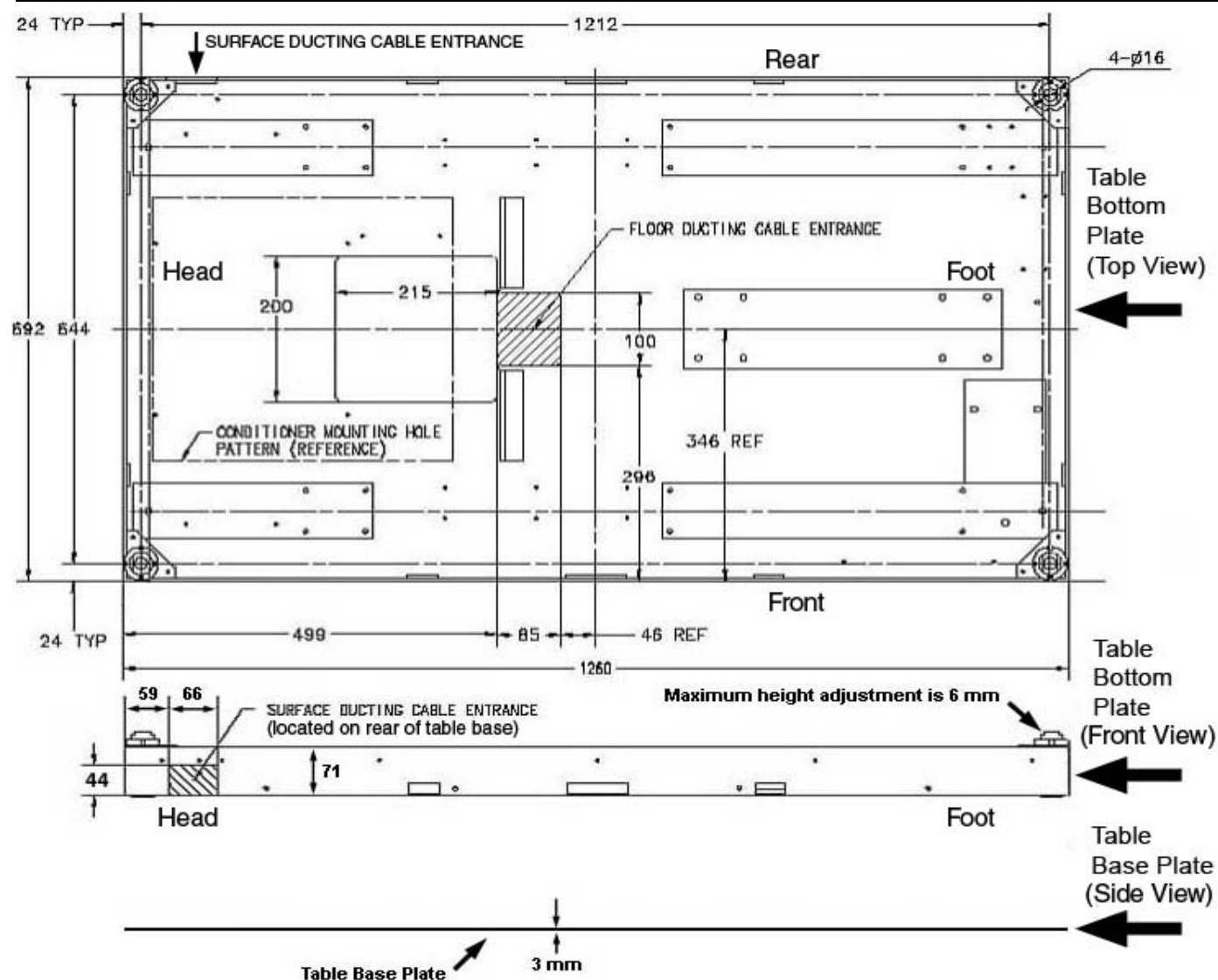


Figure 5-6 Definium 8000 Table Bottom Plate

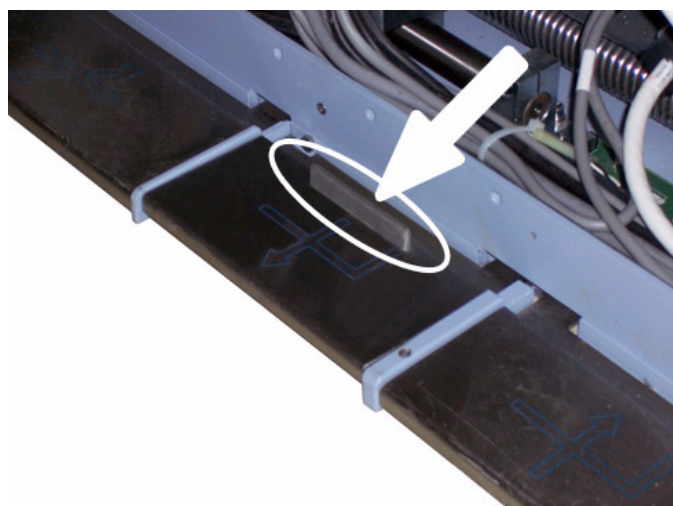


Figure 5-7 Table Jam Sensor

2.2.4 System Cabinet, 5128145

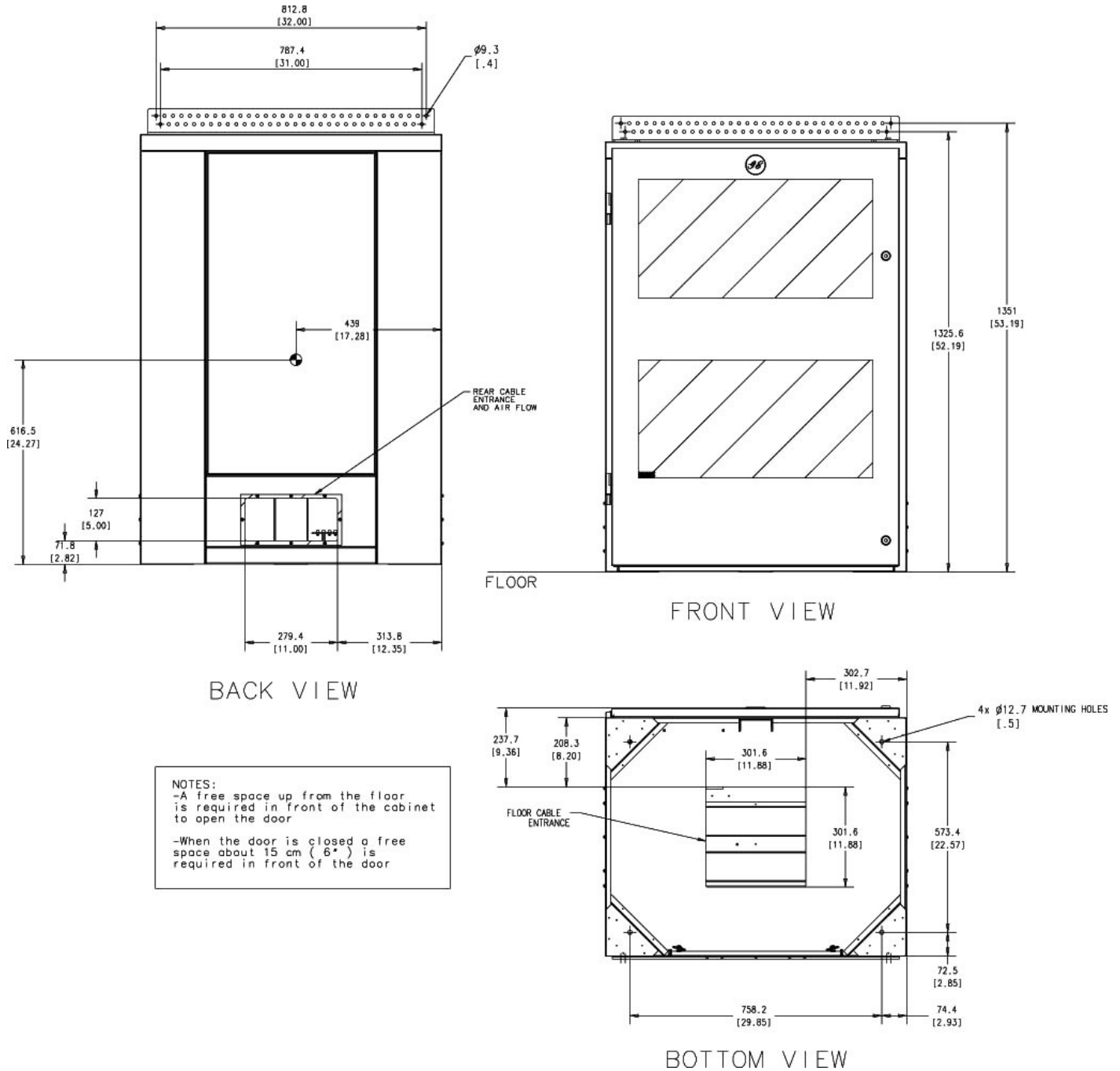


Figure 5-8 System Cabinet Dimensions (Front, Bottom, Back)

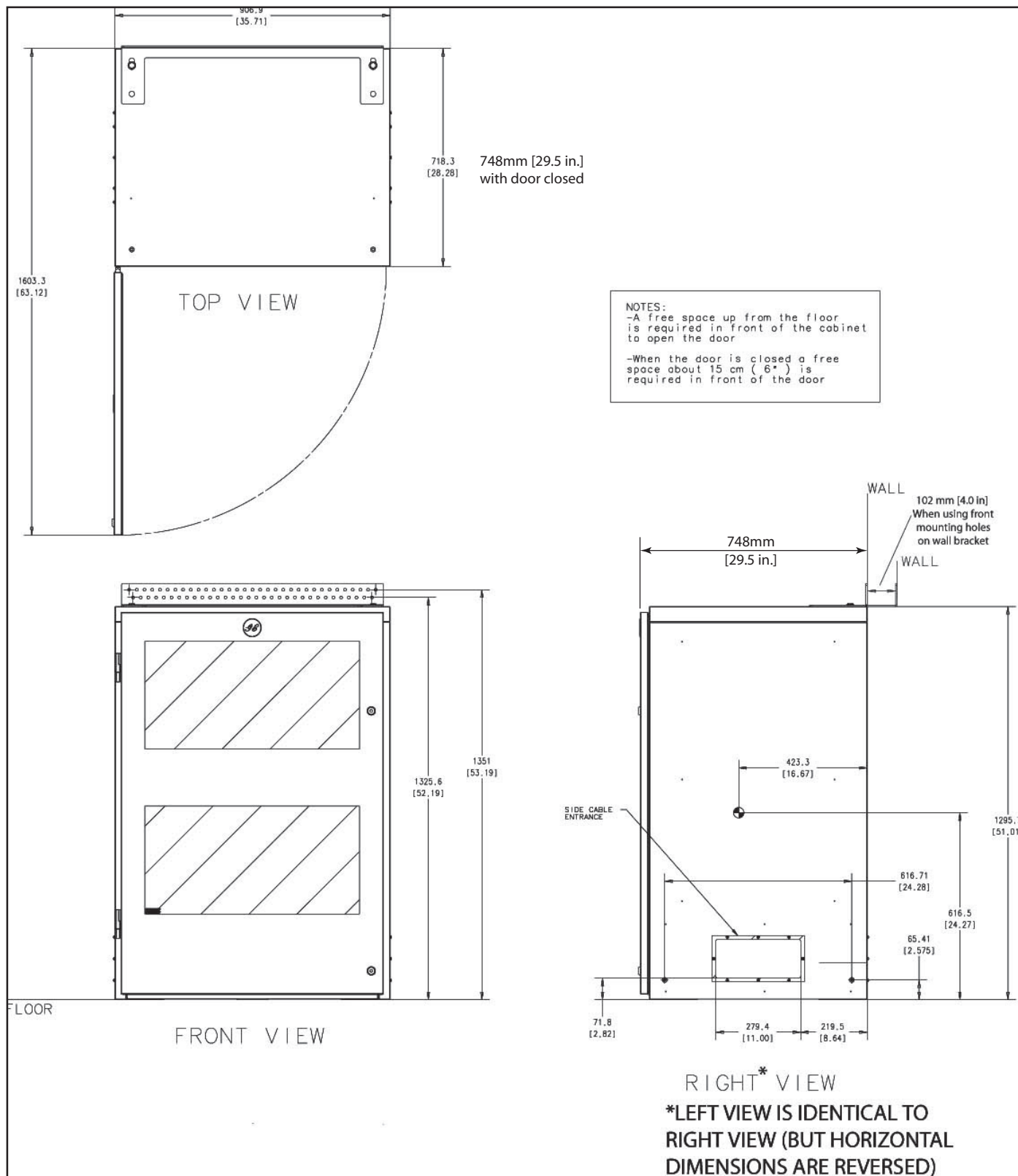
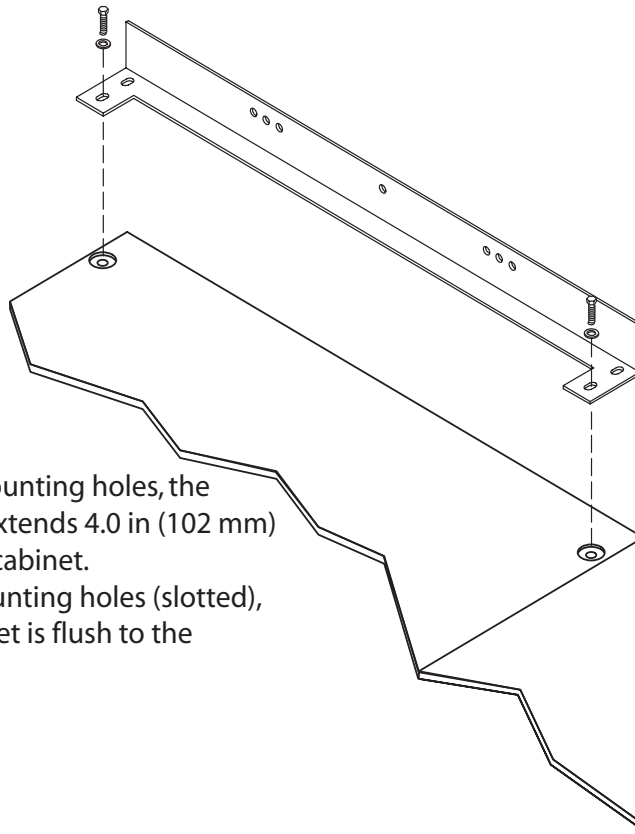


Figure 5-9 System Cabinet Dimensions (Front, Top, Right)



If using the front mounting holes, the mounting bracket extends 4.0 in (102 mm) past the rear of the cabinet.
If using the rear mounting holes (slotted), the mounting bracket is flush to the rear of the cabinet.

Figure 5-10 System Cabinet Wall-Mount Bracket

Values represent Maximum Values (Actual values may vary but will not exceed those specified)

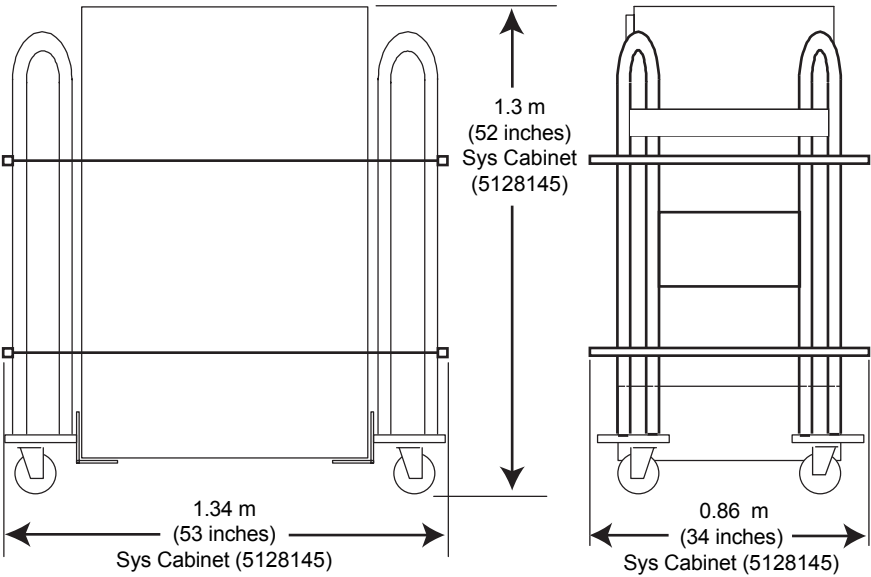


Figure 5-11 System Cabinet Shipping Dolly Dimensions

2.2.5 Grid Holder

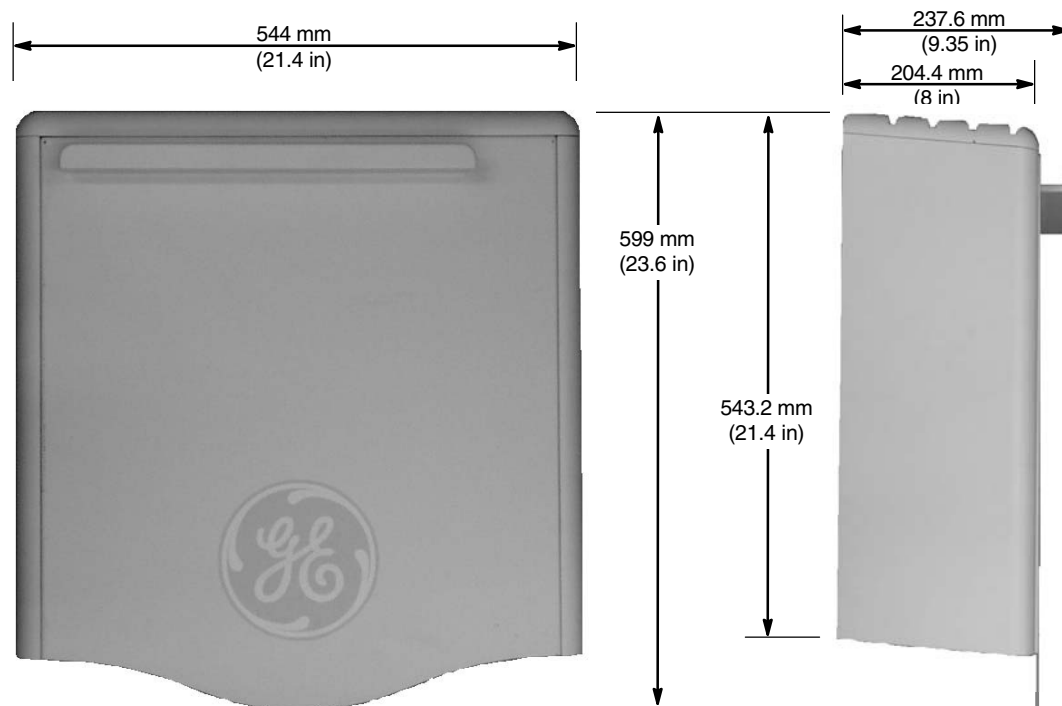


Figure 5-12 Grid Holder Dimensions

2.2.6 Over-Head Tube Support (OTS)

The OTS comprises a system for suspending and supporting an X-ray tube unit and collimator. It employs a spring counterpoise mechanism to balance these loads. The OTS's main components are the stationary rails, the bridge and the support column.

The stationary rails utilize extruded aluminum channels which are ceiling mounted. Depending on room length, these stationary rails can be ordered in any 4" (10.2 cm) incremental length between 11'-2" (3.4 m) and 19' (5.8 m). The spacing between these stationary rails accommodates an overhead mounted bridge structure.

The bridge length is 10'-1/2" (3.06 m) or 83.6" (2.12 m) and the bridge width is 25" (63.6 cm). The bridge end caps are 25.8" (65.5 cm) wide including two 1/4" (6.4 mm) high fastener heads.

Cables to and from the OTS Suspension are attached to the OTS bridge and stationary rails by a cable drape system.

2.2.6.1 Weights

COMPONENT	WEIGHT (LBS.)	WEIGHT (KGS.)
2 STATIONARY RAILS [19' LONG (5.79 m)]	138 (pair)	62.6 (pair)
3m BRIDGE AND CARRIAGE DOLLY	185	84
CARRIAGE AND COLUMN ASSEMBLY	465	211
X-RAY TUBE UNIT	65	29.5
AUTO COLLIMATOR	31	14.1
CABLES AND MISCELLANEOUS PARTS	45	20.4
TOTAL	929	421.6

Table 5-2 OTS RAD Suspension Weights

2.2.6.2 Dimensions and Layout

Figure 5-13 shows basic overall dimensions for an OTS Suspension. Figure 5-14 through Figure 5-15 give layout dimensions for a typical OTS Suspension System. The equipment arrangements shown are generally preferred since they result in good utilization of equipment for the most commonly used procedures.

Carefully check room layouts for adequate radiographic coverage, necessary clearances and provision for related equipment. Good judgement is required to avoid compromising important features. There must be ample maneuvering space allowed for the hospital cart and for personnel around the table.

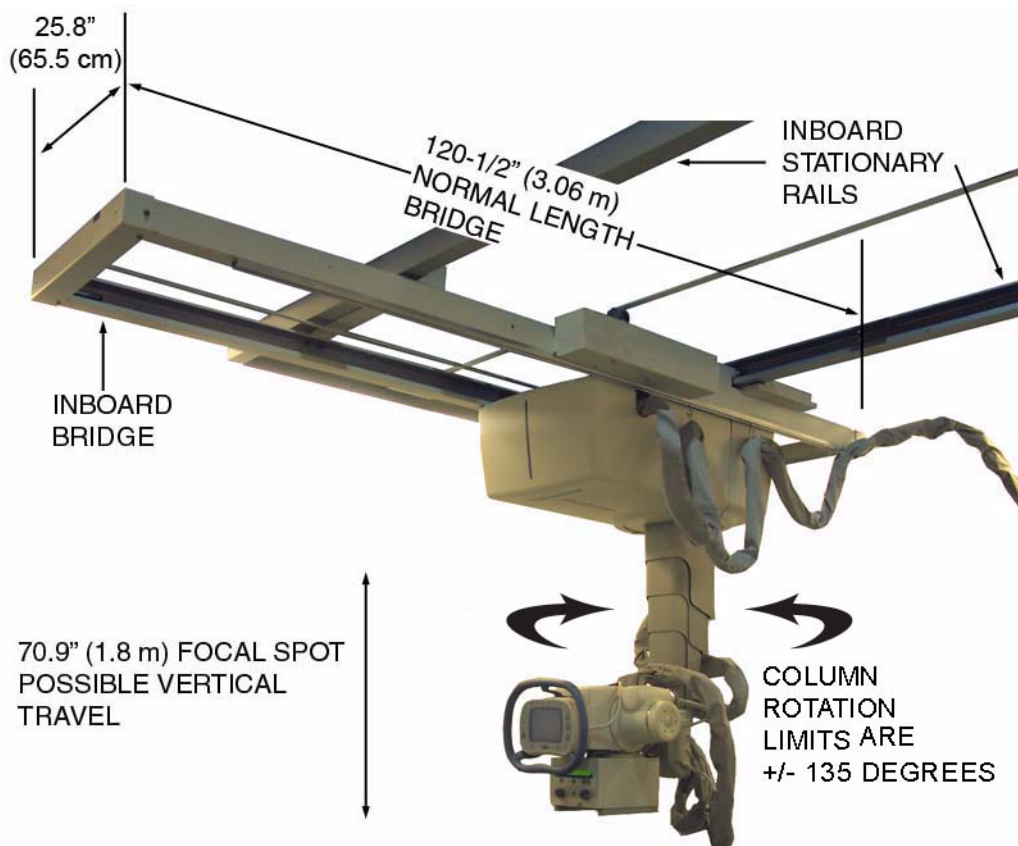


Figure 5-13 OTS Suspension

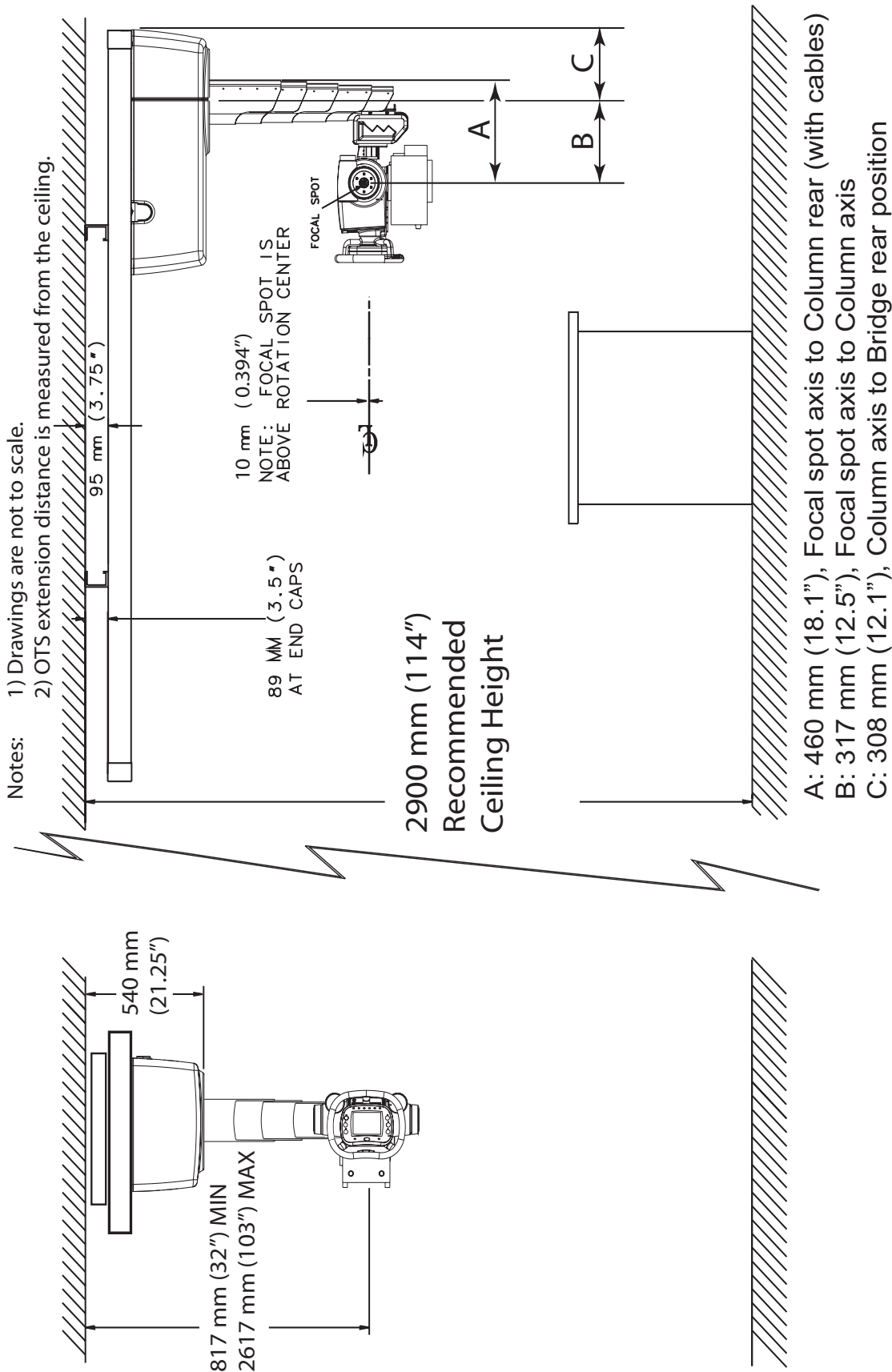


Figure 5-14 OTS Dimensions

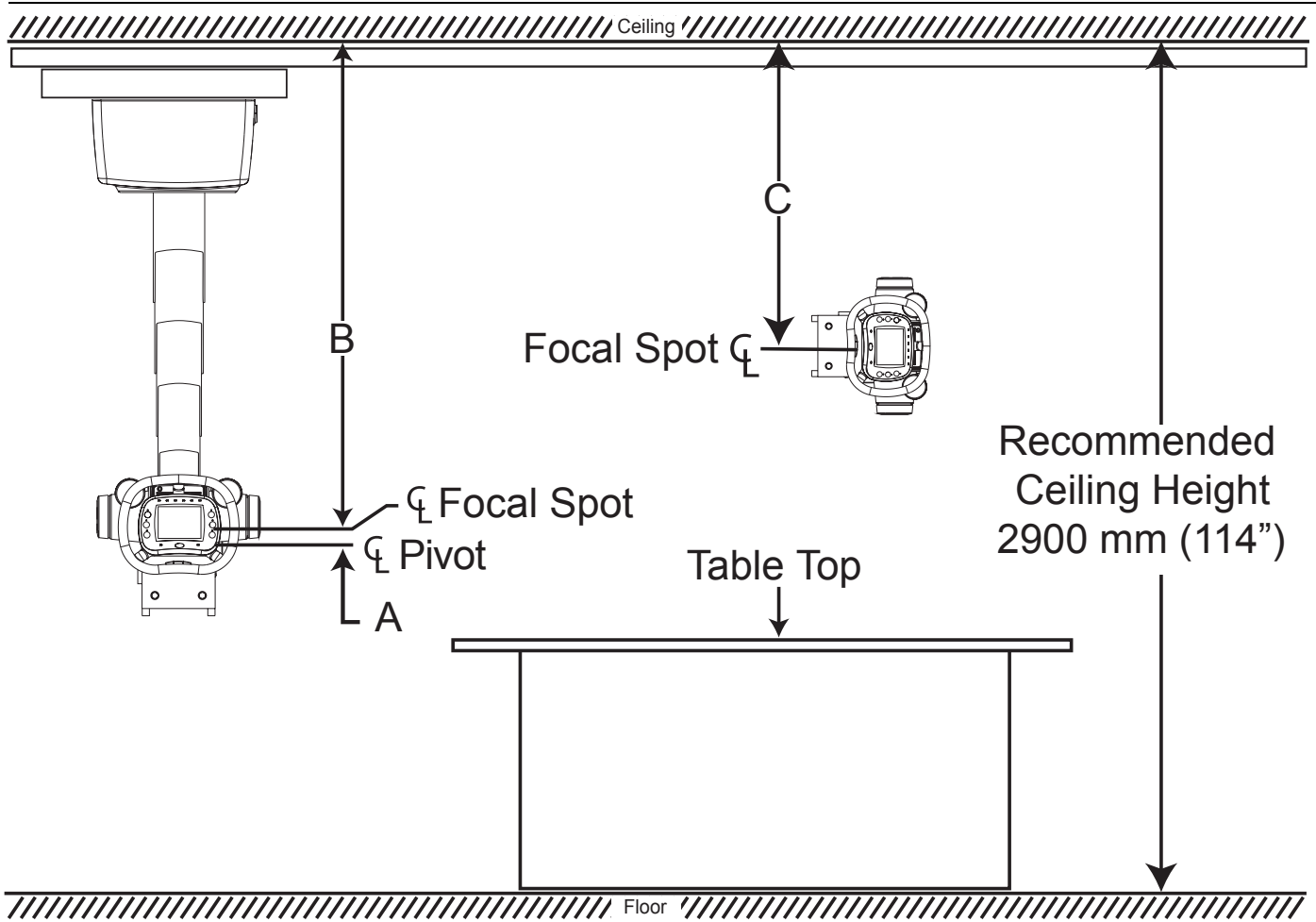


Figure 5-15 OTS Suspension Side View (See Table 5-3)

TRAVEL LOCATION	DIMENSIONS WITH THE MAXIRAY 100 TUBE UNIT	MIN.	MAX.
A	FOCAL SPOT ABOVE TUBE PIVOT POINT	10 mm (0.394 in)	-----
B	COLLIMATOR POINTED DOWN (VERTICAL)	807 mm (31.77 in)	2607 mm (102.64 in)
C	COLLIMATOR POINTED SIDEWAYS (HORIZONTAL)	817 mm (32.17 in)	2617 mm (103.03)

Table 5-3 OTS Suspension Vertical Travel Limits (See Figure 5-15)

Focal Spot Travel with Tube @ 0 Degree

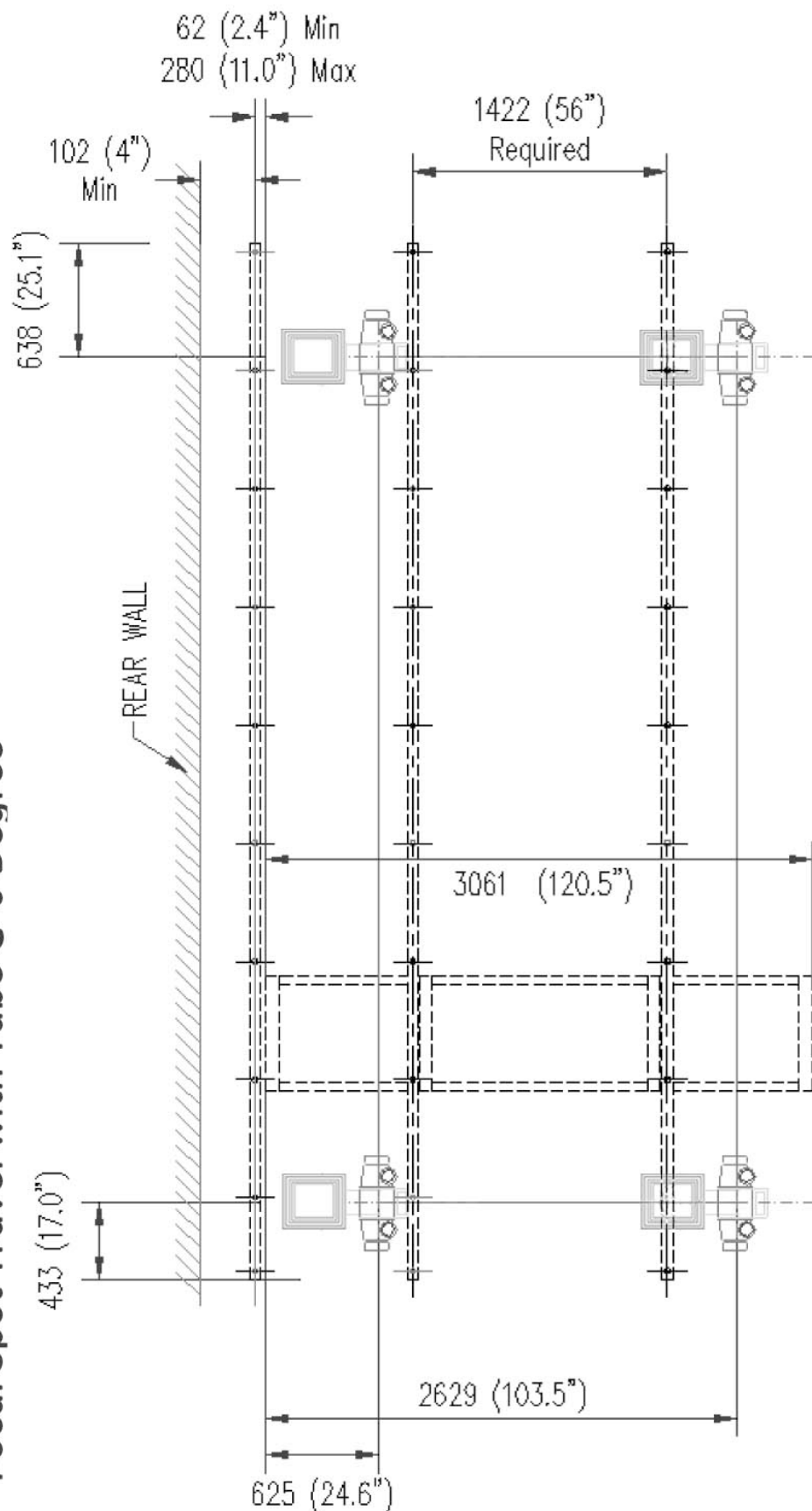


Figure 5-16 Focal Spot Travel - Tube at 0 Degrees

Focal Spot Travel with Tube @ +/-90 Degrees

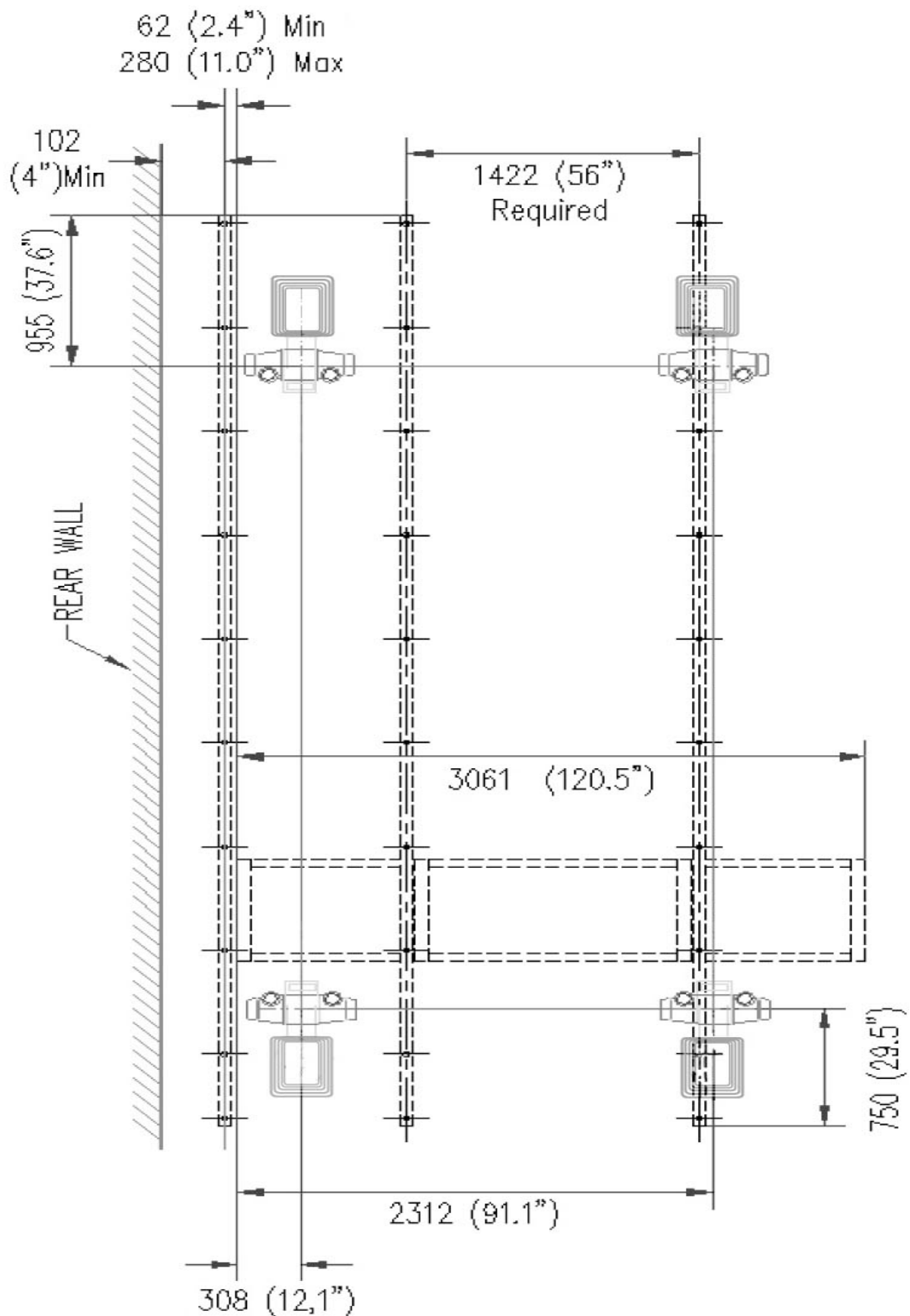


Figure 5-17 Focal Spot Travel - Tube at 90 Degrees

2.2.7 Wall Stands and Stretcher (optional)

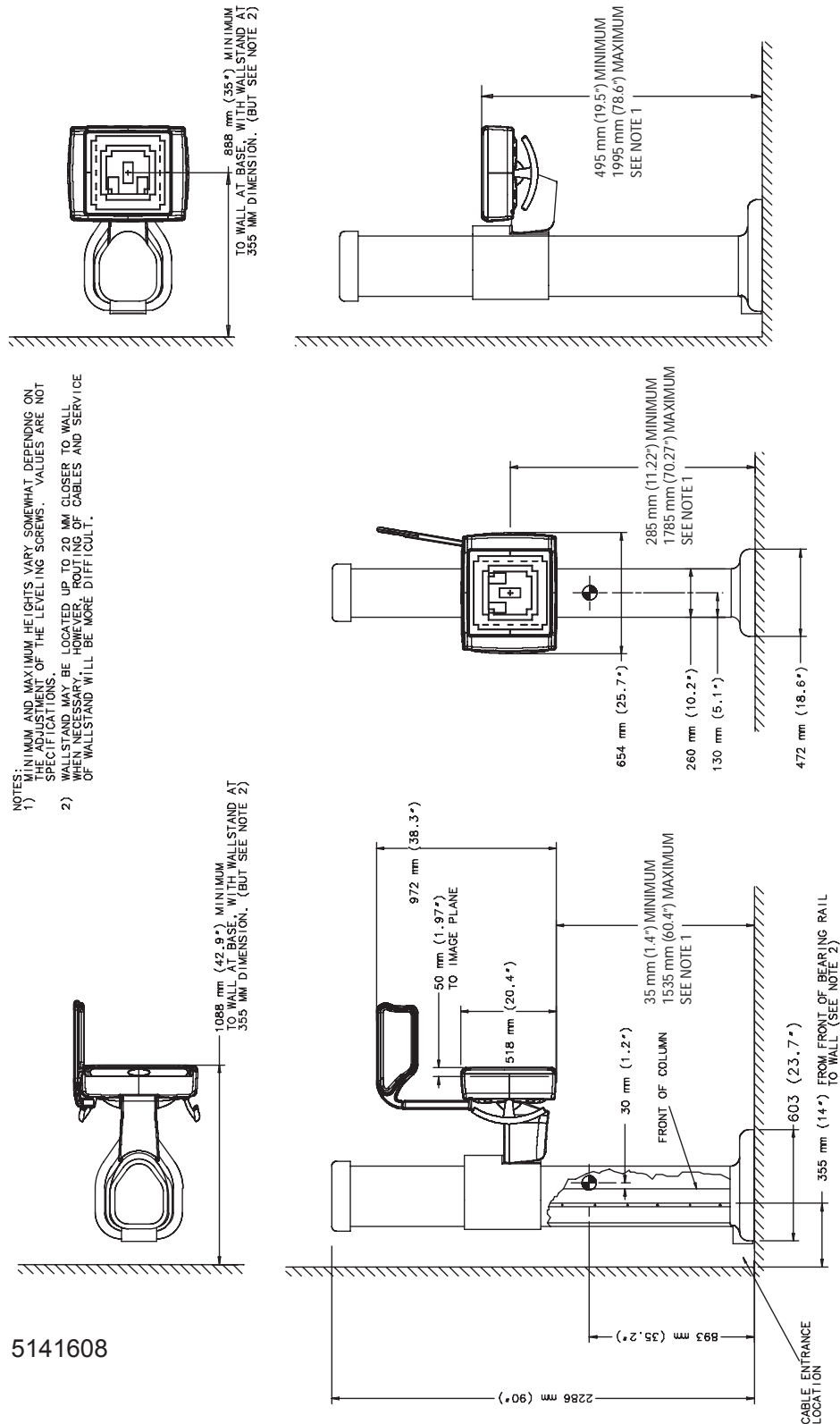


Figure 5-18 Wall Stand (Regular Arm Length) Dimensions (A)

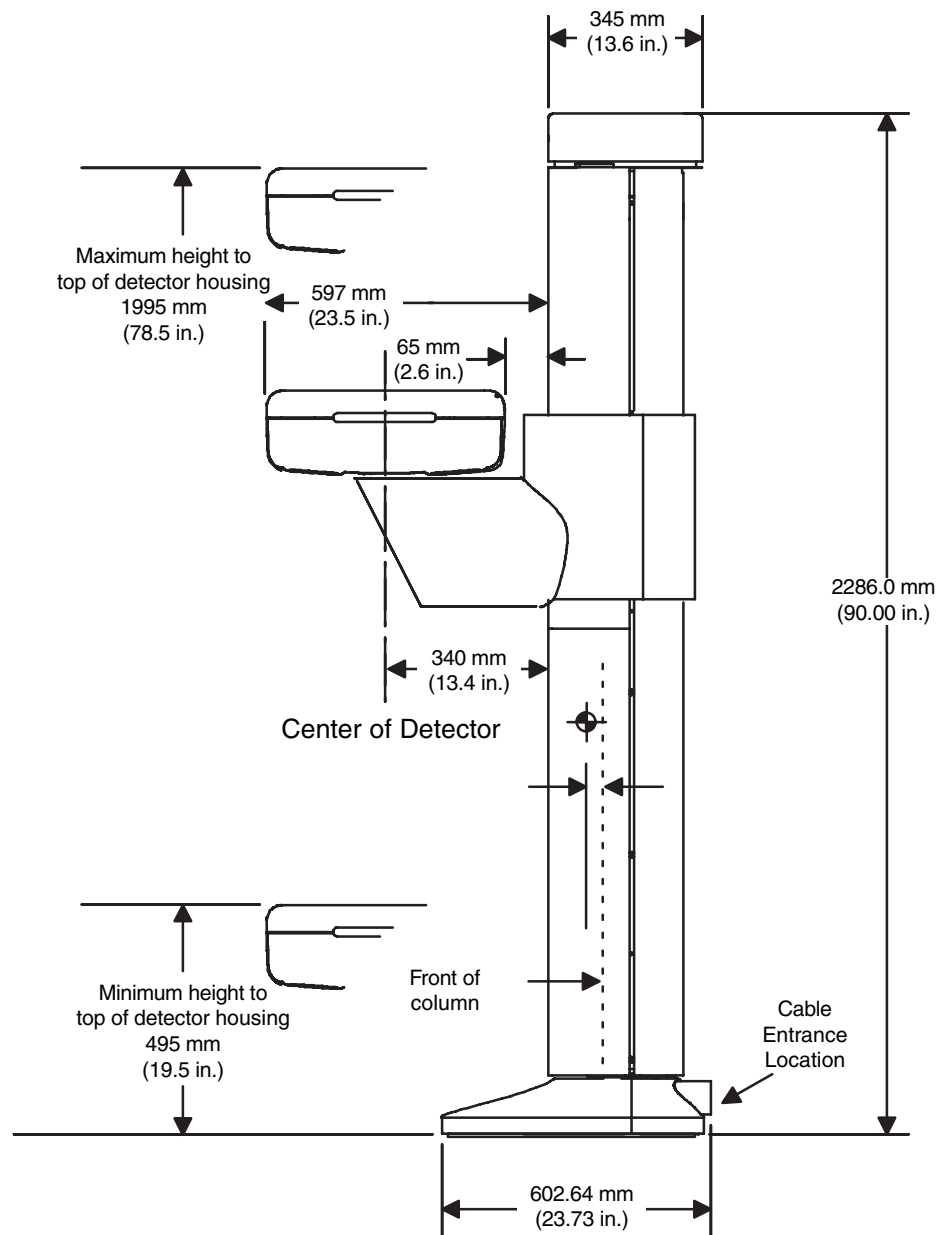


Figure 5-19 Wall Stand (Regular Arm Length) Dimensions (B)

The “In-transit” position, shown below, should be used only to move the Tube Stand and Extended Wall Stand through low clearance areas. If the clearance height of an area is 2286.0 mm (90.0 in) or greater, then the Tube Stand and Extended Wall Stand may be moved in the “upright” position.

Note: This drawing is not precise and is used only to show the approximate In-transit positioning for both stands.

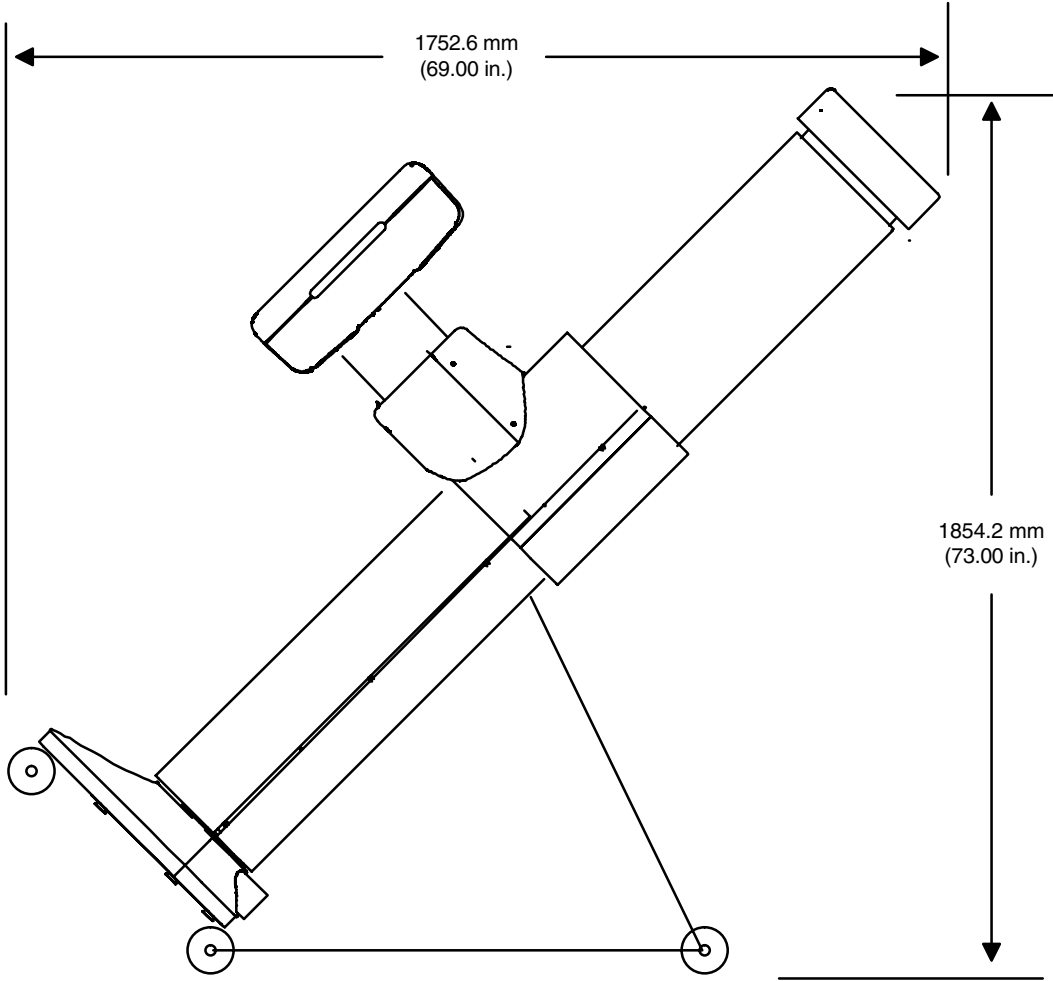


Figure 5-20 Wall Stand (Regular Arm Length) Site In-Transit Dimensions

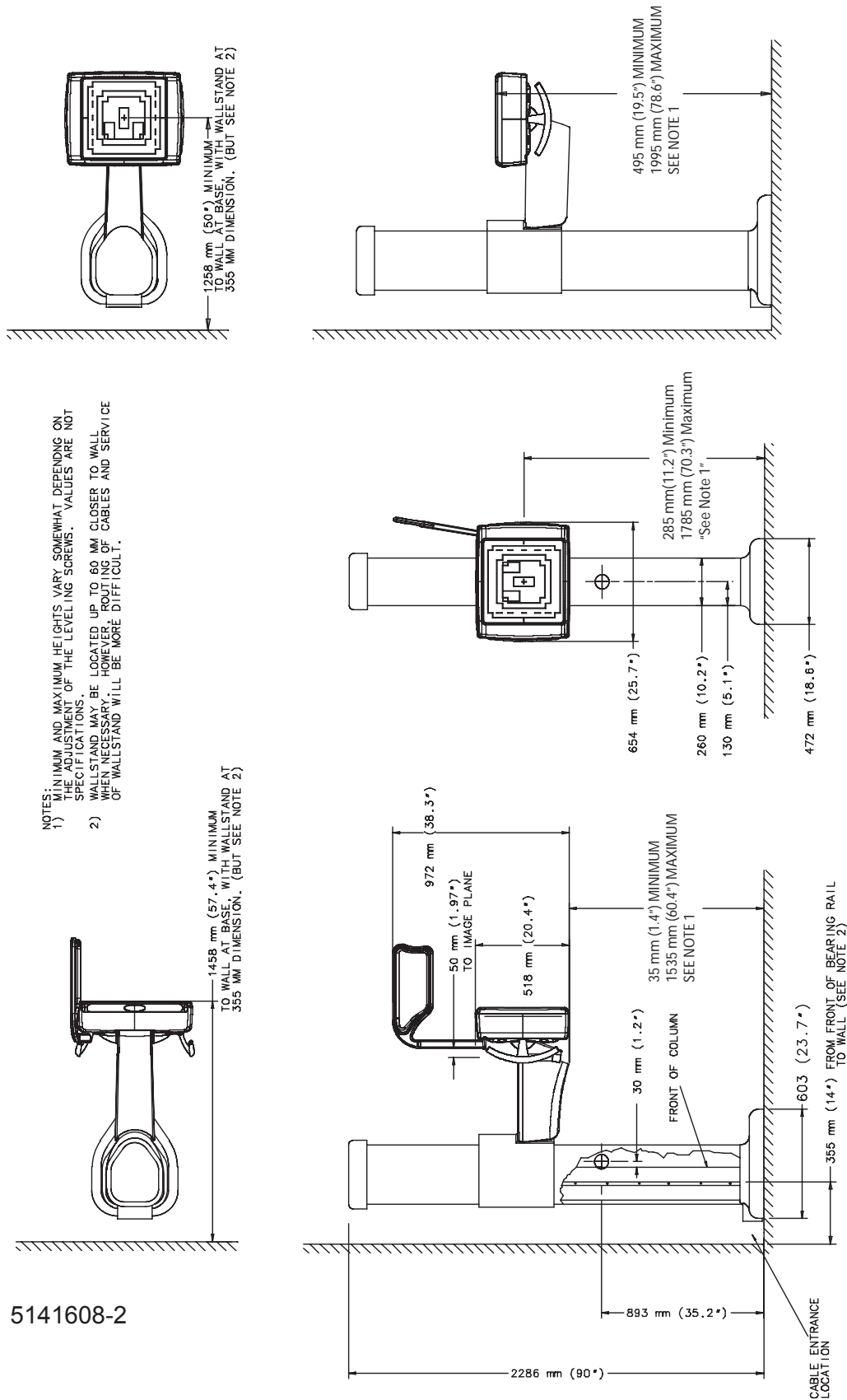


Figure 5-21 Extended Wall Stand Dimensions (A)

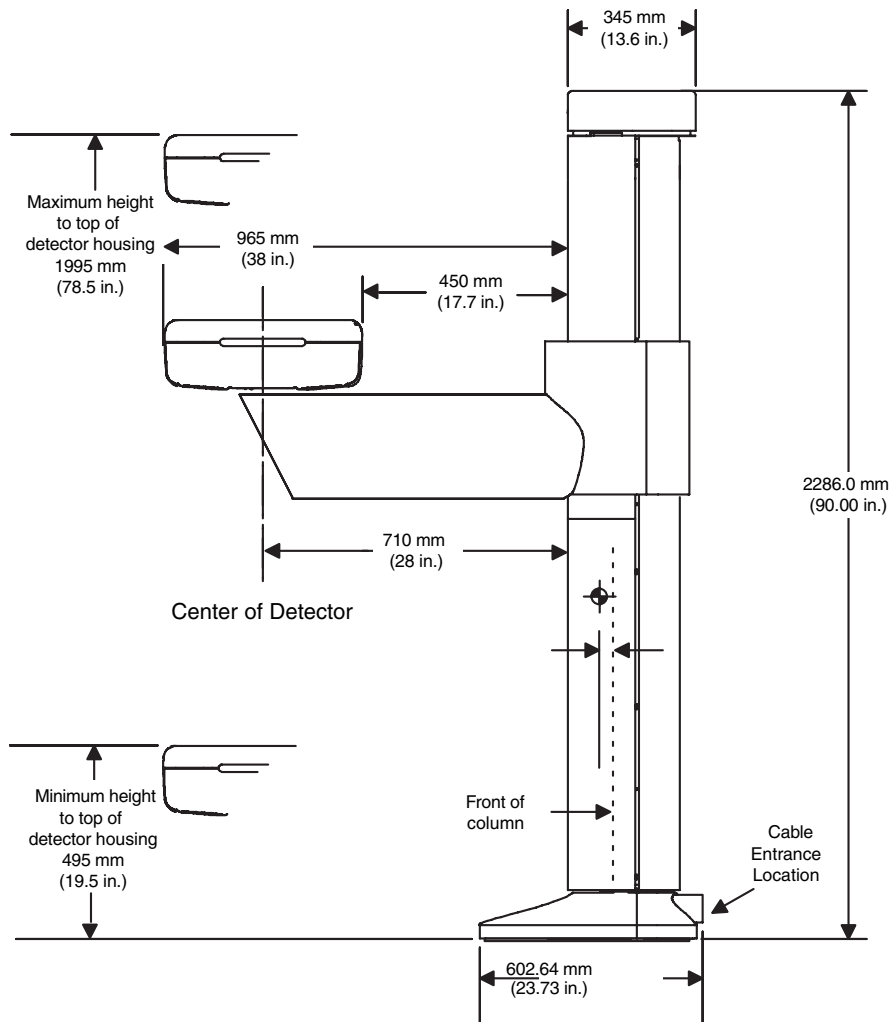


Figure 5-22 Extended Wall Stand Dimensions (B)

The “In-transit” position that is shown below should be used only to move the Tube Stand and Extended Wall Stand through low clearance areas. If the clearance height of an area is 2286.0 mm (90.0 in) or greater, then the Tube Stand and Extended Wall Stand may be moved in their “upright” positions.

Note: This drawing is not precise and is used only to show the approximate In-transit positioning for both stands.

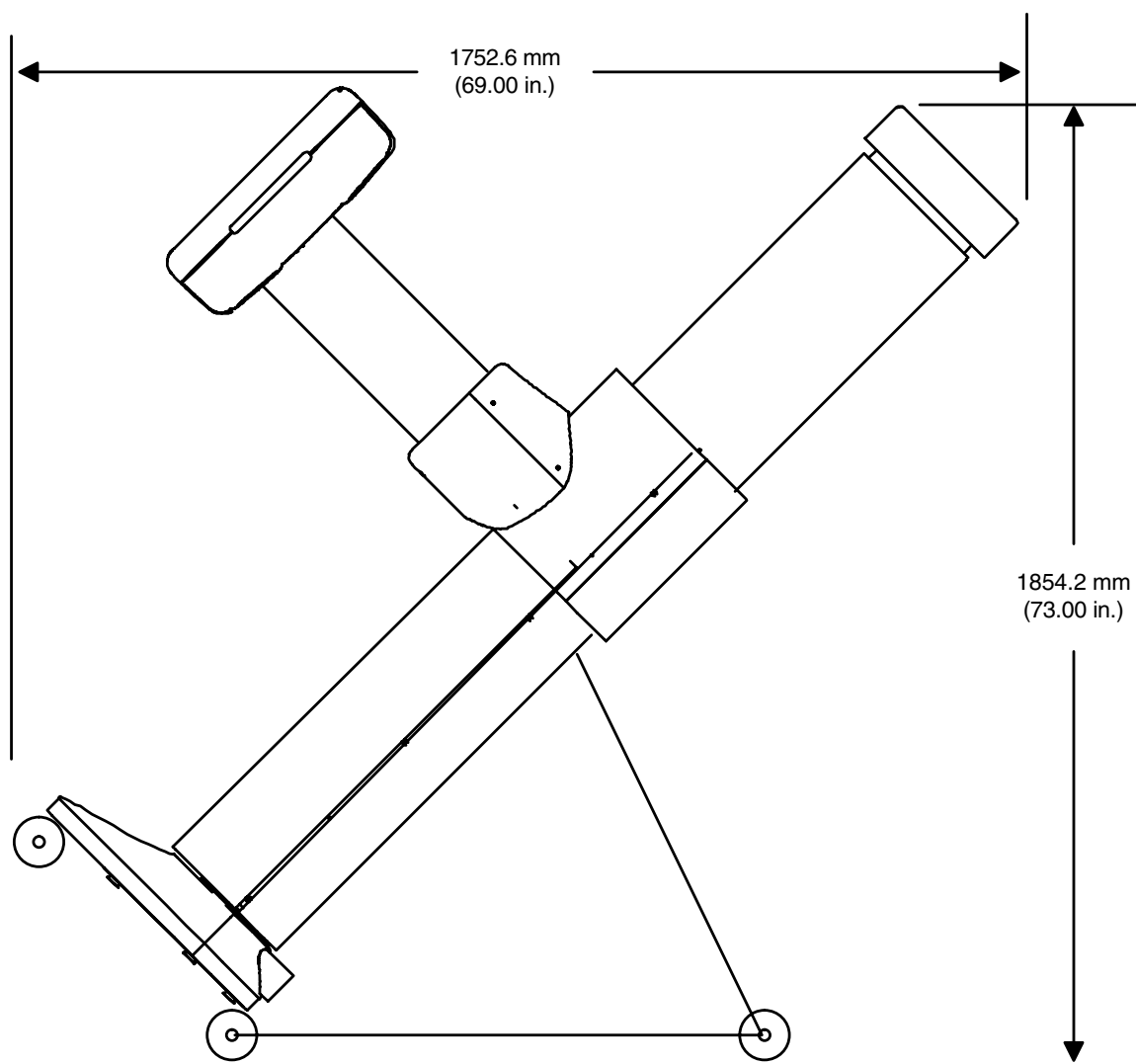


Figure 5-23 Extended Wall Stand Site In-Transit Dimensions

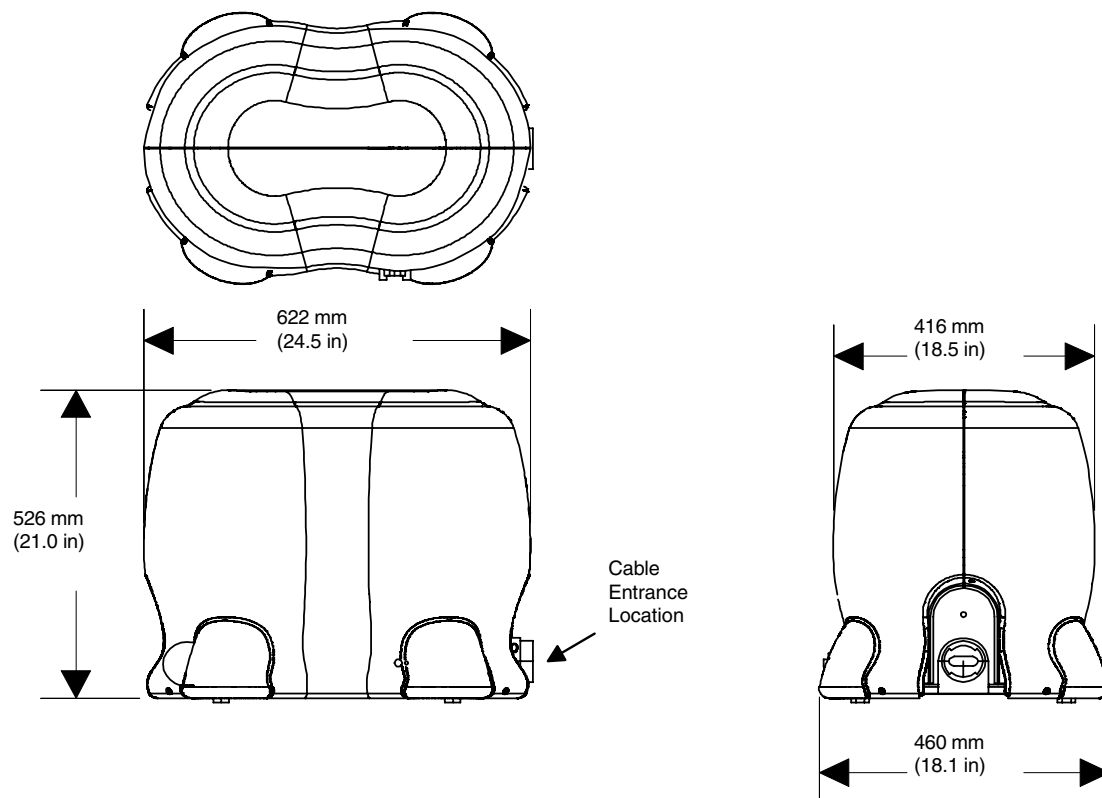


Figure 5-24 Detector Support Assembly (DSA) Dimensions

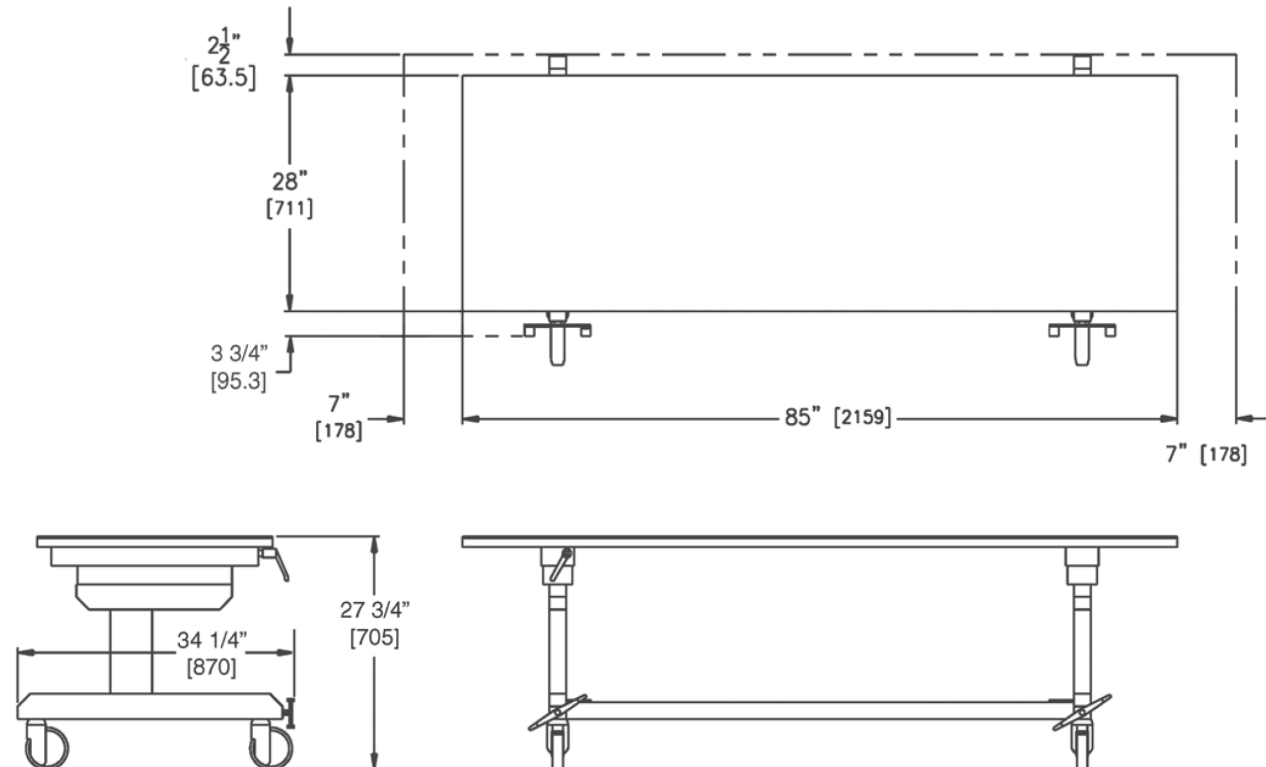


Figure 5-25 E6401J Stretcher Dimensions (optional)

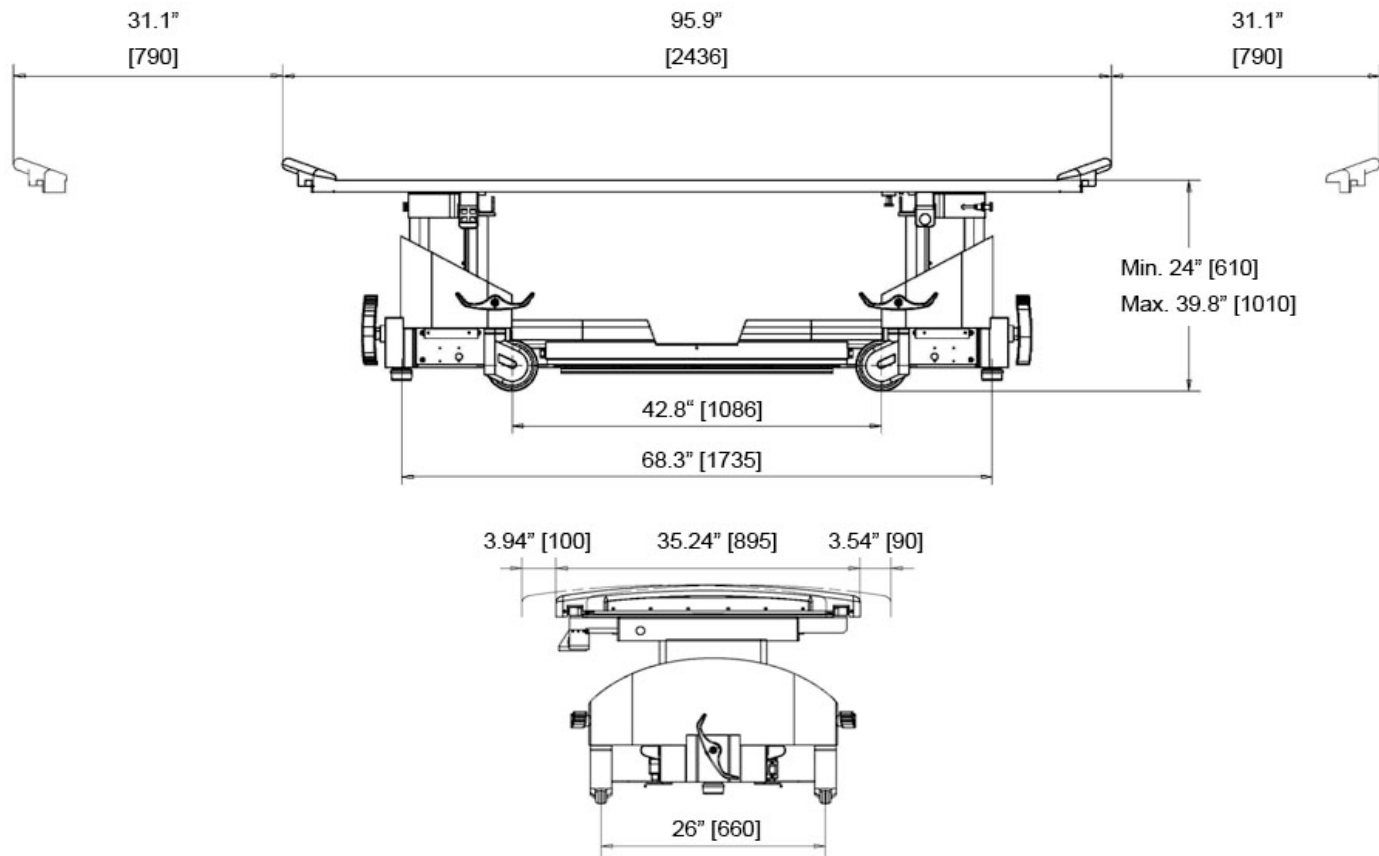


Figure 5-26 S1200SY Stretcher Dimensions (optional)

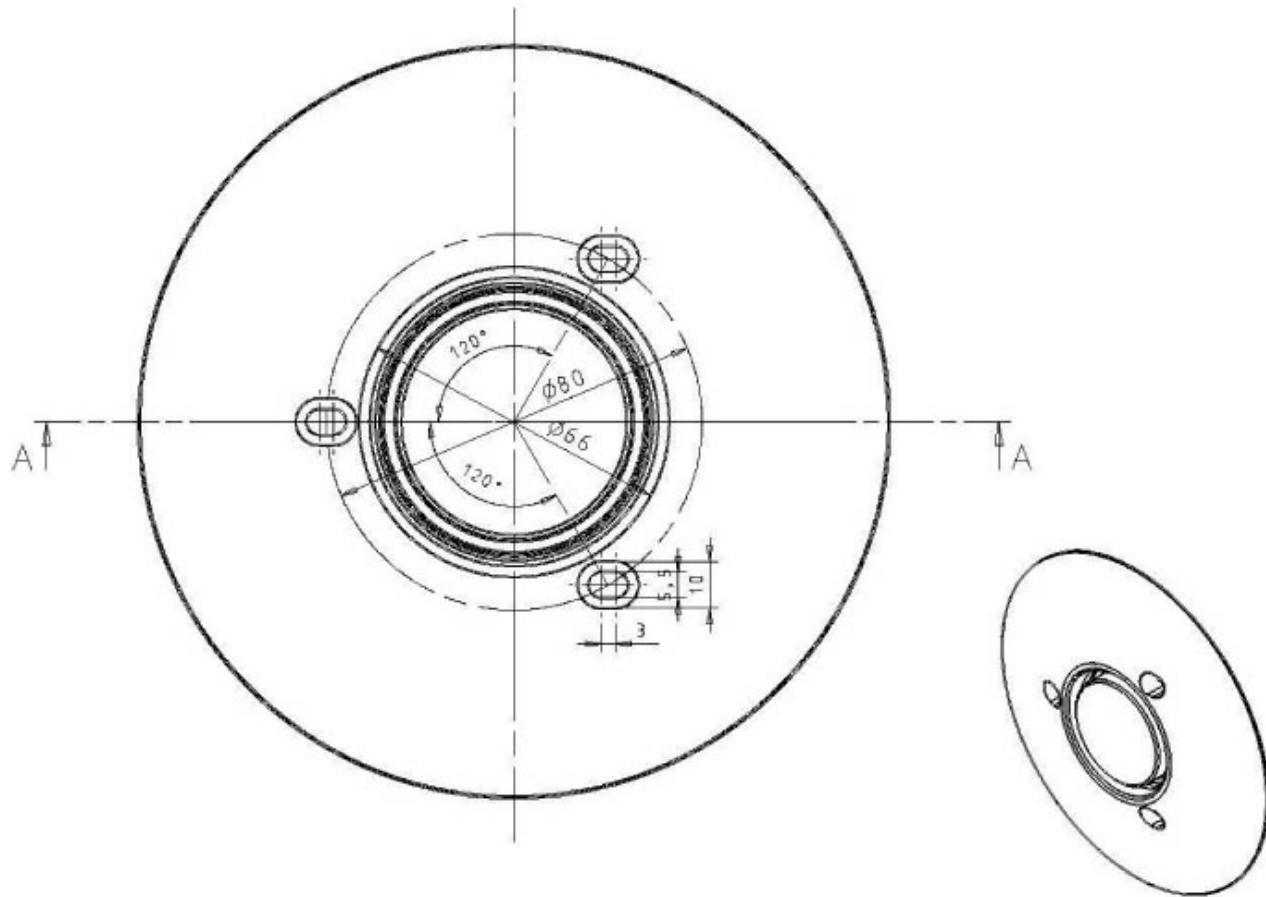
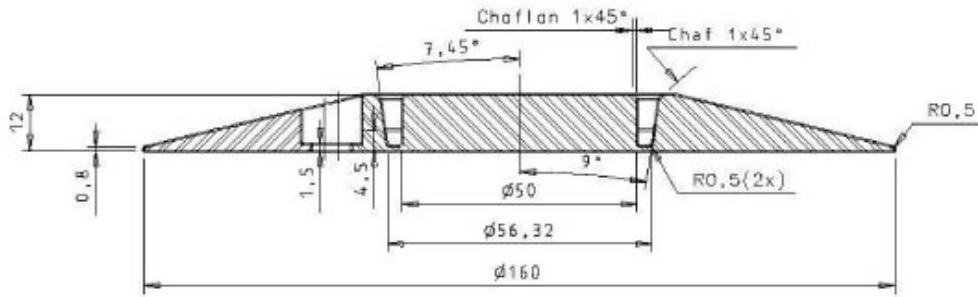


Figure 5-27 Pin Lodgings for Optional Flexi-DT Stretcher

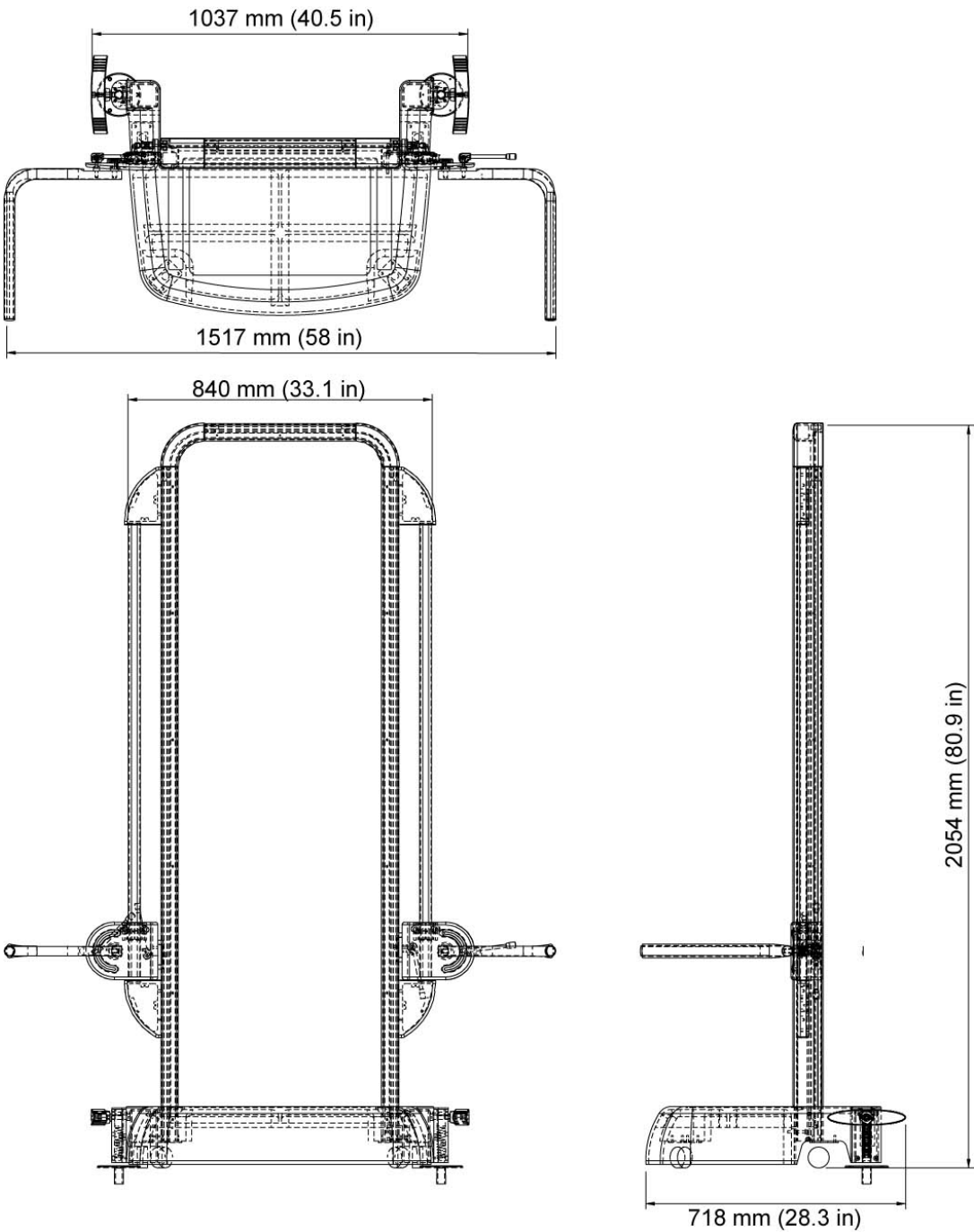
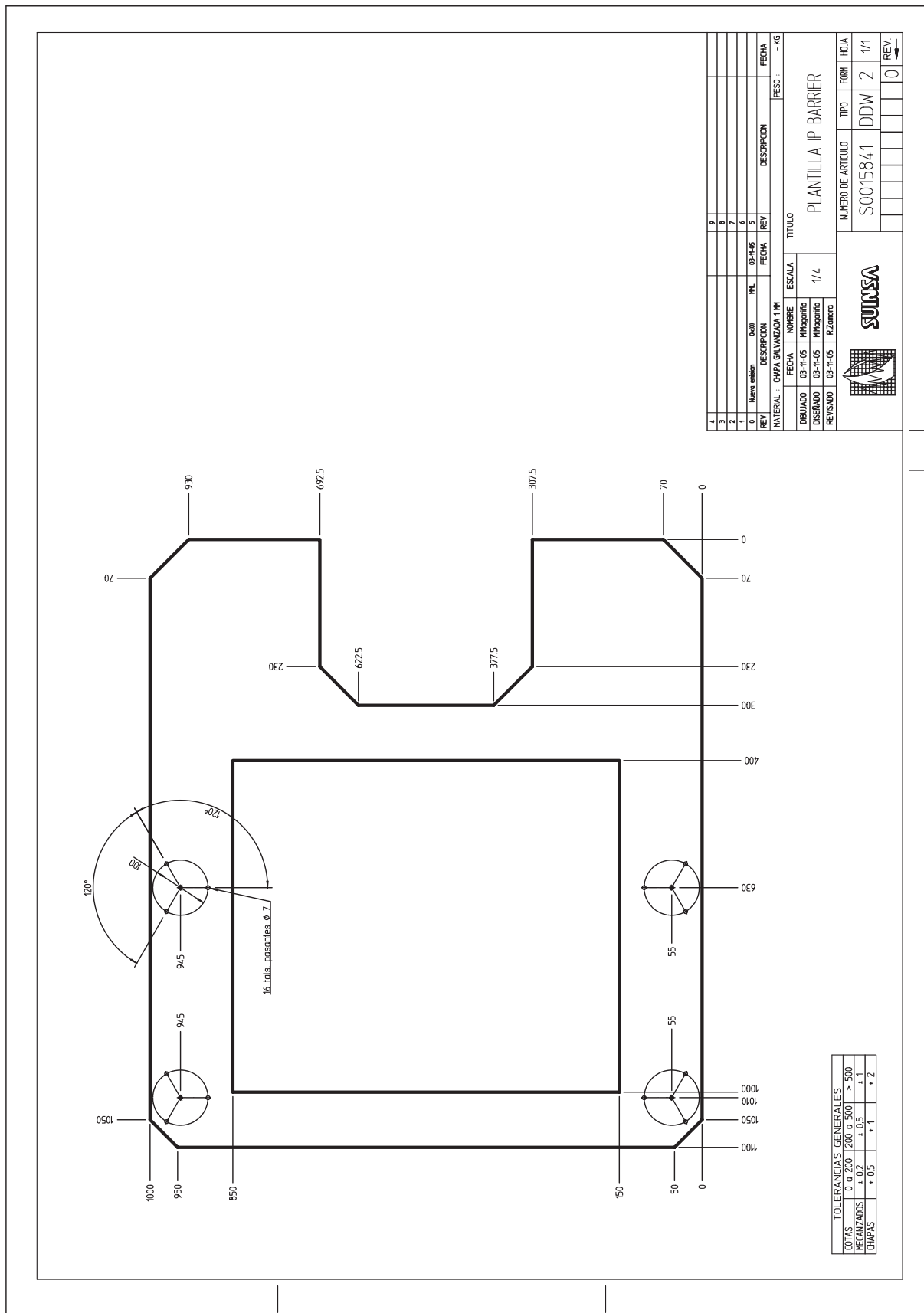
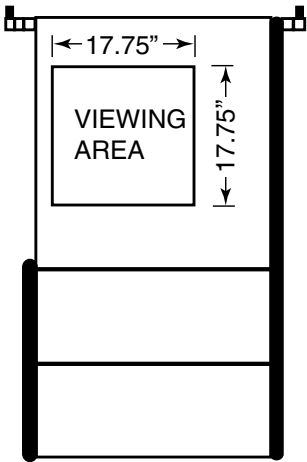
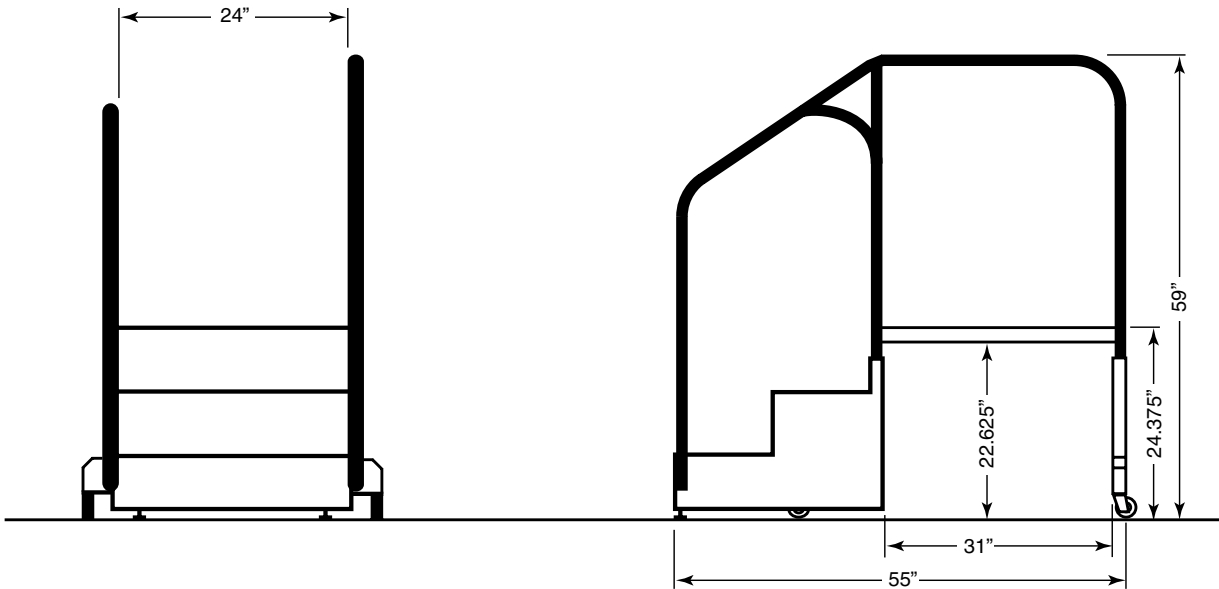


Figure 5-28 Image Pasting Barrier (optional)





TOP VIEW



FRONT VIEW

SIDE VIEW

Figure 5-30 Weight Bearing Rolling Stand

Section 3.0 - Positioning and Mounting Equipment

3.1 Floor / Ceiling Loading and Recommended Mounting Methods

PRODUCT OR COMPONENT	WEIGHT	LOAD BEARING AREA ft ² (m ²)	WEIGHT/OCCUPIED AREA kg/m ² (lb./ft ²)	RECOMMENDED MOUNTING INFORMATION
Operator Console: PC Tower xw8200 PC Tower xw8400 PC Tower xw6400 Monitor	19-24 kg (42-54 lbs) 18-25.2 kg (39.6-55.6 lbs) 15 kg (33 lbs) 8.2 kg (18.1 lbs)		NA NA NA NA	Shelf or table mounted but not anchored.
Table Assembly	480 kg (1058 lbs) Max. Patient Load is 220 kg (485 lbs.)	0.85 m ² (9.15 ft. ²)	565 kg/m ² (115.6 lbs/ft. ²)	Floor mounting Recommendations: (4) M8 X 190 mm anchors (2400546, supplied)
Stretchers (optional): Non-elevating Elevating	102 kg (225 lbs) 290 kg (639 lbs)		25.5 (56.25) point contact 72.5 (159.75) point contact	Not anchored Not anchored
Wall Stand	270 kg (596 lbs)			1/2 inch x 5 3/4 inch Rawl anchors to floor (supplied)
Extended Wall Stand	275 kg (607 lbs)			1/2 inch x 5 3/4 inch Rawl anchors to floor (supplied)
Detector Support Asm	44 kg (97 lbs)			Floor mounted but not anchored. Located near Wall Stand base.
Stationary Rail (5.79 m)	62.6 kg (138 lbs) pair		NA	
2 Meter Bridge	64 kg (140 lbs)		NA	
3 Meter Bridge	84 kg (185 lbs)		NA	
2 Meter Cable Assembly	42 kg (93 lbs)		NA	
3 Meter Cable Assembly	49 kg (108 lbs)		NA	
Overhead Tube Support Includes: carriage, collimator, tube, and UIF	172 kg (377 lbs)		NA	

Table 5-4 Product Physical Characteristics (weight)

PRODUCT OR COMPONENT	WEIGHT	LOAD BEARING AREA ft ² (m ²)	WEIGHT/OCCUPIED AREA kg/m ² (lb./ft ²)	RECOMMENDED MOUNTING INFORMATION
System Cabinet	308 kg (679 lbs)	0.65 m ² (7 ft. ²)	474 kg/m ² (97 lbs/ft. ²)	<ul style="list-style-type: none"> •3/8 in. or 10 mm (4) anchors to floor •5/16 in. or 8 mm (2) anchors to wall <i>(Mounting hardware not provided by GEHC)</i>
Grid Holder Assembly	15.5 kg (34 lbs)		NA	Mount on wall
Image Pasting Barrier	90.7 kg (200 lbs)		22.7 (50) point contact	Floor mounted but not anchored. Located near Wall Stand base.

Table 5-4 Product Physical Characteristics (weight)

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Chapter 6 - Room Layout

Section 1.0 - Radiation Production

Because X-ray equipment produces radiation, you may need to take special precautions or make special site modifications. The General Electric Company does not make recommendations regarding radiation protection. It is the purchasers responsibility to consult a radiation physicist for advisement on radiation protection in X-ray rooms.

Section 2.0 - Service Access

Allow appropriate space for service access of equipment, per country and regional requirements.

Condition	Equipment State	Voltage Range
1	A1 Disconnect OFF, no power to system Note: External room warning light power may be present during Condition 1 in the System Cabinet.	0V
2	A1 Disconnect ON, system power OFF	0 - 600V
3	A1 Disconnect ON, system power ON, idle	0 - 600V
4	A1 Disconnect ON, system power ON, X-ray generation ON	0 - 600V No exposed High Voltage hazards

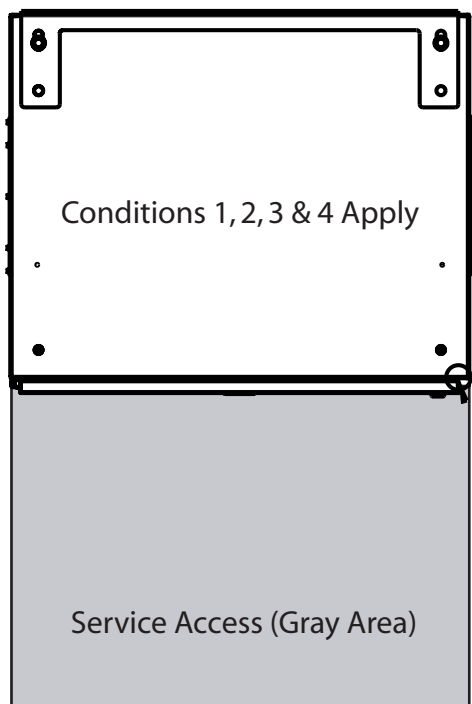


Figure 6-1 System Cabinet

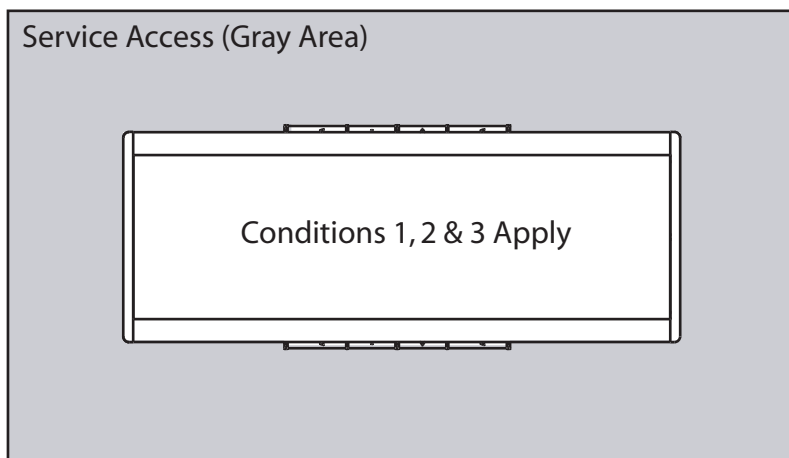


Figure 6-2 Table

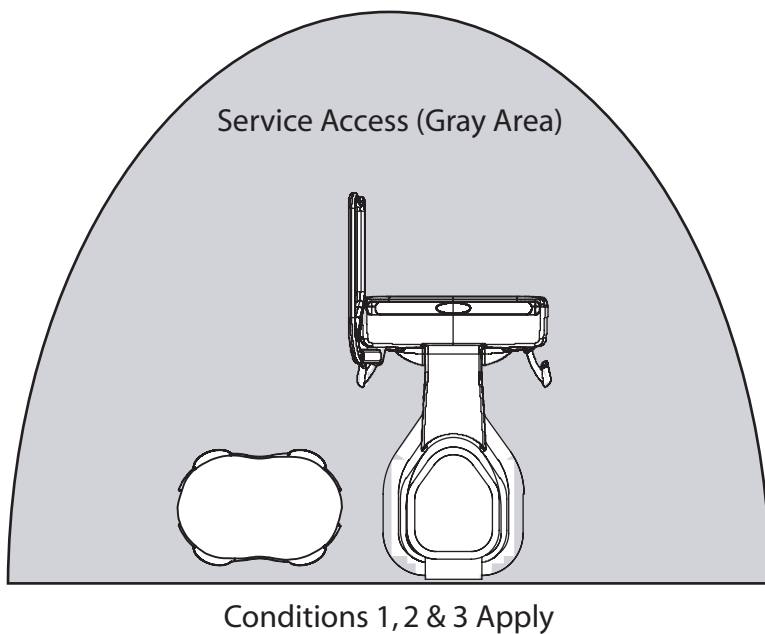


Figure 6-3 Wall Stand and DSA

No specific conditions exist for Workstation Service Access. There are no exposed electrical hazards present.



Figure 6-4 Workstation

No specific conditions exist for OTS Service Access. Position the OTS as required to obtain sufficient Service Access.



Figure 6-5 OTS

Section 3.0 - Clinical Access

Make sure that you plan the room with the following clinical access requirements:

- Provide emergency egress path out of the room for patient, operators and service personal, per country and regional requirements.
- Provide easy access to the patient table. Stretchers and other mobile hospital equipment must reach the table quickly.
- Table cannot be installed at 90 degrees to the ceiling rails.
- Clinicians at the patient table must be able to communicate with assistants in the control area.
- Operators in the control area must have easy access to the Operator Console. However, position the controls (including handswitches) so the operator cannot take exposures while looking around or standing outside the control booth's lead glass window.
- Consult customer on the number and location of non-electrical lines (air, oxygen, vacuum, water, etc.) in the radiographic room.
- Provide easy access to the Wall Stand.
- Ensure there is enough space between the table and the Wall Stand to perform standing ankles, knees, etc.
- For both the extended and the regular Wall Stands, ensure that the room layout is such that the tube can be centered on top of the horizontal detector.
- 3 m bridge must be used with the installation of the extended Wall Stand.
- When installing an extended Wall Stand, the Wall Stand should be positioned directly in the center of the 3m bridge if full tube angling capabilities are to be achieved.
- When installing an extended Wall Stand, it may only be located in the head- or foot-position of the room.
- For the extended Wall Stand, the gooseneck may only be used in the 0 degree and 90 degree positions.

Note: The generally accepted practice is to load the patient laterally. In case of room layout designed for longitudinal patient loading, some modifications must be brought to the table.

Section 4.0 - Peripheral Equipment

Consult hospital personnel regarding additional space requirements for the following types of hospital equipment:

- Storage Cabinets
- Sinks
- Oxygen Stations
- Monitoring Equipment
- Crash Cart

Section 5.0 - Room Layout Drawings

See [Figure 6-6](#) through [Figure 6-32](#) for typical Definium 8000 system room layouts.

Note: You will notice that a minimum of 2200 mm of clearance is shown from the table frame to either end of the table; this is to allow the table top to be installed.

Section 1 - Wall Stand Only System

[Applications & Room Layout for Wall Stand - Only System \(Head or Foot Configuration\) on page 88](#)

Section 2 - Extended Wall Stand Only System

[Applications & Room Layout for Extended Wall Stand - Only System \(Head or Foot Configuration\) on page 89](#)

[Applications & Room Layout for Extended Wall Stand - Only System \(Head or Foot Configuration\) on page 90](#)

Section 3 - Table and Wall Stand Systems (Foot Configuration)

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[Applications & Room Layout for Table and Wall Stand System \(Foot Configuration\) on page 92](#)

[Applications & Room Layout for Table and Wall Stand System \(Foot Configuration\) on page 93](#)

Section 4 - Table and Wall Stand Systems (Head Configuration)

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[Applications & Room Layout for Table and Wall Stand System \(Head Configuration\) on page 95](#)

[Applications & Room Layout for Table and Wall Stand System \(Head Configuration\) on page 96](#)

Section 5 - Table and Wall Stand Systems (Back Configuration)

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Section 6 - Table and Wall Stand Systems (Front Configuration)

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Section 7 - Table and Extended Wall Stand Systems (Foot Configuration)

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Section 8 - Table and Extended Wall Stand Systems (Head Configuration)

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[Applications & Room Layout for Table and Extended Wall Stand System \(Head Configuration\) on page 111](#)

[Applications & Room Layout for Table and Extended Wall Stand System \(Head Configuration\) on page 112](#)

Section 9 - 2 Meter Bridge

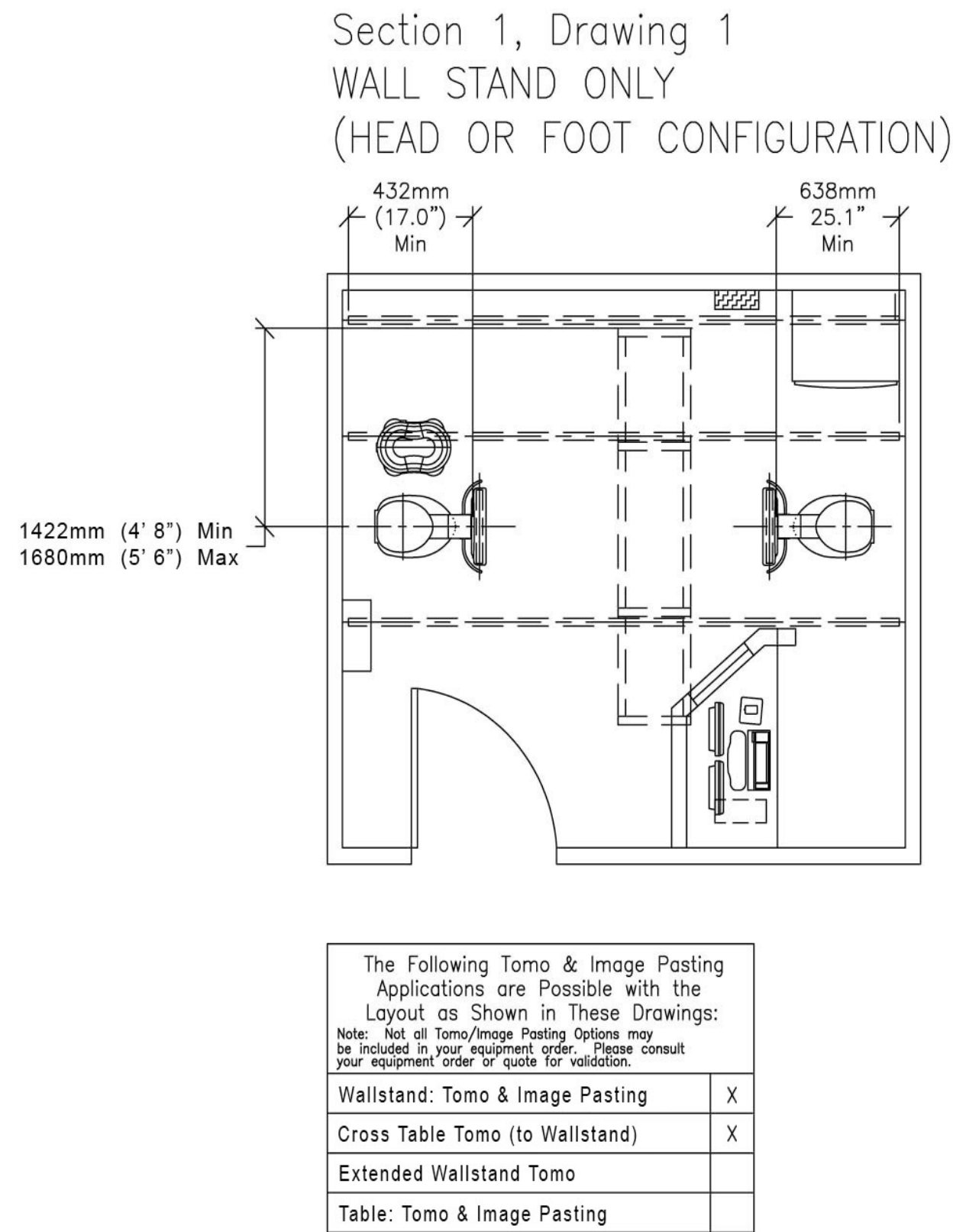
[Applications & Room Layout for 2 Meter Bridge on page 113](#)

Section 10 - Flexi-DT Table and Wall Stand Only

[Flexi-DT Table and Wall Stand Only on page 114](#)

5.1 Wall Stand Only System

Figure 6-6 Applications & Room Layout for Wall Stand - Only System (Head or Foot Configuration)



5.2 Extended Wall Stand Only System

Figure 6-7 Applications & Room Layout for Extended Wall Stand - Only System (Head or Foot Configuration)

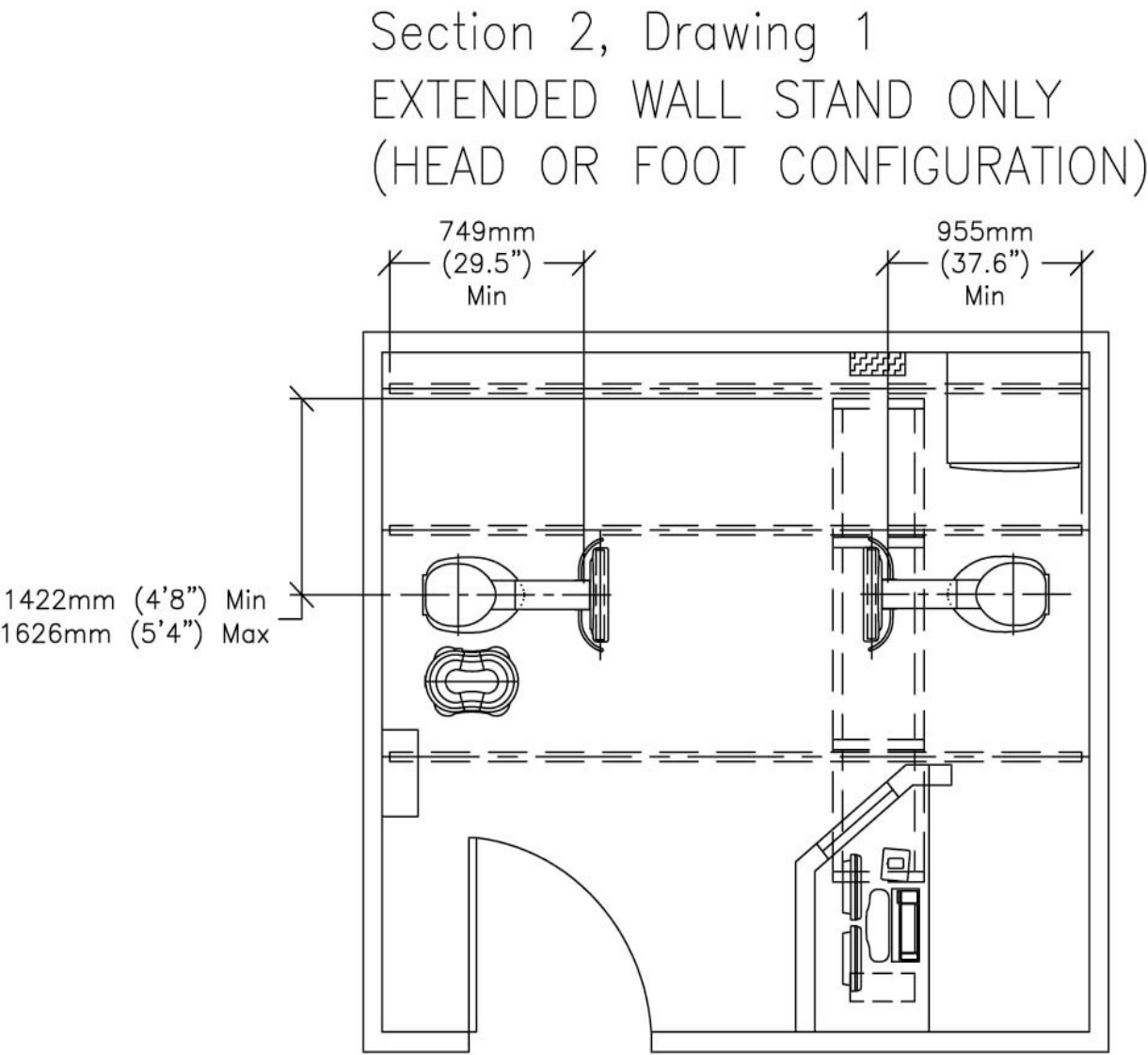
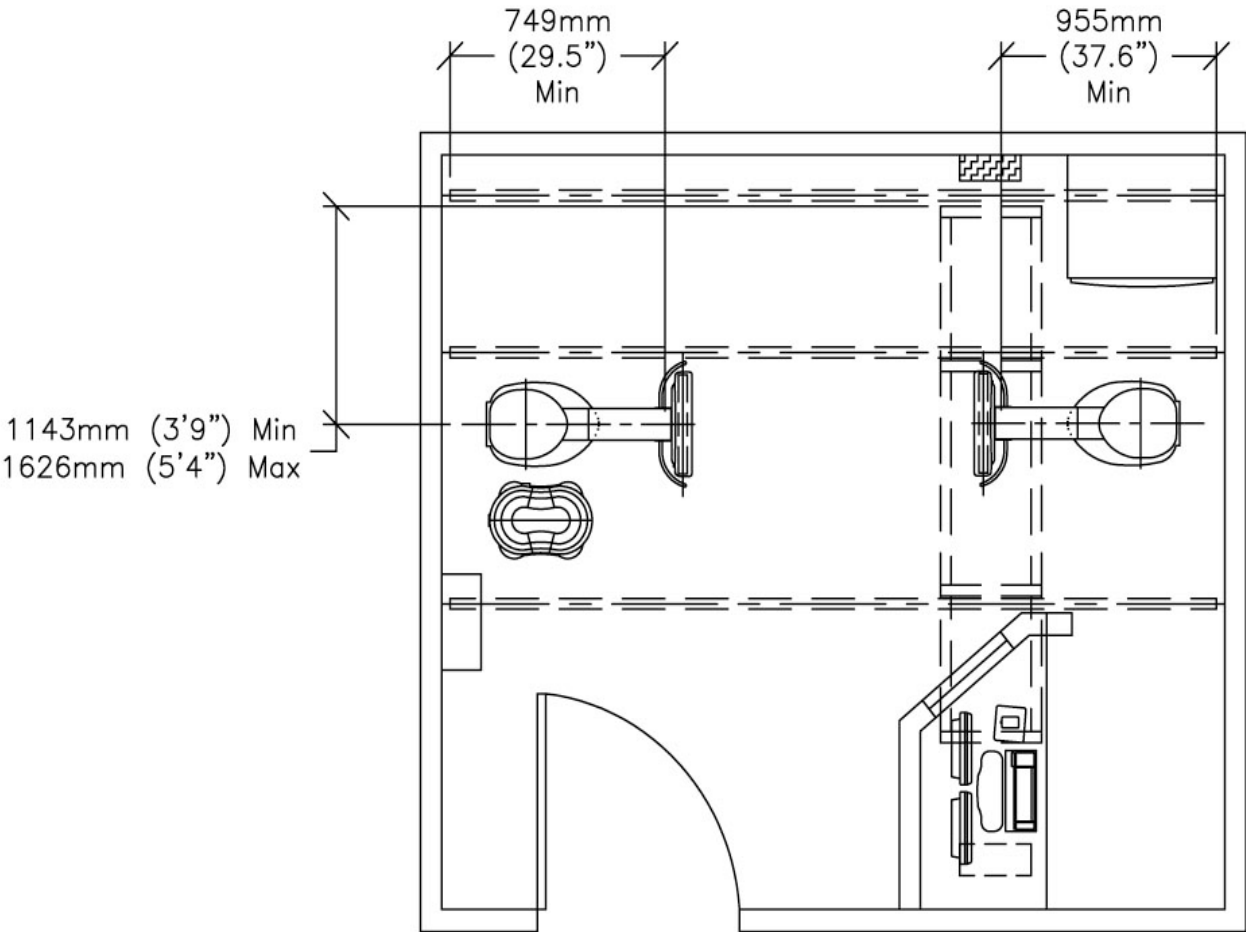


Figure 6-8 Applications & Room Layout for Extended Wall Stand - Only System (Head or Foot Configuration)

Section 2, Drawing 2
EXTENDED WALL STAND ONLY
(HEAD OR FOOT CONFIGURATION)

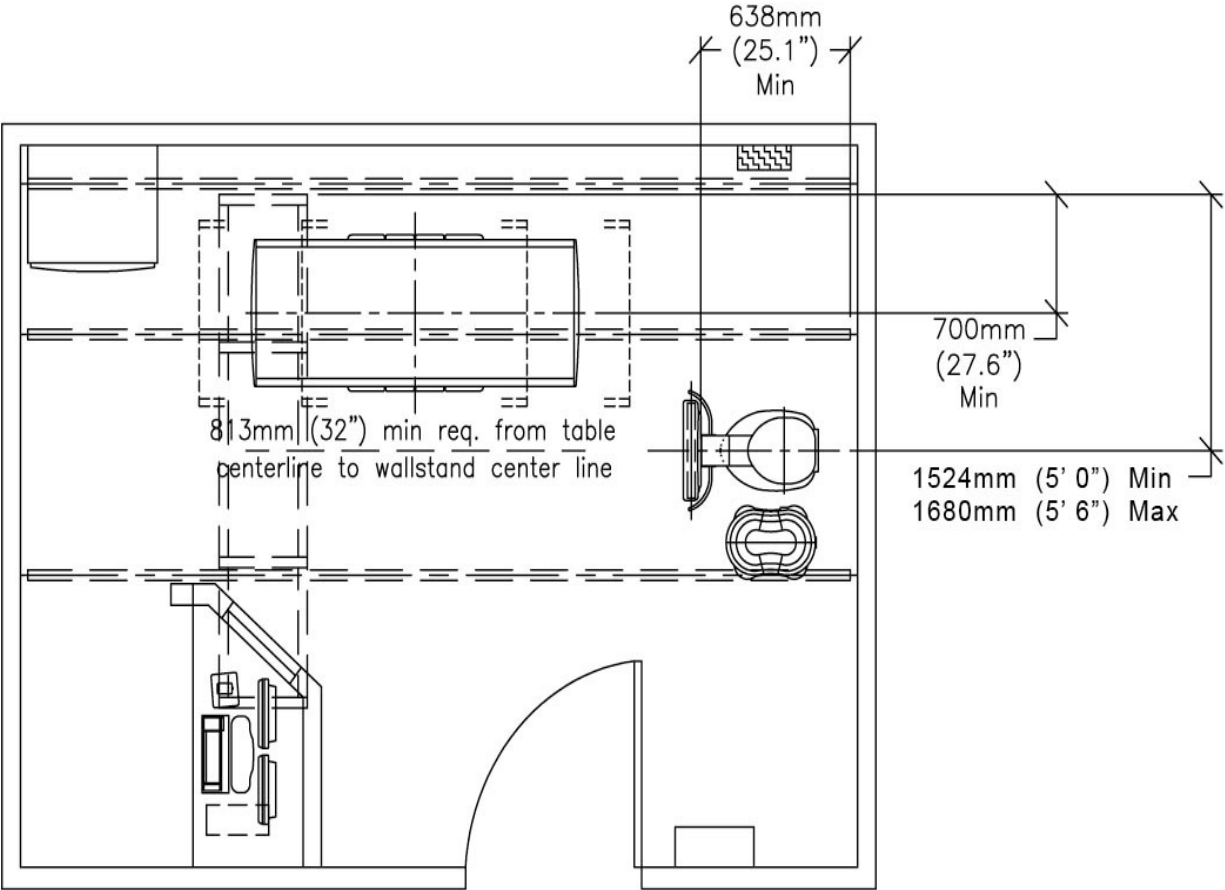


The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: <small>Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.</small>	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	
Extended Wallstand Tomo	X
Table: Tomo & Image Pasting	

5.3 Table and Wall Stand Systems (Foot Configuration)

Figure 6-9 Applications & Room Layout for Table and Wall Stand System (Foot Configuration)

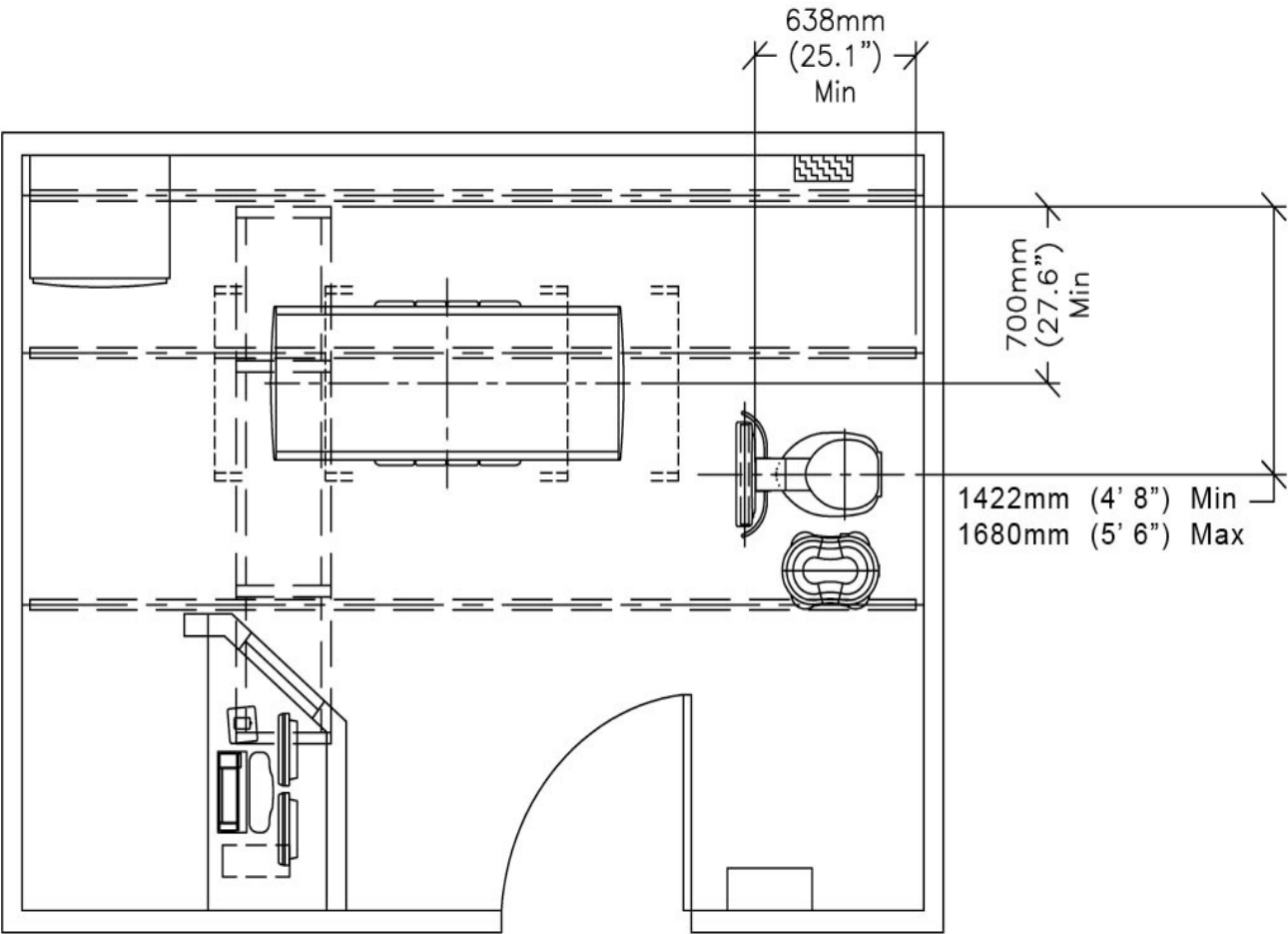
Section 3, Drawing 1
TABLE AND WALLSTAND SYSTEM
(FOOT CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings:	
Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

Figure 6-10 Applications & Room Layout for Table and Wall Stand System (Foot Configuration)

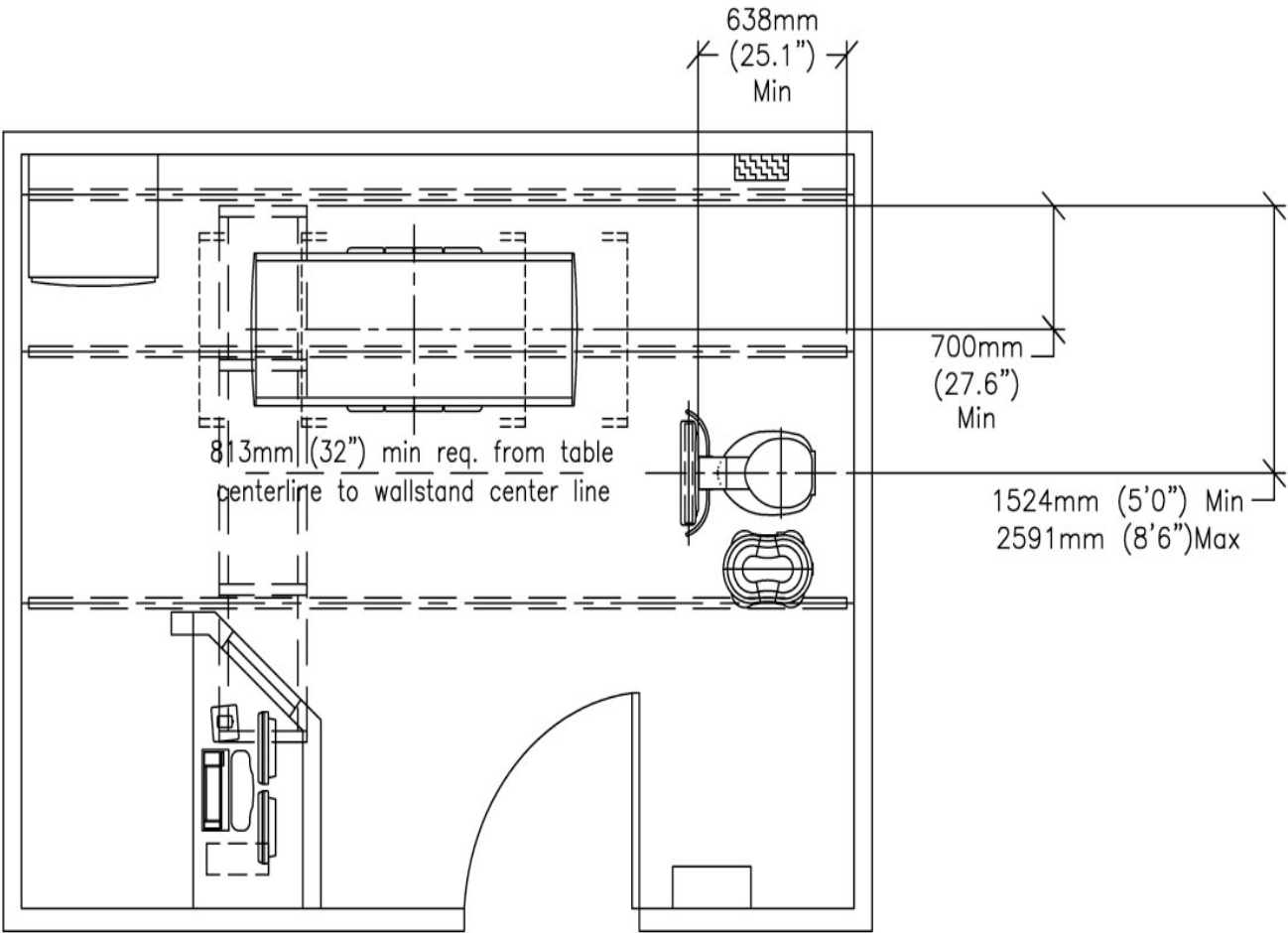
Section 3, Drawing 2
TABLE AND WALLSTAND SYSTEM
(FOOT CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings:	
Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

Figure 6-11 Applications & Room Layout for Table and Wall Stand System (Foot Configuration)

Section 3, Drawing 3
TABLE AND WALLSTAND SYSTEM
(FOOT CONFIGURATION)



The Following Tomo & Image Pasting
Applications are Possible with the
Layout as Shown in These Drawings:

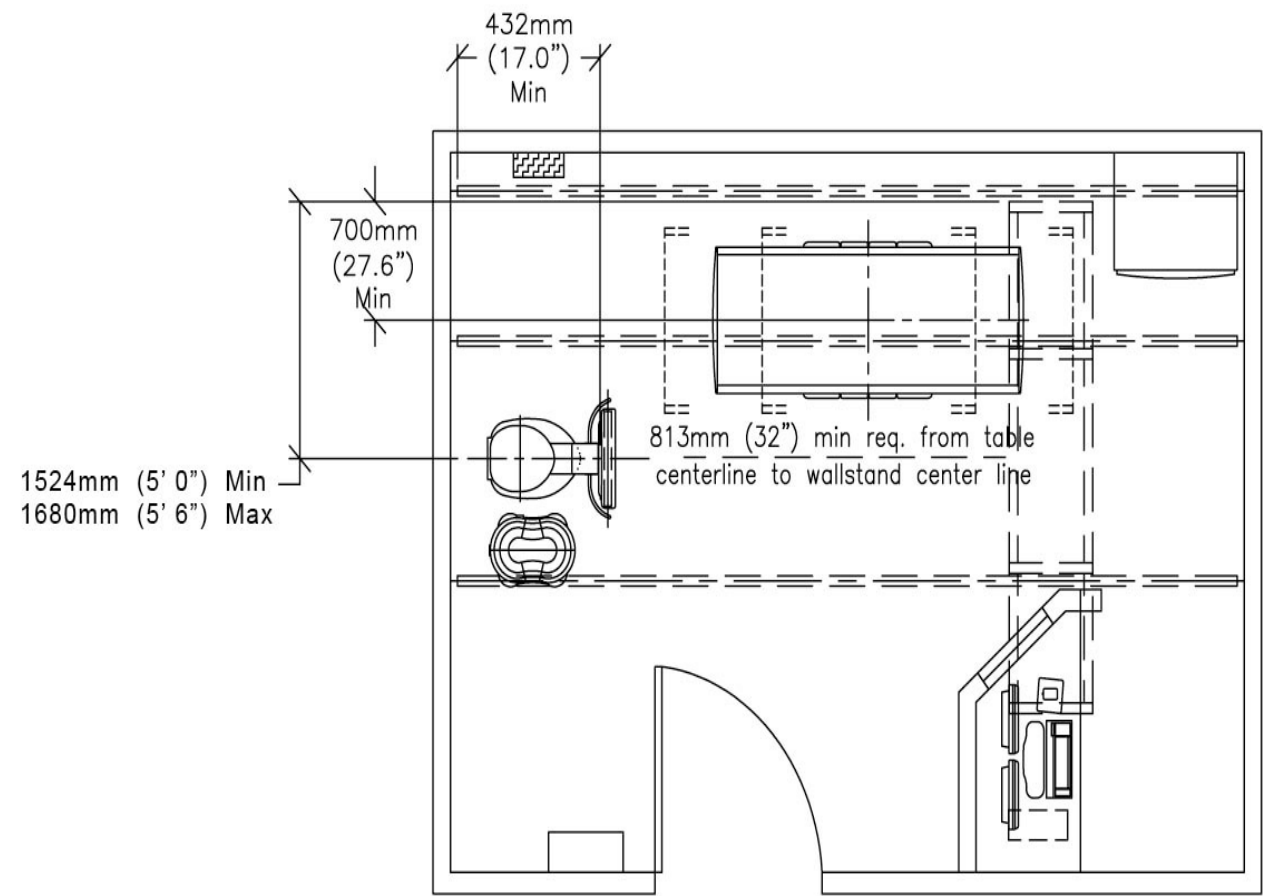
Note: Not all Tomo/Image Pasting Options may
be included in your equipment order. Please consult
your equipment order or quote for validation.

Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

5.4 Table and Wall Stand Systems (Head Configuration)

Figure 6-12 Applications & Room Layout for Table and Wall Stand System (Head Configuration)

Section 4, Drawing 1
TABLE AND WALLSTAND SYSTEM
(HEAD CONFIGURATION)

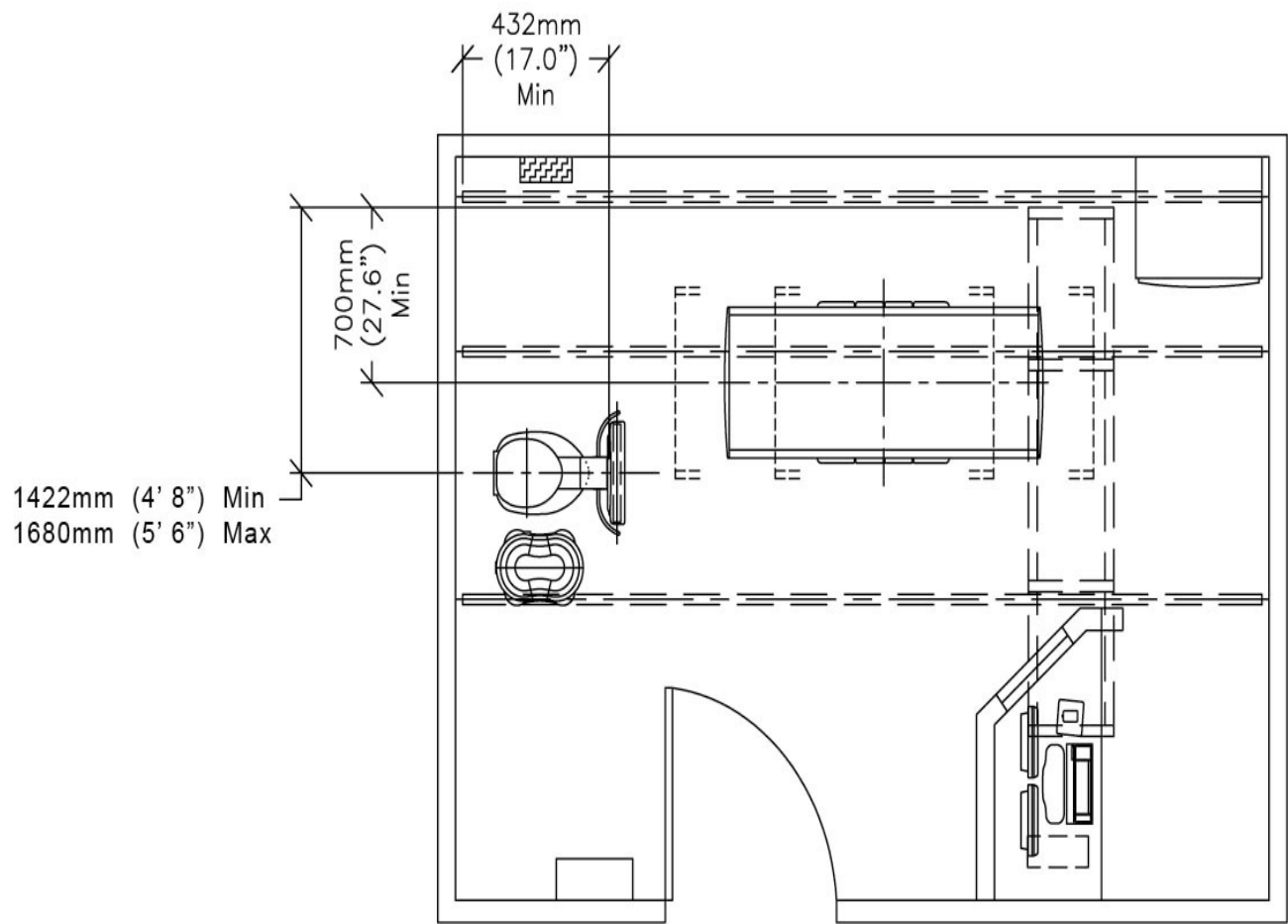


The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: <small>Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.</small>	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

Figure 6-13 Applications & Room Layout for Table and Wall Stand System (Head Configuration)

Section 4, Drawing 2

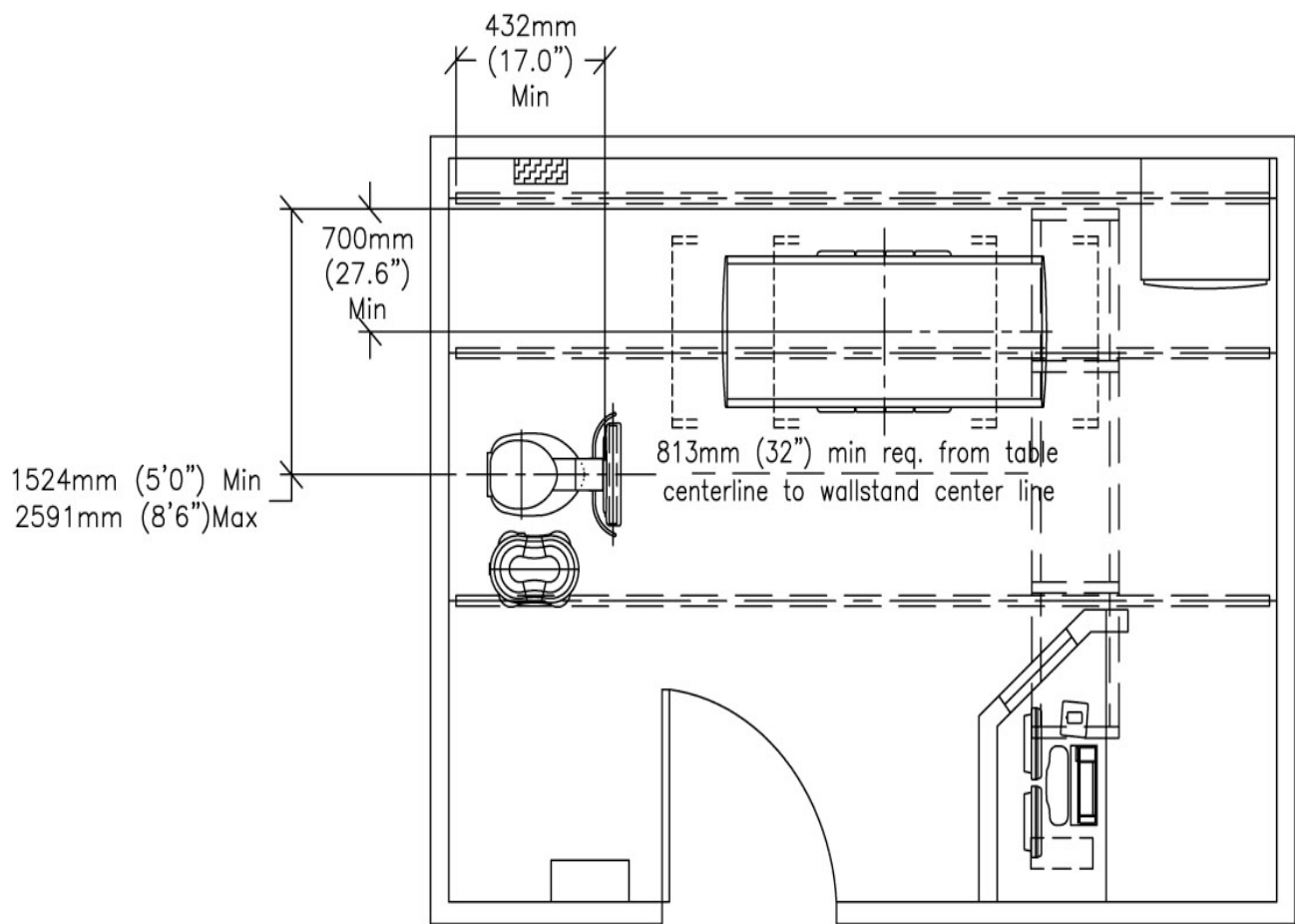
TABLE AND WALLSTAND SYSTEM
(HEAD CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings:	
Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

Figure 6-14 Applications & Room Layout for Table and Wall Stand System (Head Configuration)

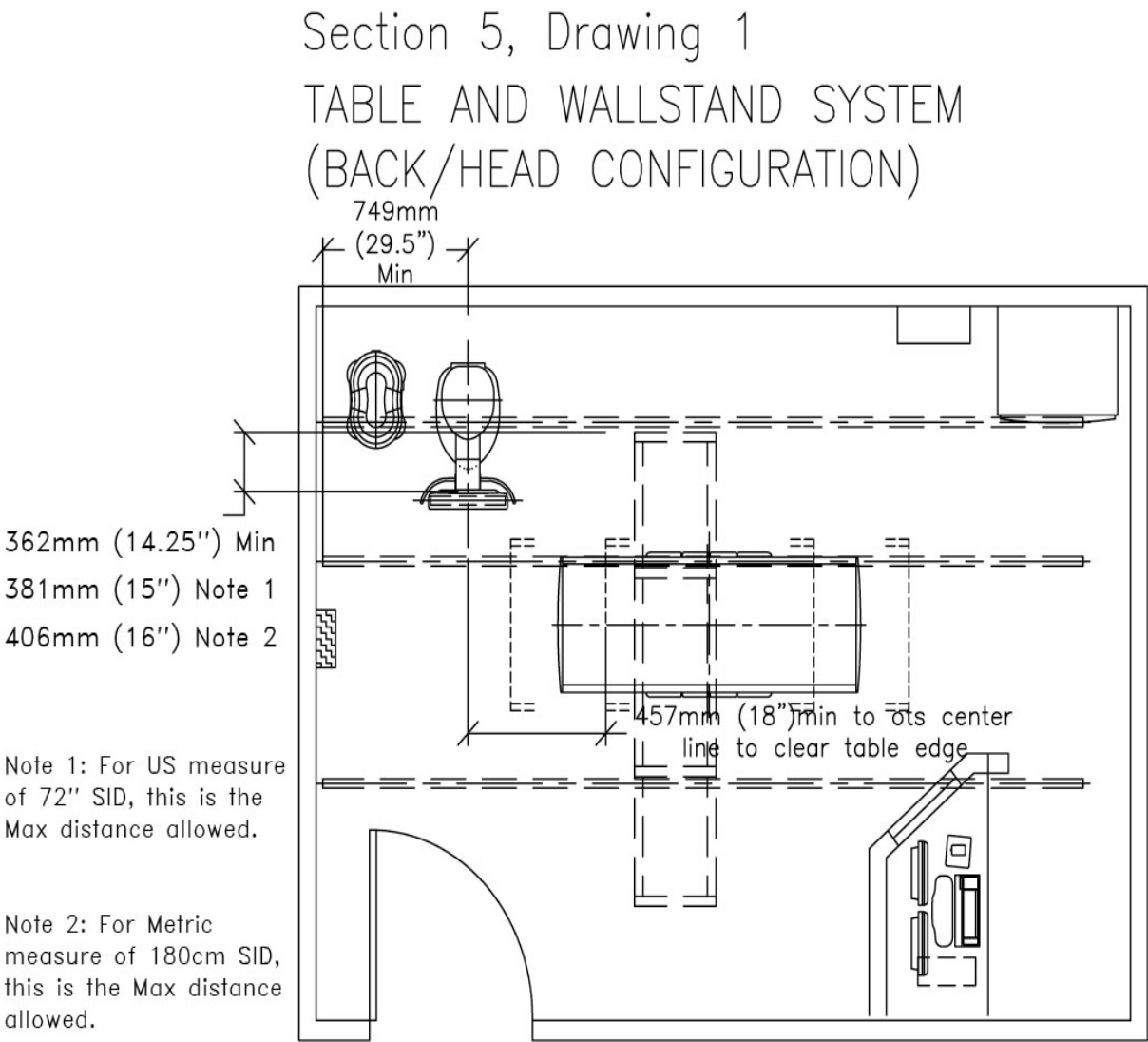
Section 4, Drawing 3
TABLE AND WALLSTAND SYSTEM
(HEAD CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: <small>Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.</small>	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

5.5 Table and Wall Stand Systems (Back Configuration)

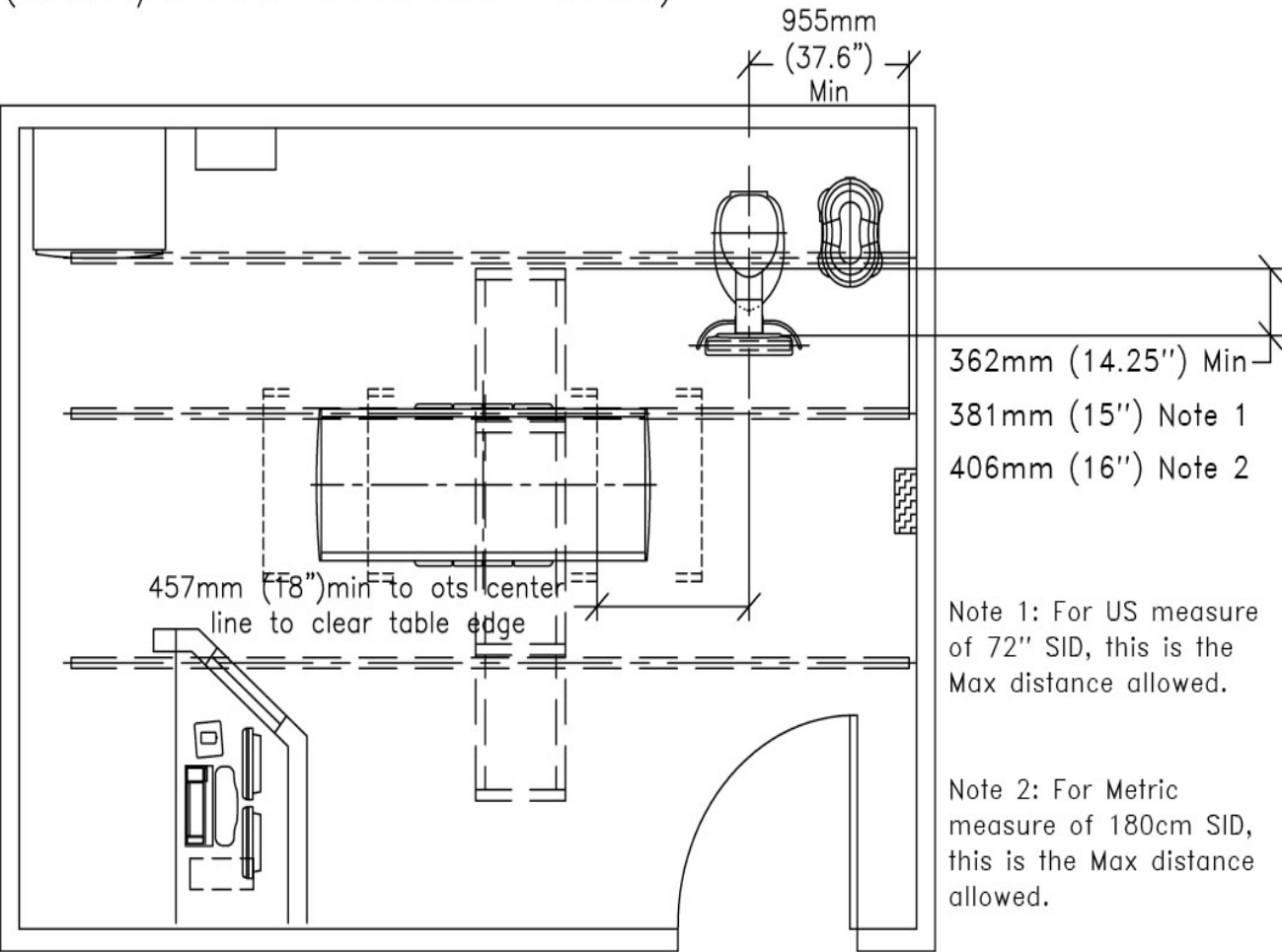
Figure 6-15 Applications & Room Layout for Table and Wall Stand System (Back/Head Configuration)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: <small>Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.</small>	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

Figure 6-16 Applications & Room Layout for Table and Wall Stand System (Back/Foot Configuration)

Section 5, Drawing 2
TABLE AND WALLSTAND SYSTEM
(BACK/FOOT CONFIGURATION)

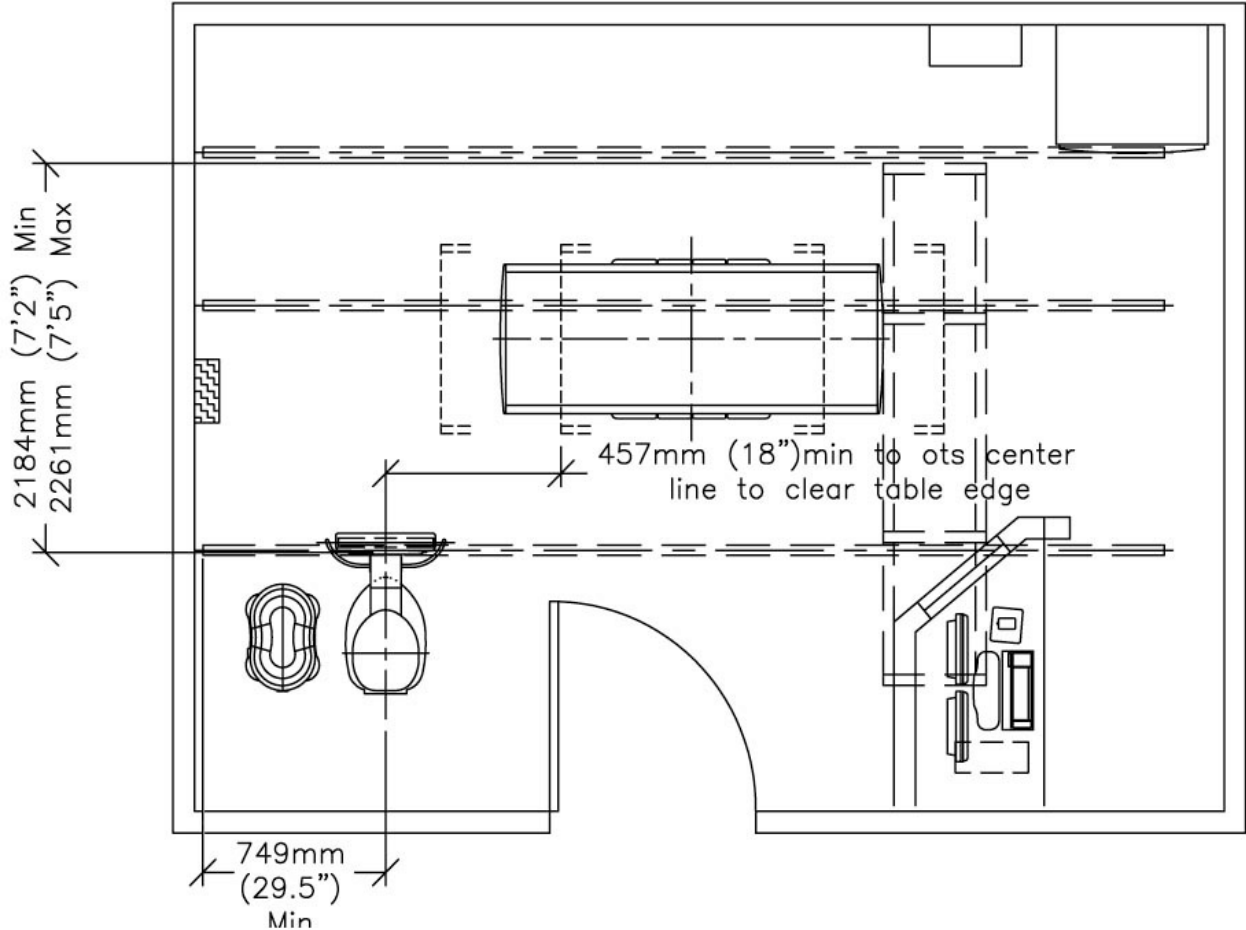


The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings:	
Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

5.6 Table and Wall Stand Systems (Front Configuration)

Figure 6-17 Applications & Room Layout for Table and Wall Stand System (Front/Head Configuration)

Section 6, Drawing 1
TABLE AND WALLSTAND SYSTEM
(FRONT/HEAD CONFIGURATION)

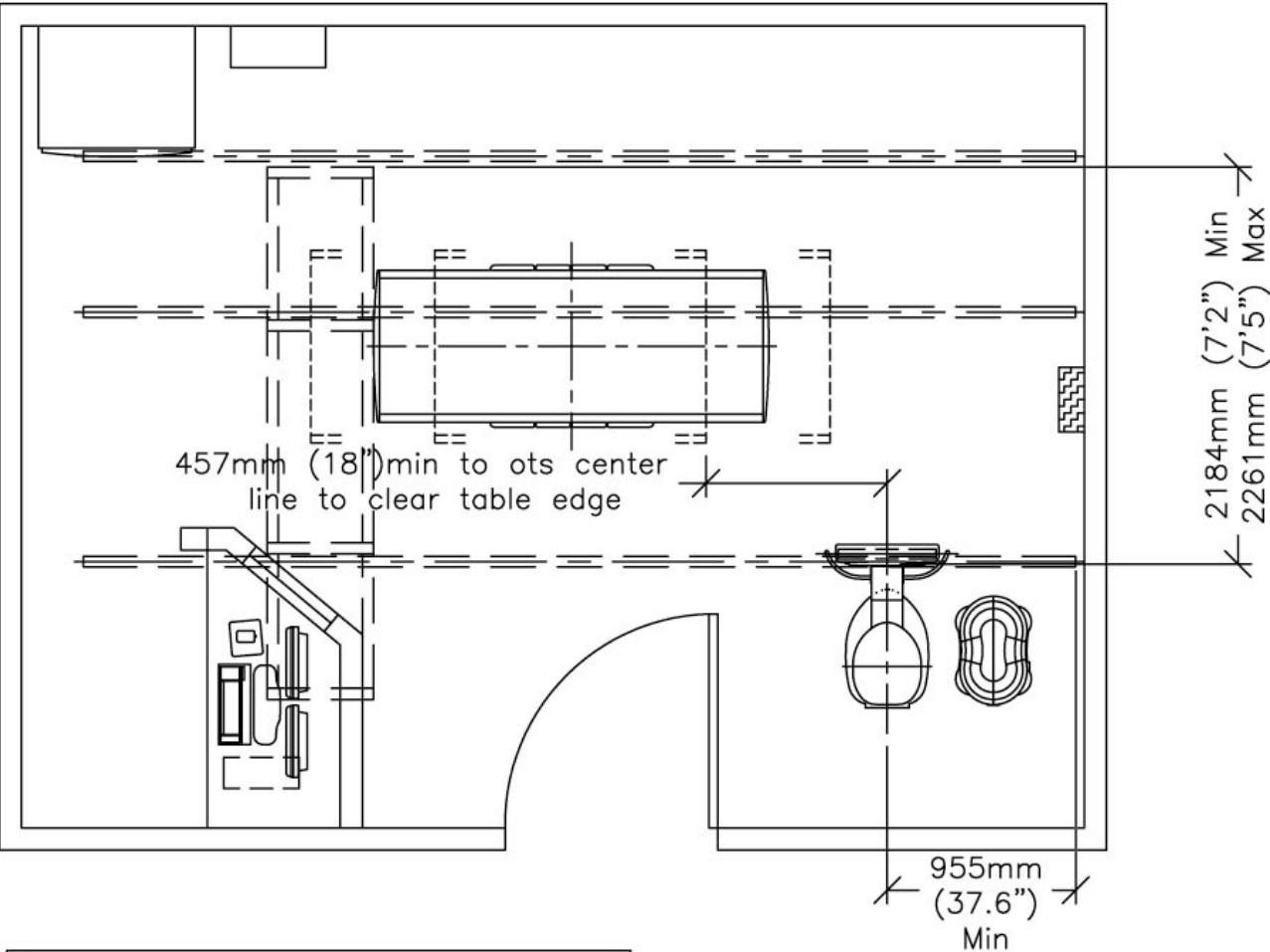


The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: <small>Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.</small>	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

Figure 6-18 Applications & Room Layout for Table and Wall Stand System (Front/Foot Configuration)

Section 6, Drawing 2

TABLE AND WALLSTAND SYSTEM
(FRONT/FOOT CONFIGURATION)

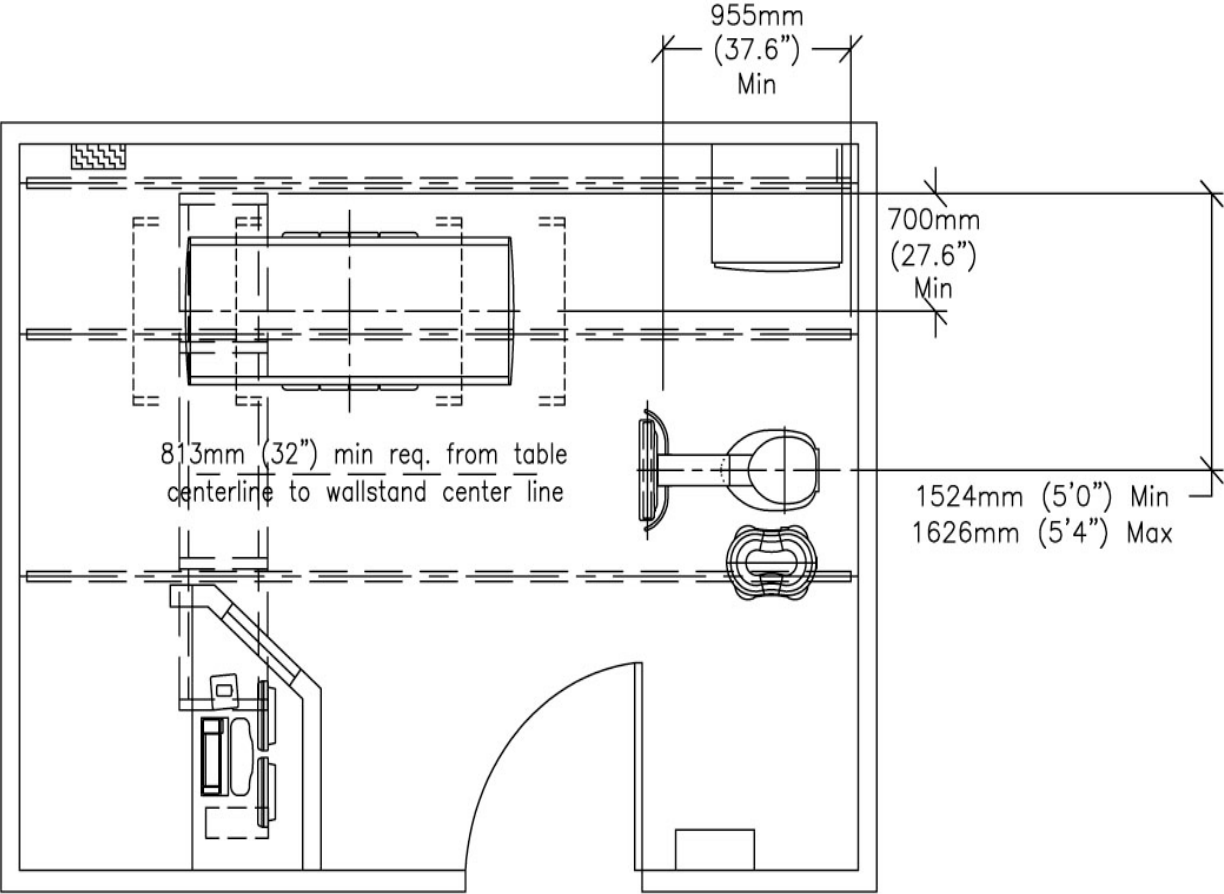


The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings:	
Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

5.7 Table and Extended Wall Stand Systems (Foot Configuration)

Figure 6-19 Applications & Room Layout for Table and Extended Wall Stand System (Foot Configuration)

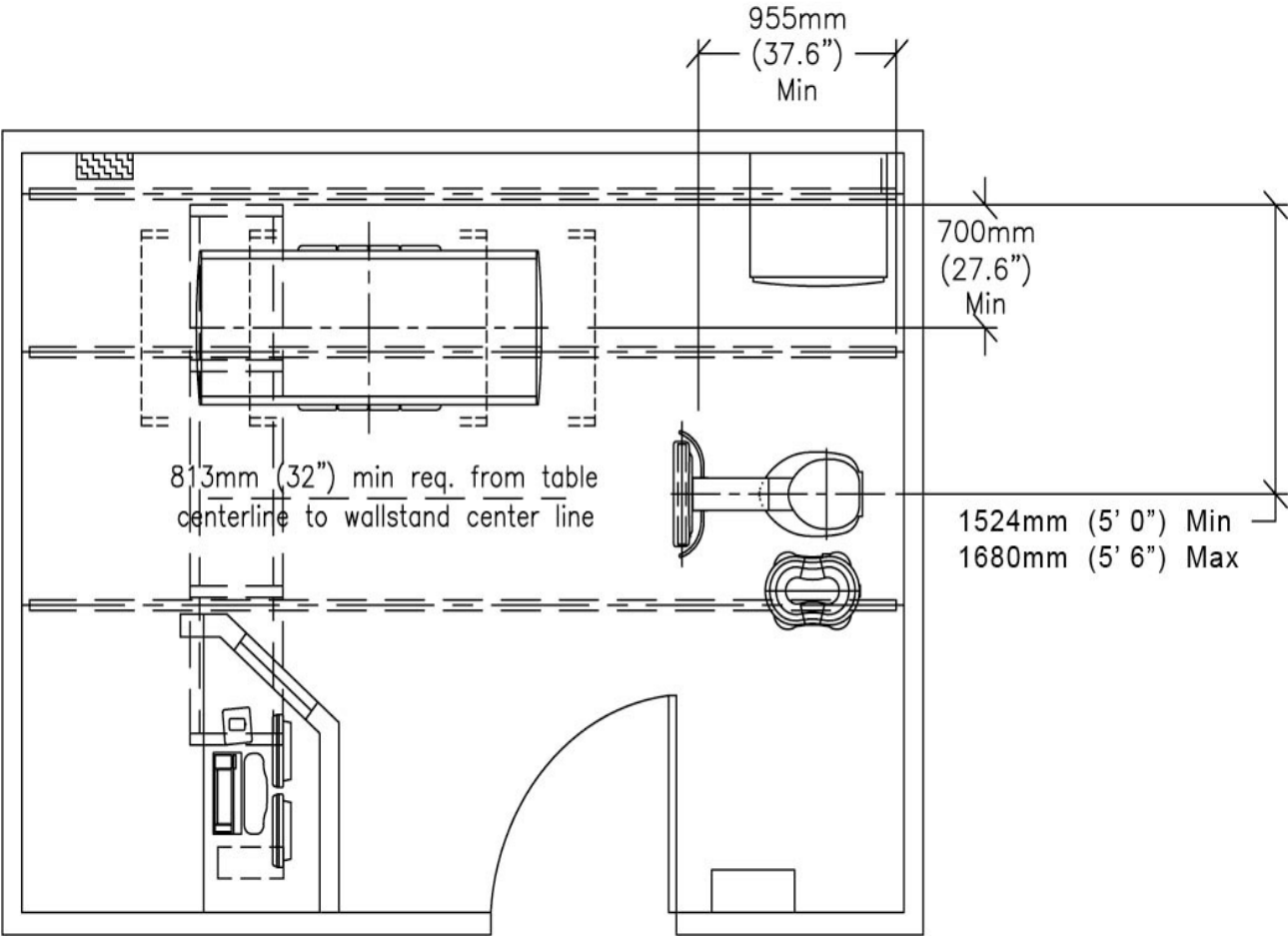
Section 7, Drawing 1
TABLE AND EXTENDED WALL STAND SYSTEM
(FOOT CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings:	
Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	X
Table: Tomo & Image Pasting	X

Figure 6-20 Applications & Room Layout for Table and Extended Wall Stand System (Foot Configuration)

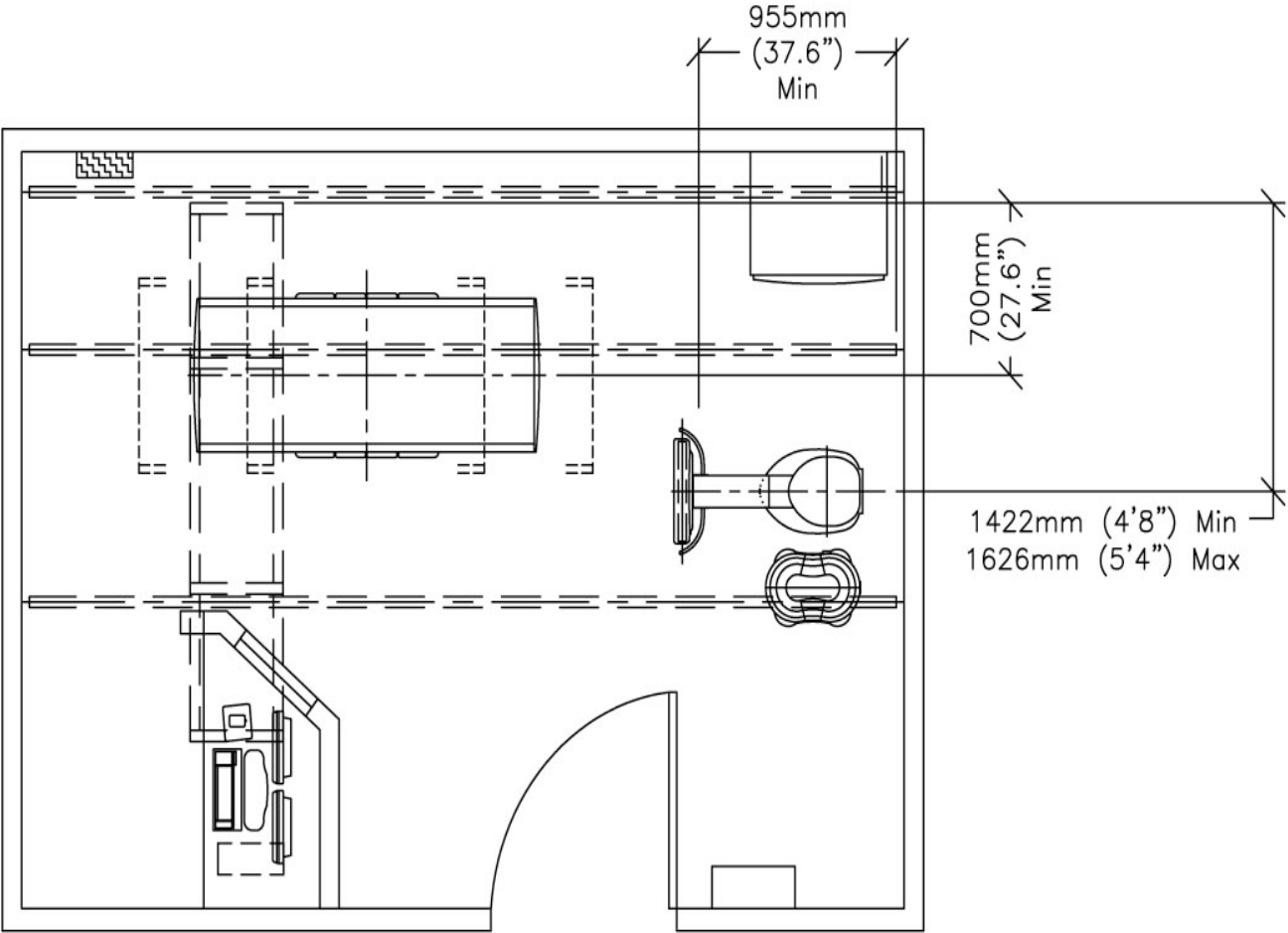
Section 7, Drawing 2
TABLE AND EXTENDED WALL STAND SYSTEM
(FOOT CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings:	
Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

Figure 6-21 Applications & Room Layout for Table and Extended Wall Stand System (Foot Configuration)

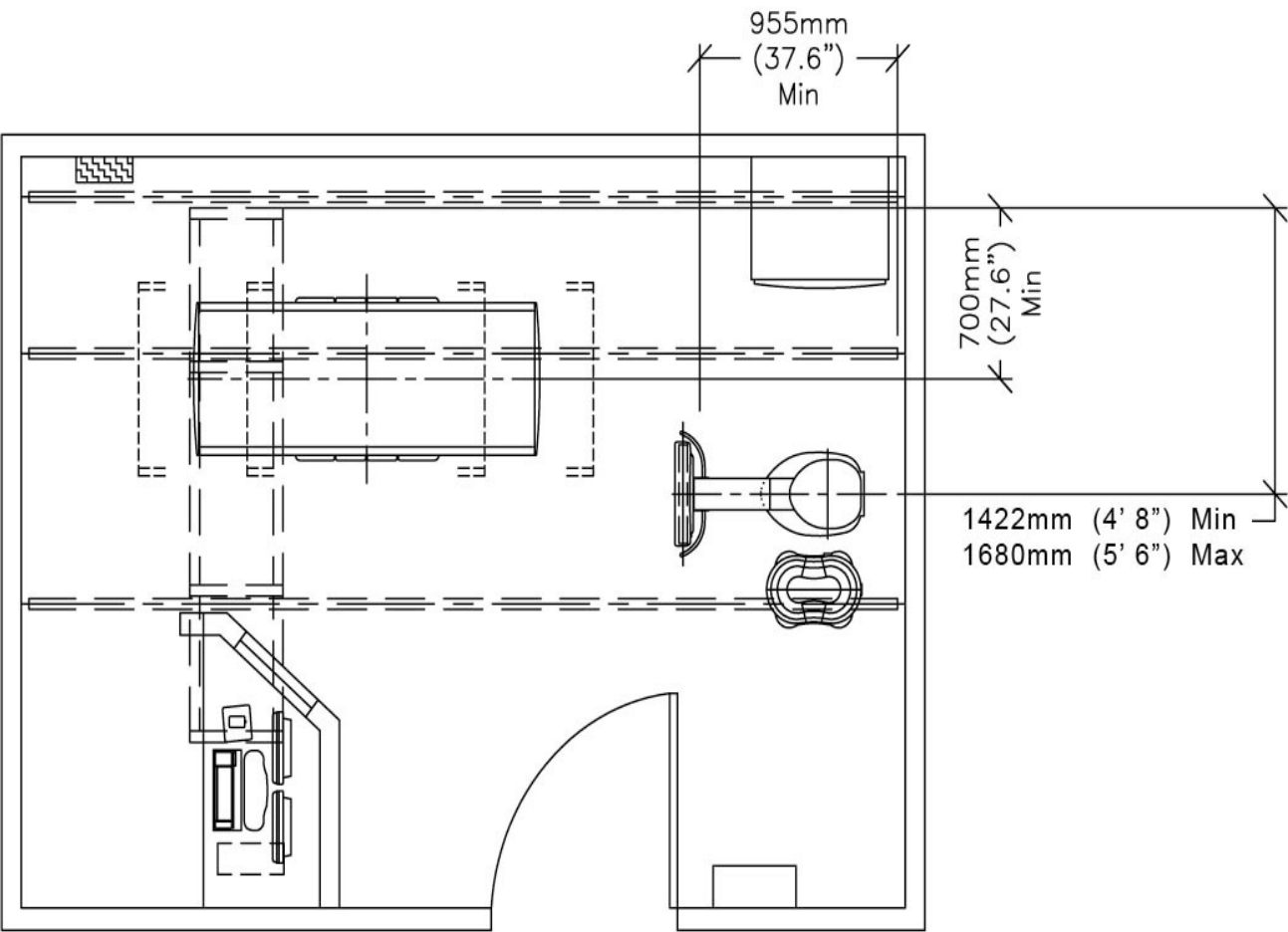
Section 7, Drawing 3
TABLE AND EXTENDED WALL STAND SYSTEM
(FOOT CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: <small>Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.</small>	
Wallstand: Tomo & Image Pasting	
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	X
Table: Tomo & Image Pasting	X

Figure 6-22 Applications & Room Layout for Table and Extended Wall Stand System (Foot Configuration)

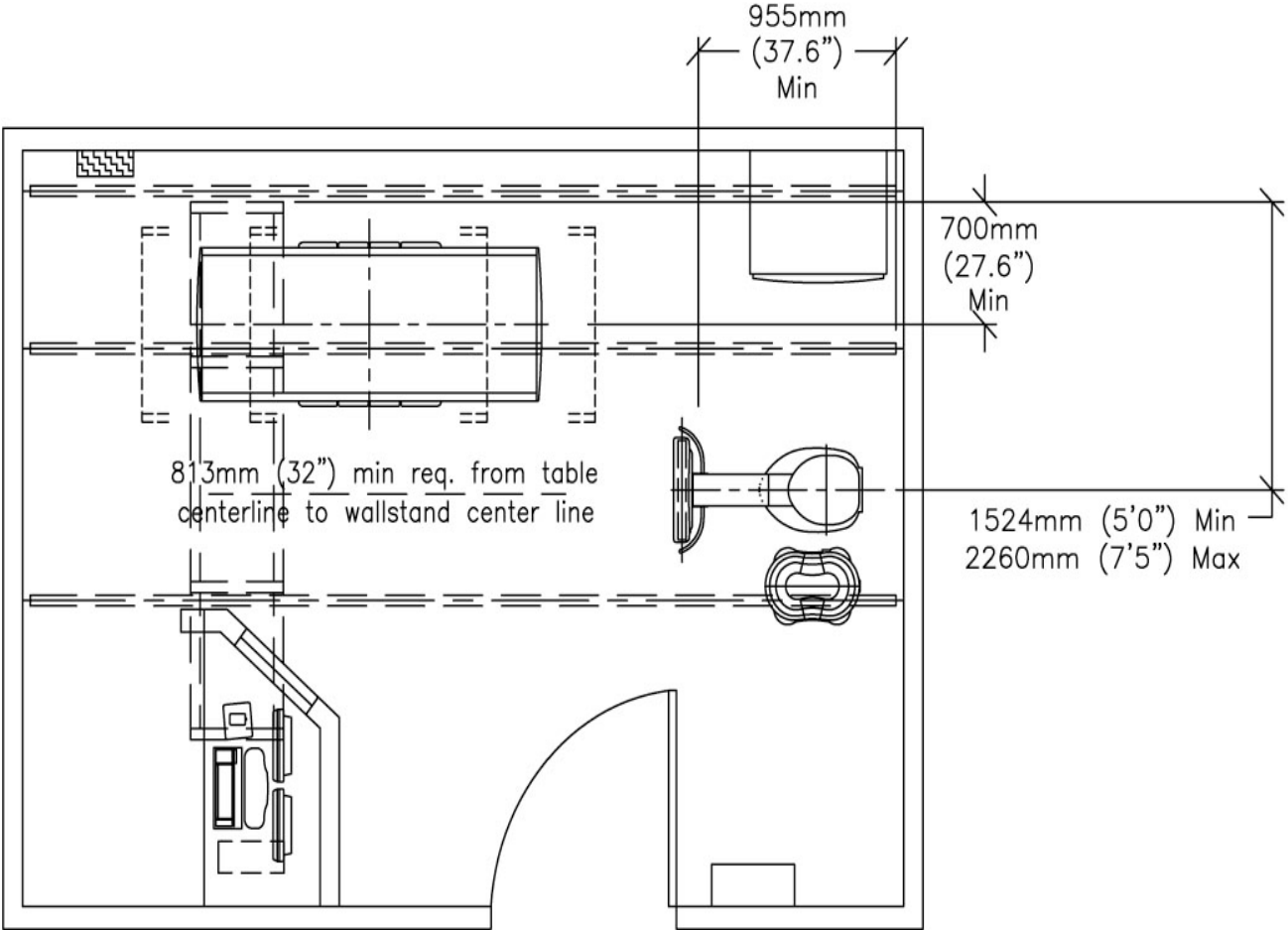
Section 7, Drawing 4
TABLE AND EXTENDED WALL STAND SYSTEM
(FOOT CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings:	
Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

Figure 6-23 Applications & Room Layout for Table and Extended Wall Stand System (Foot Configuration)

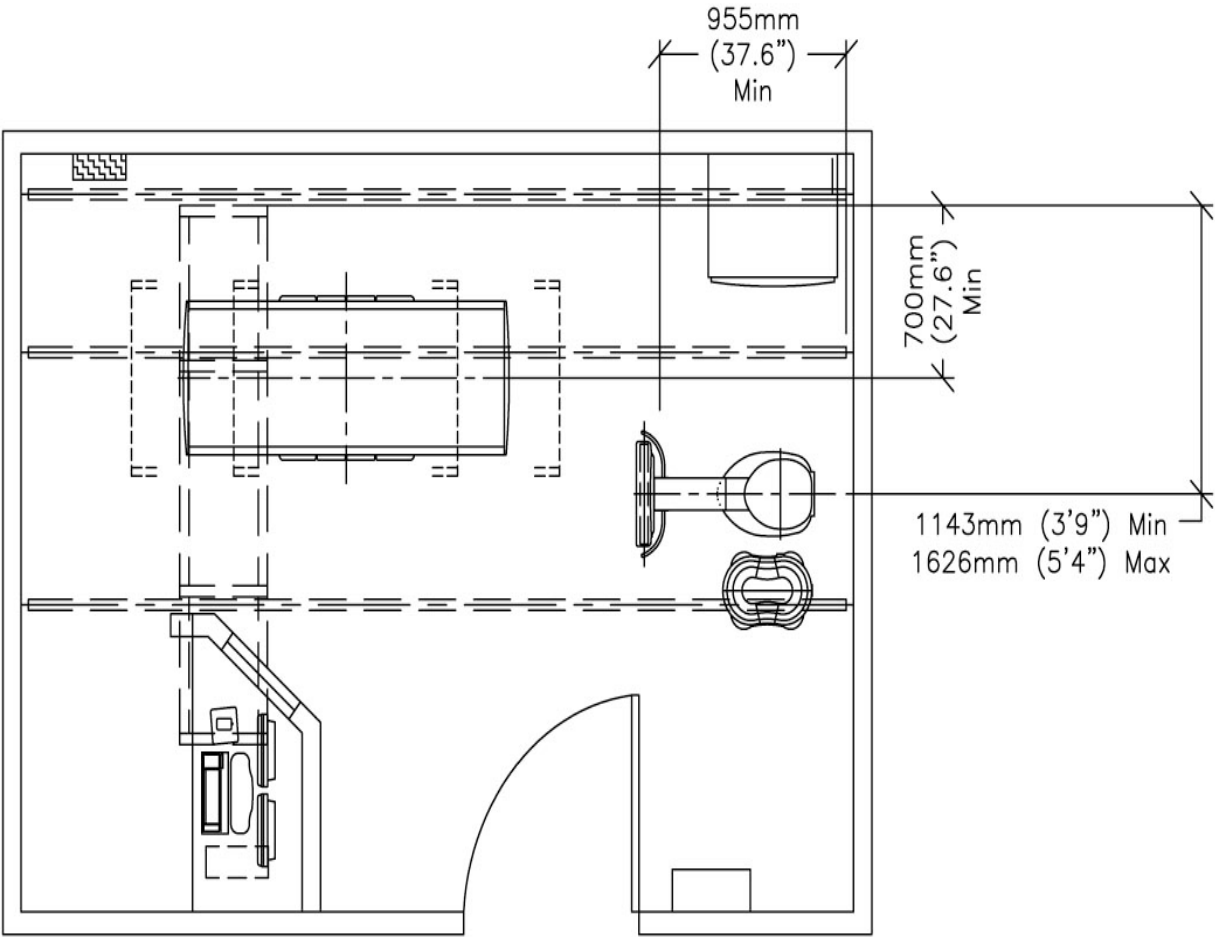
Section 7, Drawing 5
TABLE AND EXTENDED WALL STAND SYSTEM
(FOOT CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: <small>Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.</small>	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

Figure 6-24 Applications & Room Layout for Table and Extended Wall Stand System (Foot Configuration)

Section 7, Drawing 6
TABLE AND EXTENDED WALL STAND SYSTEM
(FOOT CONFIGURATION)

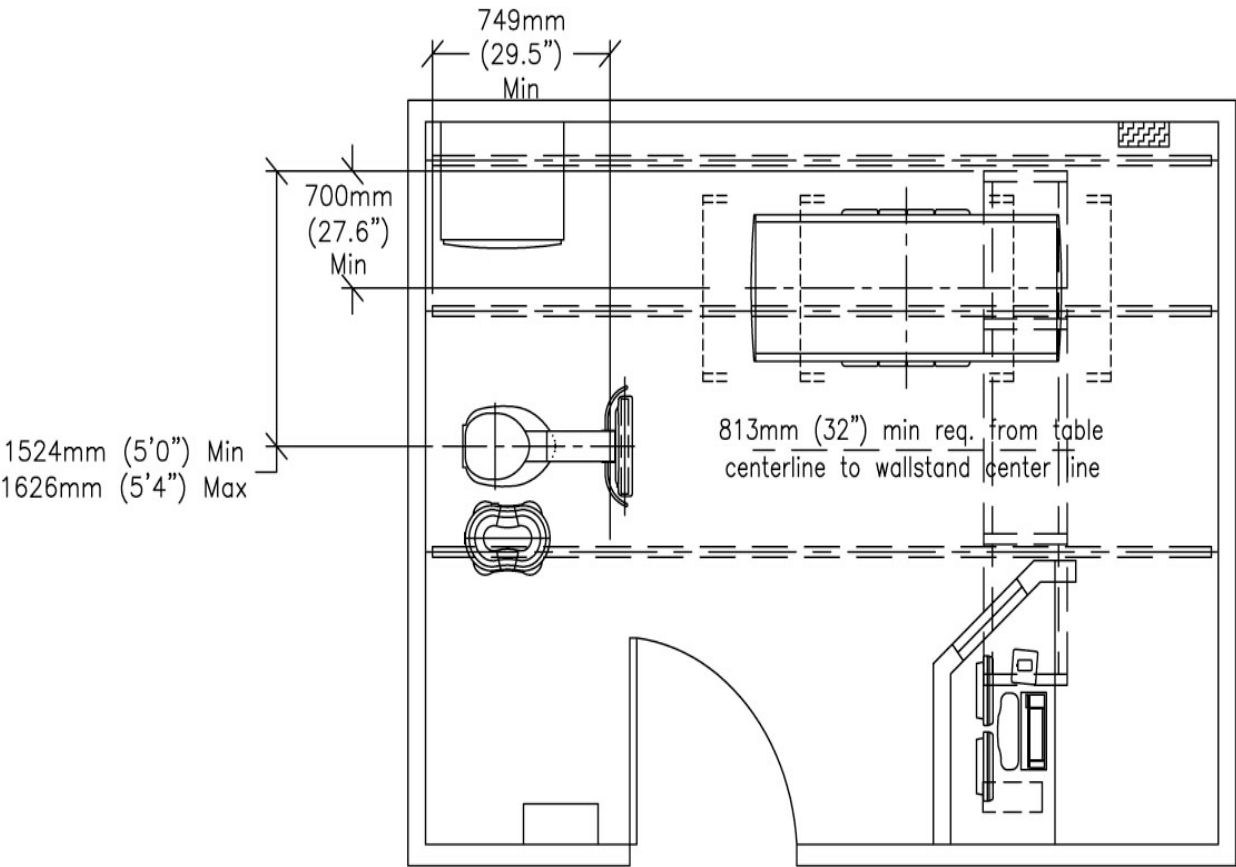


The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings:	
Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	
Cross Table Tomo (to Wallstand)	
Extended Wallstand Tomo	X
Table: Tomo & Image Pasting	X

5.8 Table and Extended Wall Stand Systems (Head Configuration)

Figure 6-25 Applications & Room Layout for Table and Extended Wall Stand System (Head Configuration)

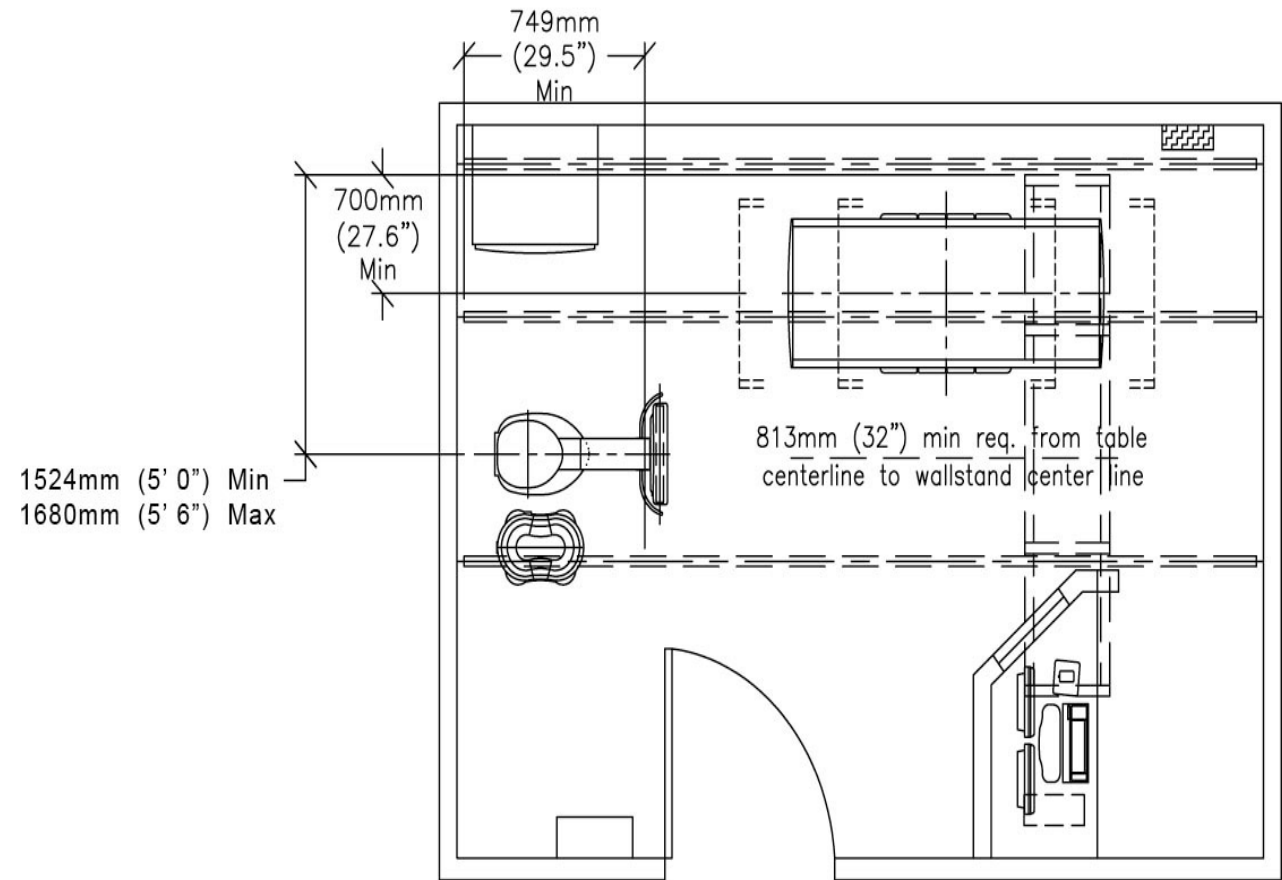
Section 8, Drawing 1
TABLE AND EXTENDED WALL STAND SYSTEM
(HEAD CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: <small>Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.</small>	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	X
Table: Tomo & Image Pasting	X

Figure 6-26 Applications & Room Layout for Table and Extended Wall Stand System (Head Configuration)

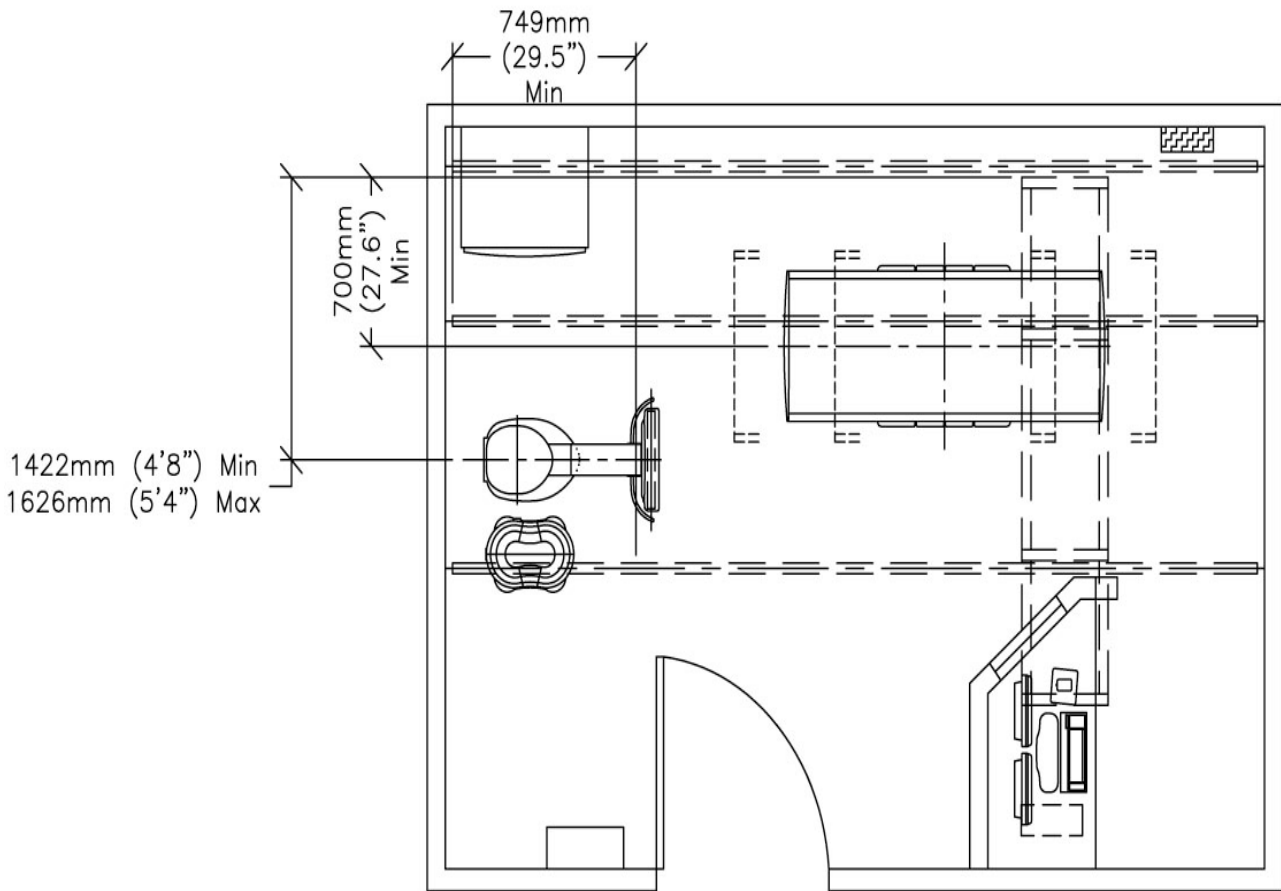
Section 8, Drawing 2
TABLE AND EXTENDED WALL STAND SYSTEM
(HEAD CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: <small>Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.</small>	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

Figure 6-27 Applications & Room Layout for Table and Extended Wall Stand System (Head Configuration)

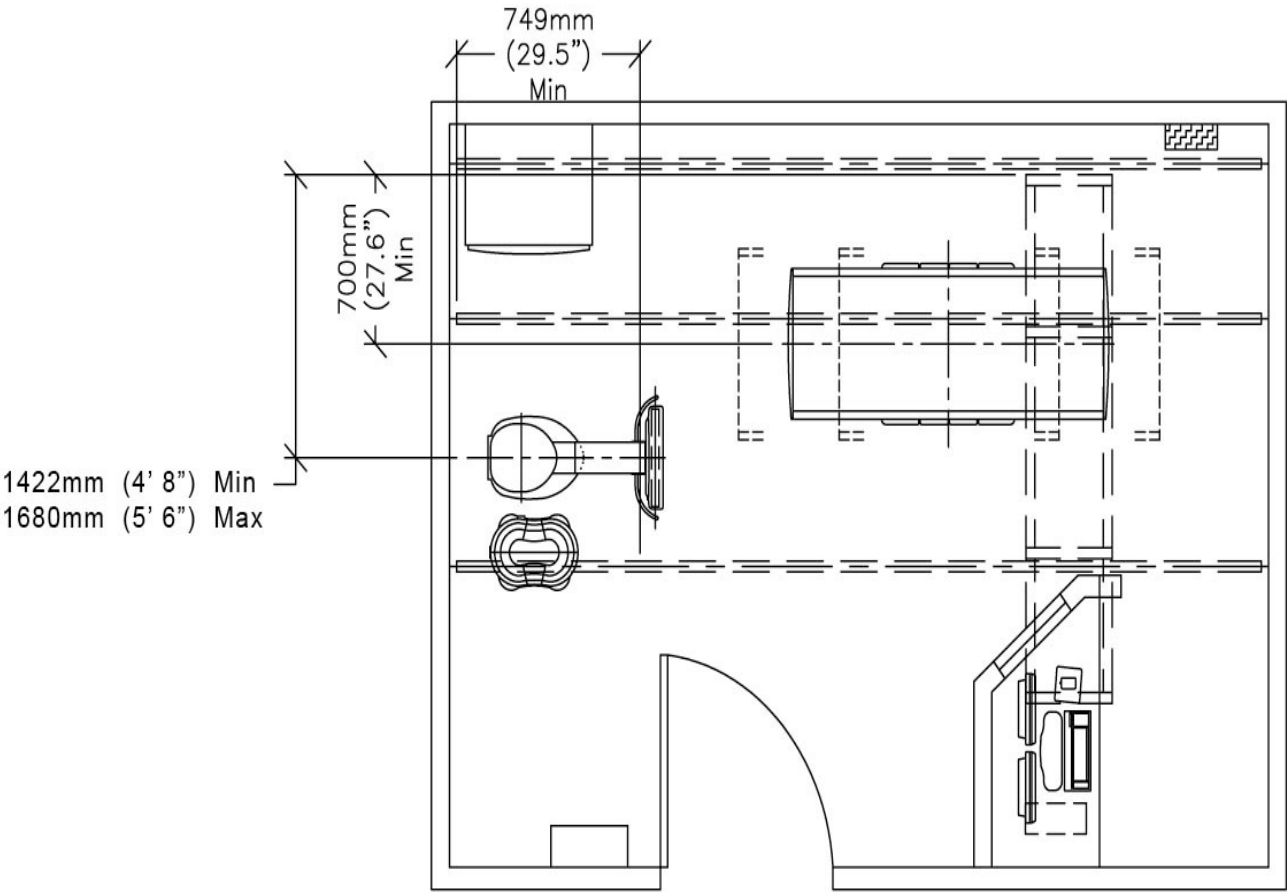
Section 8, Drawing 3
TABLE AND EXTENDED WALL STAND SYSTEM
(HEAD CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	X
Table: Tomo & Image Pasting	X

Figure 6-28 Applications & Room Layout for Table and Extended Wall Stand System (Head Configuration)

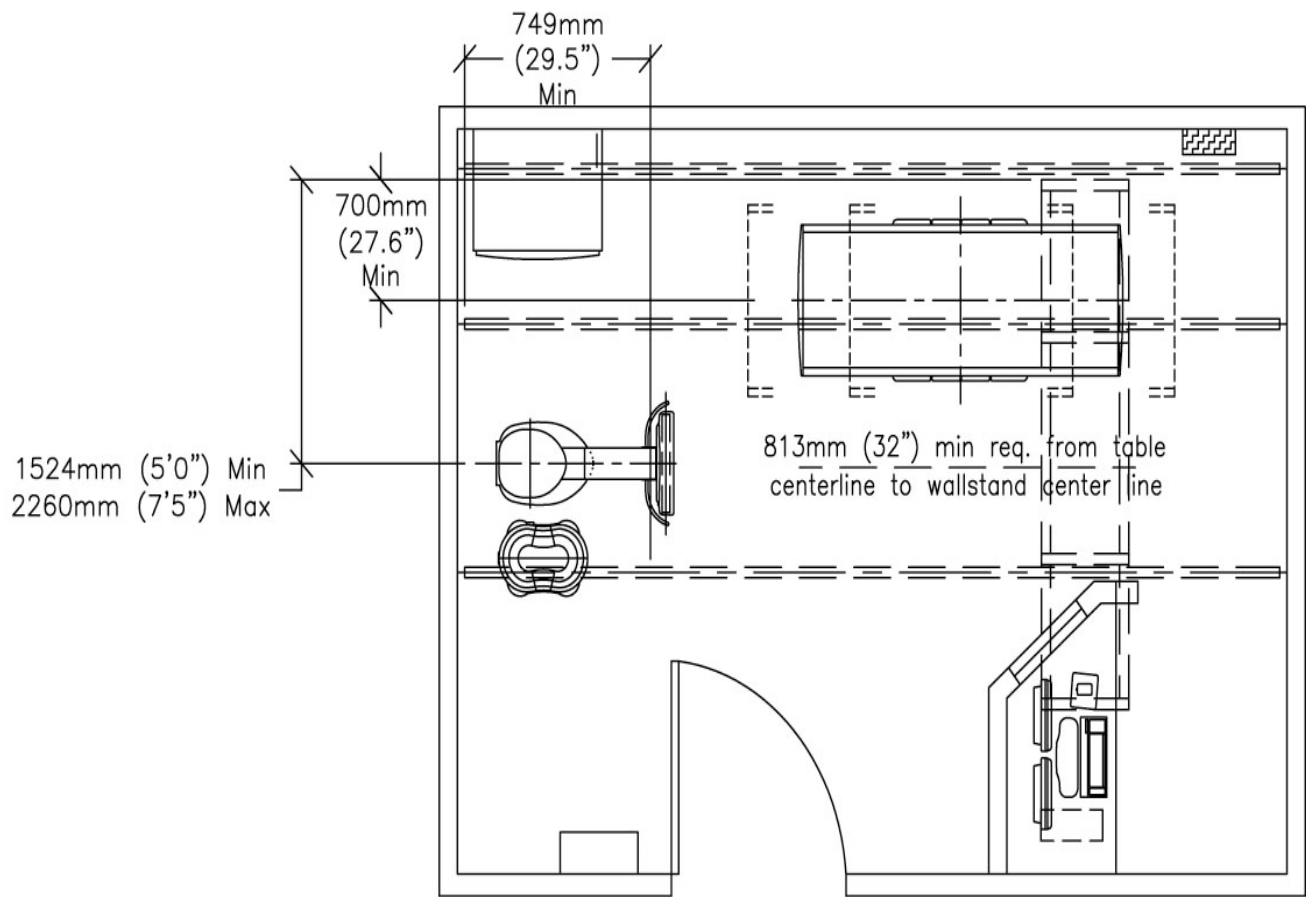
Section 8, Drawing 4
TABLE AND EXTENDED WALL STAND SYSTEM
(HEAD CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: <small>Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.</small>	
Wallstand: Tomo & Image Pasting	
Cross Table Tomo (to Wallstand)	X
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

Figure 6-29 Applications & Room Layout for Table and Extended Wall Stand System (Head Configuration)

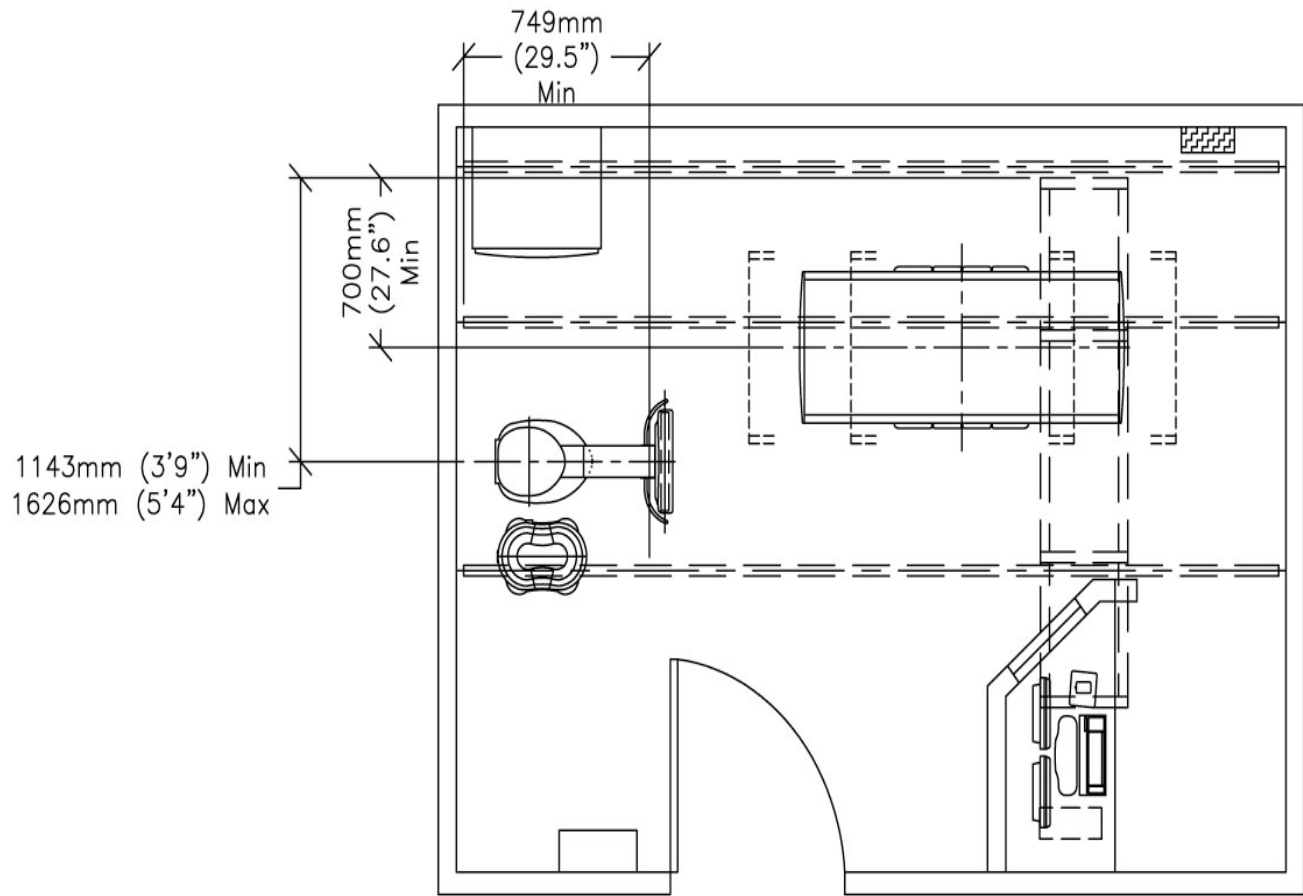
Section 8, Drawing 5
TABLE AND EXTENDED WALL STAND SYSTEM
(HEAD CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings: <small>Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.</small>	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	
Extended Wallstand Tomo	
Table: Tomo & Image Pasting	X

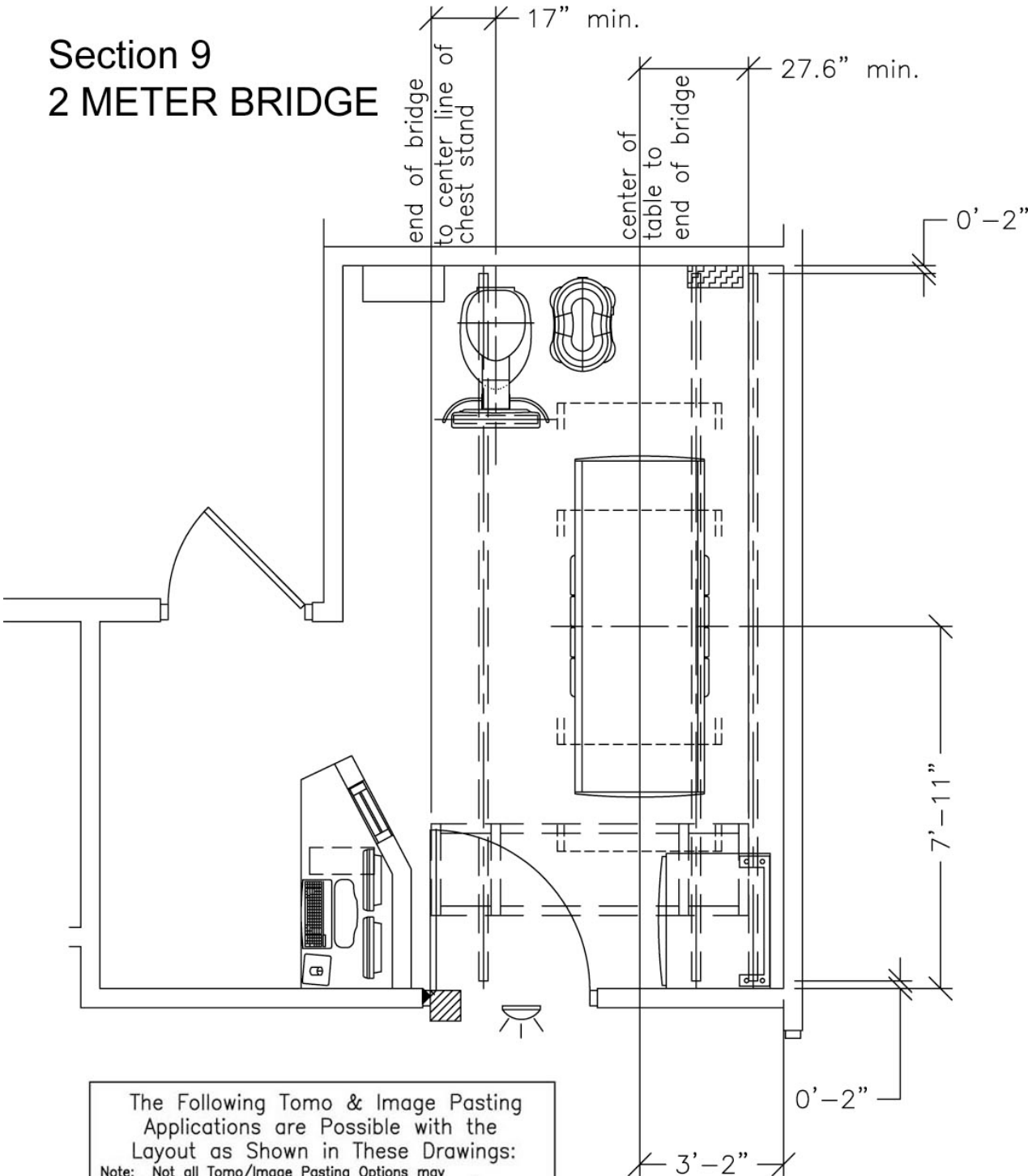
Figure 6-30 Applications & Room Layout for Table and Extended Wall Stand System (Head Configuration)

Section 8, Drawing 6
TABLE AND EXTENDED WALL STAND SYSTEM
(HEAD CONFIGURATION)



The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings:	
Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	
Cross Table Tomo (to Wallstand)	
Extended Wallstand Tomo	X
Table: Tomo & Image Pasting	X

Figure 6-31 Applications & Room Layout for 2 Meter Bridge



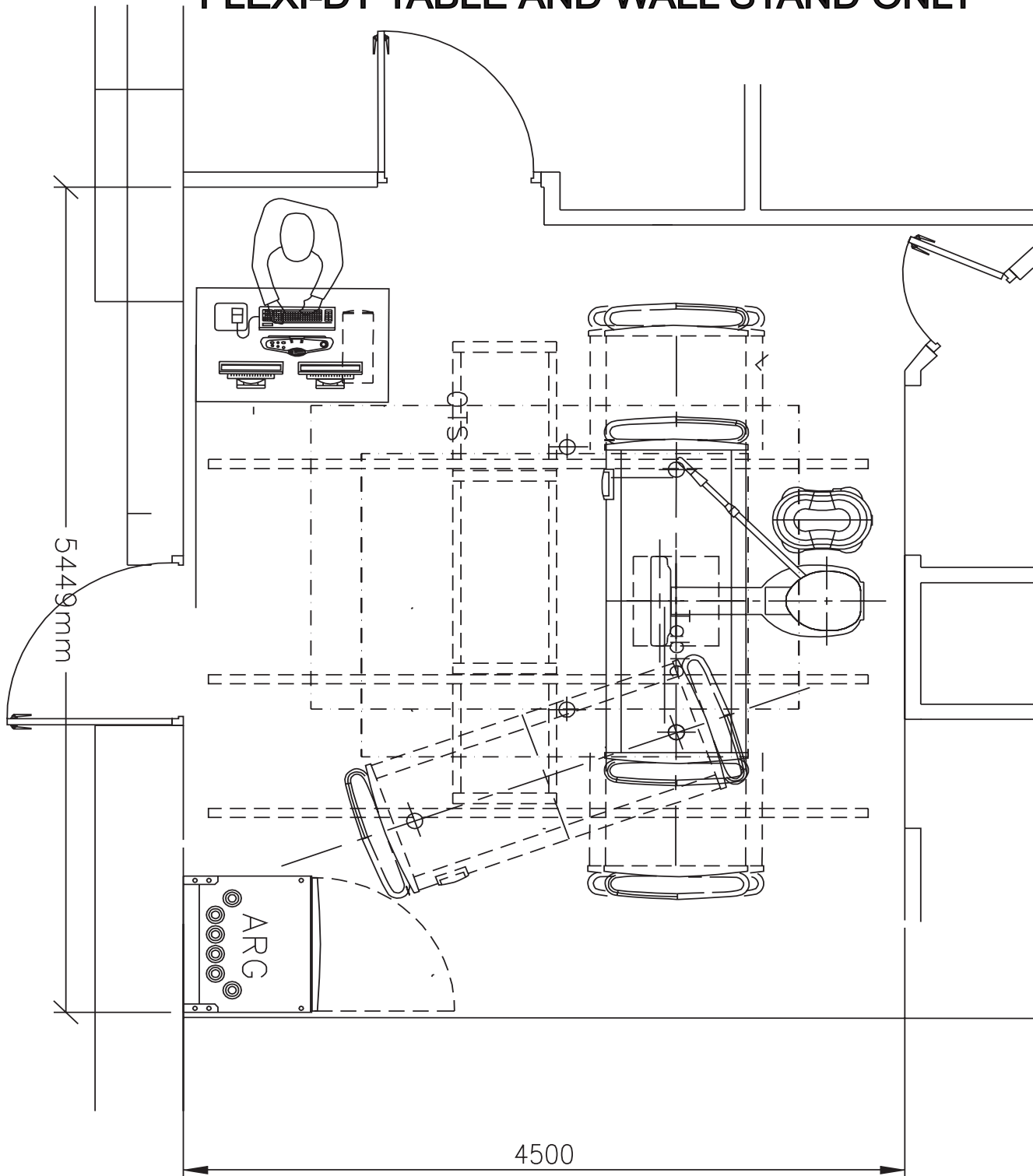
The Following Tomo & Image Pasting Applications are Possible with the Layout as Shown in These Drawings:	
Note: Not all Tomo/Image Pasting Options may be included in your equipment order. Please consult your equipment order or quote for validation.	
Wallstand: Tomo & Image Pasting	X
Cross Table Tomo (to Wallstand)	No
Extended Wallstand Tomo	No
Table: Tomo & Image Pasting	X

This feature not possible with 2-meter bridge

This feature not possible with 2-meter bridge

Figure 6-32 Flexi-DT Table and Wall Stand Only

Section 10 FLEXI-DT TABLE AND WALL STAND ONLY



Chapter 7 - Planning Aids

Section 1.0 - Shipping Dimensions and Weights

1.1 Domestic Shipments

PRODUCT OR COMPONENT	SHIPPING DATA				SHIPPING METHOD
	SHIPPING DIMENSIONS (APPROX.)			SHIPPING WEIGHT (approx.)	
	LENGTH	WIDTH	HEIGHT		
Operator Console:					
PC	432 mm (17 in)	661 mm (26 in)	610 mm (24 in)	25.4 kg (56 lbs)	box
LCD Monitor (each)	610 mm (24 in)	610 mm (24 in)	533 mm (21 in)	25 kg (55 lbs)	box
Detector Asm	1042 mm (41 in)	1194 mm (47 in)	737 mm (29 in)	88 kg (194 lbs)	crate/skid
Table Assembly	2400 mm (95 in)	1100 mm (44 in)	1300 mm (51 in)	602 kg (1327 lbs)	box / skid
Stretchers (optional):					
Non-elevating	2312 mm (91 in)	1042 mm (41 in)	940 mm (37 in)	164 kg (360 lbs)	box / skid
Elevating	1600 mm (63 in)	960 mm (37.8 in)	1100 mm (43.3 in)	350 kg (772 lbs)	crate/skid
Stationary Rail (5.79m) each rail	5.92 m (233 in)	178 mm (7 in)	76 mm (3 in)	68 kg (150 lbs)	box
2 Meter Bridge	2210 mm (87 in)	737 mm (29 in)	178 mm (7 in)	63 kg (138 lbs)	box
3 Meter Bridge	3099 mm (122 in)	737 mm (29 in)	178 mm (7 in)	84 kg (185 lbs)	box
2 Meter Cable Assembly	1422 mm (56 in)	813 mm (32 in)	432 mm (17 in)	95 kg (210 lbs)	box/skid
3 Meter Cable Assembly	1829 mm (72 in)	813 mm (32 in)	432 mm (17 in)	109 kg (240 lbs)	box/skid
Overhead Tube Support including X-ray tube	864 mm (34 in)	1039 mm (41 in)	1355 mm (53.5 in)	385kg (849 lbs)	box/crate/skid
System Cabinet	1321 mm (53 in)	864 mm (34 in)	1321 mm (52 in)	406 kg (895 lbs)	dolly - See Figure 5-11
Wall Stand	2440 mm (96 in)	940 mm (37 in)	1270 mm (50 in)	464 kg (1023 lbs)	crate / skid
Extended Wall Stand	2440 mm (96 in)	940 mm (37 in)	1651 mm (65 in)	493 kg (1087 lbs)	crate / skid
Detector Support Assembly (DSA)	559 mm (22 in)	889 mm (35 in)	661 mm (26 in)	50 kg (110 lbs)	box / skid
Grid Holder	635 mm (25 in)	305 mm (12 in)	686 mm (27 in)	16.4 kg (36 lbs)	box
Image Pasting Barrier (option)	2440 mm (96 in)	940 mm (37 in)	1270 mm (50 in)	282 kg (625 lbs)	crate / skid

Table 7-1 DOMESTIC SHIPPING DATA

1.2 International Shipments

PRODUCT OR COMPONENT	SHIPPING DATA			SHIPPING WEIGHT (approx.)	SHIPPING METHOD
	LENGTH	WIDTH	HEIGHT		
Grid Holder Assembly DSA Covers QAP Phantom & Rack Tube Cover Kit Detector Coolant Loopback Kit RCIM Wall Stand Cables System MIS Cables Wall Stand Covers XT Suspension Hardware	1370 mm (54 in)	1370 mm (54 in)	1600 mm (63 in)	250 kg (550 lbs)	box/skid
3m Bridge and Associated Hardware	3180 mm (125 in)	840 mm (33 in)	510 mm (20 in)	165 kg (364 lbs)	box
Stationary Rail (5.79m) (set of 2 rails)	6120 mm (241 in)	380 mm (15 in)	230 mm (9 in)	118 kg (260lbs)	box
System Cabinet	1321 mm (53 in)	864 mm (34 in)	1321 mm (52 in)	406 kg (895 lbs)	dolly - See Figure 5-11
System Cabinet Hardware	1300 mm (51 in)	860 mm (34 in)	610 mm (24 in)	151 kg (332 lbs)	box
3 Meter Cable Assembly	1450 mm (57 in)	860 mm (34 in)	460 mm (18 in)	96 kg (212lbs)	box/skid
Wall Stand	2440 mm (96 in)	940 mm (37 in)	1270 mm (50 in)	464 kg (1023 lbs)	crate / skid
Extended Wall Stand	2440 mm (96 in)	940 mm (37 in)	1651 mm (65 in)	493 kg (1087 lbs)	crate / skid
Chiller	1020 mm (40 in)	910 mm (36 in)	860 mm (34 in)	86 kg (190 lbs)	box
Detector Asm	1042 mm (41 in)	1194 mm (47 in)	737 mm (29 in)	88 kg (194 lbs)	crate/skid
LCD Monitor (pair)	1170 (46 in)	910 mm (36 in)	970 mm (38 in)	99 kg (218 lbs)	box
Ion Chamber PC Workstation OTS UIF Collimator	1170 mm (46 in)	910 mm (36 in)	970 mm (38 in)	99 kg (218 lbs)	box
Overhead Tube Support including X-ray tube	864 mm (34 in)	1039 mm (41 in)	1355 mm (53.5 in)	385kg (849 lbs)	box/crate/ skid
Table Assembly	2400 mm (95 in)	1100 mm (44 in)	1300 mm (51 in)	602 kg (1327 lbs)	box / skid
Stretchers (optional):					
Non-elevating	2312 mm (91 in)	1042 mm (41 in)	940 mm (37 in)	164 kg (360 lbs)	box / skid
Elevating	1600 mm (63 in)	960 mm (37.8 in)	1100 mm (43.3 in)	350 kg (772 lbs)	crate/skid
2 Meter Bridge	3175 mm (125 in)	838 mm (33 in)	915 mm (36 in)	261 kg (574 lbs)	box
2 Meter Cable Assembly	1448 mm (57 in)	838 mm (33 in)	457 mm (18 in)	91 kg (200 lbs)	box
Image Pasting Barrier (option)	2440 mm (96 in)	940 mm (37 in)	1270 mm (50 in)	282 kg (625 lbs)	crate / skid

Table 7-2 INTERNATIONAL SHIPPING DATA

Section 2.0 - Installation Tools and Materials Required

2.1 Tools and Materials Checklist

The following tools and materials are needed for installation, but are not shipped with the product:	Completed
Assorted sizes of drywall "toggle" bolts (1/4", 3/8", and 1/2")	<input type="checkbox"/>
Floor anchors (Hilti™ HSL or equivalent, 3/8" x 2"; 1/4" x 2")	<input type="checkbox"/>
Plastic wall anchors	<input type="checkbox"/>
Assorted hardware for termination of electrical connections (solder-less ring lug terminals and butt splices, AWG 2-18)	<input type="checkbox"/>
Tie wraps, electrical tape and wire markers	<input type="checkbox"/>
Tags for labelling incomplete work in accordance to OSHA and regulatory requirements	<input type="checkbox"/>
Tag and lock-out equipment	<input type="checkbox"/>
Assorted 12-point sockets (SAE and metric), drives, wrenches and torque wrench (Nm and ft.-lbs)	<input type="checkbox"/>
Electric and hammer drill. Assorted masonry and high-speed bits in both metric and SAE sizes	<input type="checkbox"/>
Assorted sizes of tongue and groove pliers, hammers, hex wrenches (metric and SAE), screw drivers and metal files	<input type="checkbox"/>
Assorted sizes of wire cutters and strippers, ratchet and standard crimpers (AWG 0 and upwards), and a 75 watt soldering iron	<input type="checkbox"/>
Heat and electrical tape	<input type="checkbox"/>
Chalk line, plumb bob and assorted alignment tools (including squares, torpedo and 6-foot levels)	<input type="checkbox"/>
Movers dollies, ladders, shop vacuum and push-broom	<input type="checkbox"/>
Hacksaw and Sawzall™	<input type="checkbox"/>
(2) #46-156940G1, XT Hoist assemblies (one set to be distributed to each district by headquarters)	<input type="checkbox"/>
(2) 6 foot (1.8 m) Step ladders	<input type="checkbox"/>
(2) Steel measuring tapes, 12 foot (3.5 m) and 50 foot (15 m)	<input type="checkbox"/>
(1) #46-316872G1, Water Level kit [(ELECTRA/LEVEL by Zircon International) or equivalent capable of +/- 1/8 inches (3.2 mm) over 30 ft. (9.14 m)] with 30 foot (9.14 m) of 3/8 inches (9.5 mm) I.D. Plastic tubing (#46-136324P10).	<input type="checkbox"/>
(1) Carpenter's level, 4 foot (61 cm) long	<input type="checkbox"/>
Movers dollies, ladders, shop vacuum and push-broom	<input type="checkbox"/>

Section 3.0 - Preparing the Delivery Route

1.) Step One – Sketch out the Route

Begin preparing Route Survey by sketching the area of the hospital or clinic which will receive the equipment. Include all areas on the delivery route from outside of building to destination. See sample sketch below.

Reference Numbers Numbers in circles refer to the Route Survey data. The Route Survey is a form on which site data is listed (step 2).

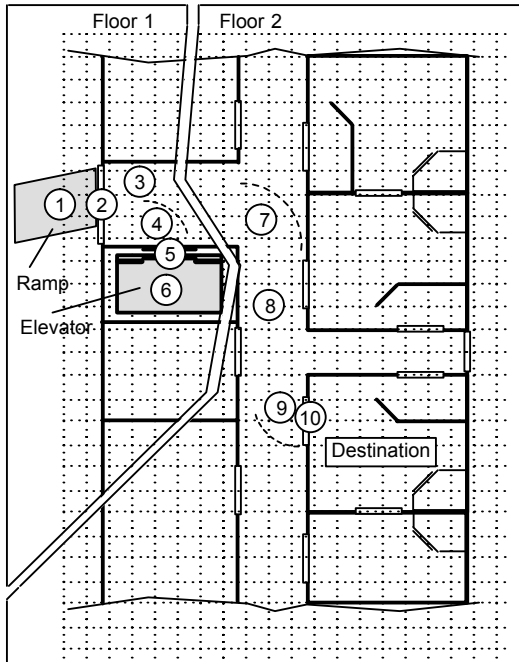


Figure 7-1 Sample Route

2.) Step Two – Survey the Route

Record all loading capacities, corridor widths, door openings, turning radii, flooring materials, elevator sizes, obstructions and so on for reference.

3.) Step Three – Check the Route

Verify equipment can actually be transported via the route determined in step 1.

Section 4.0 - *Networkflow* Audit

Networkflow (net' wurk' flo) *n* 1. The study of how to integrate diagnostic imaging devices into both your facility's network *and* workflow. -*v* 2. The act of integrating a digital diagnostic device most effectively for your particular situation. 3. Leveraging your network equipment and workflow investment for peak efficiency.

Understanding how your facility leverages its network investment through our *Networkflow* process will help us better integrate the Definium 8000 system into your operations. The following is intended to identify the various ways the Definium 8000 system can fit into your workflow and the ramifications of selecting one path or another. We would like to start at the beginning, with the patient arriving at your facility, going through registration/admittance/patient scheduling and proceed all the way to the read images being archived.

4.1 What is the *Networkflow* Audit?

This audit was designed to collect information on your network, your DICOM equipment, your workflow and your dataflow. Once this information is collected, it will be used to determine the best way the Definium 8000 system can fit into your facility. The information will also be used to ease and speed the integration of the system into your facility.

This audit is intended to be performed before the system is quoted to you. The audit process will uncover aspects of your network and workflow that will impact how well the Definium 8000 system will integrate into your facility. With all facts uncovered, GE can prepare a more accurate quote and minimize "surprises" at the time of install.

You should fill this out with the GE Healthcare representative. They will be able to answer any questions you may have.

4.2 Facility Information

Name of facility:	_____	Room #:	_____
Workflow contact:	_____	Phone:	_____
Network Infrastructure contact:	_____	Phone:	_____
DICOM Device contact:	_____	Phone:	_____
Other contact:	_____	Phone:	_____
GEHC Sales Representative:	_____		
GEHC Auditor:	_____		

4.3 Workflow Analysis

When the patient arrives in the Definium 8000 system room for the exam, how is the patient data entered into the system?

- ☐ Manually typed ☐ Entered via barcode reader ☐ Downloaded from HIS/RIS
- Barcode format: _____

If the patient information was downloaded from a HIS/RIS system, how would the query be structured? (*Pick all that apply*)

- ☐ By date ☐ By modality ☐ By patient information
- ☐ By procedure ☐ By product (AE Title)
- ☐ Other method - Please explain: _____

In retrieving patient schedule information, do you query

- ☐ Once at the start of the shift ☐ Several times during a shift ☐ Before each patient

What percent of images acquired are reviewed via softcopy? _____%

What percent of images acquired are printed? _____%

Once the digital diagnostic images are acquired, what is your facility's default workflow?

(*Pick one*)

- ☐ Manually send ☐ Automatically push

(*Pick all that apply*)

- ☐ Review station(s) ☐ Archive system(s) ☐ Printer(s)

When images are configured for automatic push, what would you like to be sent to PACS/archive/review stations?

- ☐ Raw ☐ Processed ☐ Raw and Processed

When images are printed, on what device is the print command originated? *(Pick all that apply)*

- ☐ The Definium 8000 system ☐ A review workstation ☐ A PACS system

How soon after the images are acquired is the first image quality check done?

- ☐ Before the next image is shot ☐ Before the patient leaves ☐ After patient leaves

When it comes to image quality, would you prefer to;

- ☐ Consider all images good unless marked bad
☐ Consider all images bad unless marked good

4.4 The Physical Network

Physical infrastructures vary widely from institution to institution. GE Healthcare tried to pick the most popular networking connection to ease integration into your facility's network.

In the Definium 8000 system room, this facility;

- ☐ Has 100baseT installed ☐ Has 10baseT installed ☐ Has a different network installed
☐ Will have 100baseT installed ☐ Will have 10baseT installed ☐ We don't have a network installed

Do you segment your network using subnets?

- ☐ Yes ☐ No

Our equipment's IP addresses are:

- ☐ Static ☐ Acquired via DHCP ☐ A combination of both methods

4.5 Definium 8000 System Parameters

Definium 8000 System

Host Name: _____

Network (IP) Address: ____ . ____ . ____ . ____

Subnet Mask: ____ . ____ . ____ . ____

Router IP: ____ . ____ . ____ . ____

Scheduled Station AE Title: _____

The **Host Name** is the network's name for the Definium 8000 system.

IP addresses uniquely identify a device on a network. IP addresses are constructed of 32 bits, usually displayed as four numbers separated by a period. Please indicate the **Network (IP) Address** that will be assigned to the Definium 8000 system.

Subnets are a method of logically dividing a network into smaller blocks. This is usually done based upon locality, functionality or security requirements. If your facility will place the Definium 8000 system on a subnet, please list the **Subnet Mask** and **Router IP**.

The **Scheduled Station AE (Application Entity) Title** is the name your HIS/RIS system will use to send worklist information to the Definium 8000 system.

Remote Hosts		Include a DICOM Compliance Statement for each device	
<p>This remote Host is a:</p> <p>Manufacturer/Model:</p> <p>Software/Firmware version:</p> <p>Network (IP) Address:</p> <p>DICOM Compliance Level:</p> <p>Image Types Supported:</p> <p>Supports Multi-framing:</p> <p>Host Name:</p> <p>Do you plan to use this device as a:</p>		<p><input type="checkbox"/> Review Work Station</p> <p><input type="checkbox"/> Archival Device</p> <p><input type="checkbox"/> PACS System</p> <p><input type="checkbox"/> MPPS Server</p> <p>-----</p> <p><input type="checkbox"/> 1.0 <input type="checkbox"/> 2.0 <input type="checkbox"/> 3.0</p> <p><input type="checkbox"/> Not DICOM Compliant</p> <p><input type="checkbox"/> DX <input type="checkbox"/> CR</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>Remote Host Server?</p> <p>AE Title:</p> <p>Port Number:</p> <p>Query/Retrieve?</p> <p>Query/Retrieve AE Title:</p> <p>Port Number:</p> <p>Query/Retrieve by:</p> <p>Storage Commitment?</p> <p>Storage Commitment AE Title:</p> <p>Port Number:</p> <p>Network (IP) Address:</p> <p>MPPS Server?</p> <p>AE Title:</p> <p>Port Number:</p> <p>Network (IP) Address:</p>		<p><input type="checkbox"/> Yes <input type="checkbox"/> No If "yes" provide:</p> <p>-----</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No If "yes" provide:</p> <p>-----</p> <p><input type="checkbox"/> Study <input type="checkbox"/> Patient</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No If "yes" provide:</p> <p>-----</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No If "yes" provide:</p> <p>-----</p>	

Information on Definium 8000

The system allows you to configure only 1 HIS/RIS server.

The system allows you to configure only 1 MPPS server.

The system allows configuration of multiple printers and multiple PACS/archive/review stations.

The Host Name of all the nodes configured on the system should be unique within the system.

4.6 Devices & Services Audit

Use the following narrative to complete the form on the previous page.

REMOTE HOSTS: Remote hosts are DICOM devices to which the Definium 8000 system can push an image. Remote hosts can be review workstations, archival devices, or PACS systems. Please indicate the type of remote host.

Now indicate the manufacturer and model name or number.

Compatibility can vary with software versions, please indicate the version of device firmware/software the device will be running.

List the device's **IP address**.

The answers to the next several items can be found in the device's DCS (DICOM Conformance Statement).

Please indicate the highest level of **DICOM conformance** for this device. If the device is not DICOM compliant, please indicate so and move on to the next device.

If the device does have some level of DICOM conformance please return a copy of the DICOM Conformance Statement with this completed form.

DICOM supports a number of **image types**. Please indicate if this device supports the DX and/or the CR image types.

The **host name** is the name that will appear on the screen and users will use to indicate this device. Please list the host name.

The next four sections address the four services that remote host devices may offer. Each of the services will have its own AE (application entity) title and port number. The AE title is the name given to a service or application provided by a DICOM device. The port number is a logical designation within the device. These pieces of information are available in the device's DCS.

Being a **remote host server** allows the Definium 8000 system to push images to other devices. If you want the device to accept this service, check yes and provide the AE title and port number.

Being a **query/retrieve** service class provider allows the Definium 8000 system to query this device and retrieve images stored there. If you want this device to provide these services to the Definium 8000 system check yes and fill in the requested items.

The **query/retrieve by** study or patient controls how much the user is able to retrieve at one time. For study, the user may retrieve studies, series, images. For patient, the user may retrieve all of the study attributes plus a patient's entire image collection.

A **storage commitment** provider confirms that images sent by the Definium 8000 system to an archival system were received and stored. Note - This option is only available when the Definium 8000 system is sending DX type images. If your device supports both DX image types and storage commitment check yes and provide the AE title, the port number and the network (IP) address.

The **MPPS server** receives the messages sent by the Definium 8000 system. These messages consist of information such as when the exam started and closed, how many images were acquired, dose information, etc. This information is then updated on the Hospital Scheduling system. If the site has an MPPS server, provide the AE Title, IP address and port number.

Printers	Include a DICOM Compliance Statement for each printer	
Manufacturer/Model:	_____	_____
Software/Firmware Version:	_____	_____
Prints via Spooler:	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Network (IP) Address:	____.____.____.____	____.____.____.____
DICOM Compliance Level:	<input type="checkbox"/> 1.0 <input type="checkbox"/> 2.0 <input type="checkbox"/> 3.0 <input type="checkbox"/> Not DICOM Compliant	<input type="checkbox"/> 1.0 <input type="checkbox"/> 2.0 <input type="checkbox"/> 3.0 <input type="checkbox"/> Not DICOM Compliant
Host Name:	_____	_____
Printer AE Title:	_____	_____
Port Number:	_____	_____

Printers: As with the remote hosts, please list the manufacturer and the model name/number. The software/firmware version should also be entered. Next, supply the IP address of the printer.

Indicate the DICOM compliance level of the printer. If it is not DICOM compatible, please indicate so.

DICOM compatibility does not guarantee all functions will work properly. **Include every unique printer's DICOM Compliance Statement.**

Supply the Host name for the printer.

Look in the DCS for the printer's AE title and port number.

RIS Systems	Include a DICOM Compliance Statement for each device	
Manufacturer/Model:	<input type="text"/>	<input type="text"/>
Software/Firmware Version:	<input type="text"/>	<input type="text"/>
Network (IP) Address:	<input type="text"/>	<input type="text"/>
DICOM Compliance Level:	<input type="checkbox"/> 1.0 <input type="checkbox"/> 2.0 <input type="checkbox"/> 3.0 <input type="checkbox"/> Not DICOM Compliant	<input type="checkbox"/> 1.0 <input type="checkbox"/> 2.0 <input type="checkbox"/> 3.0 <input type="checkbox"/> Not DICOM Compliant
Host Name:	<input type="text"/>	<input type="text"/>
HIS/RIS AE Title:	<input type="text"/>	<input type="text"/>
Port Number:	<input type="text"/>	<input type="text"/>
Modality used for Scheduling:	<input type="checkbox"/> DX <input type="checkbox"/> CR	<input type="checkbox"/> DX <input type="checkbox"/> CR

RIS Systems: As with the remote hosts please list the manufacturer and the model name/number. The software/firmware version should also be entered.

Indicate the IP address the device is using as well as the DICOM compliance level. **Please include the DCS for the RIS with this completed form.**

Fill in the Host name.

Look in the DCS for the AE title and port number.

Please indicate if this device supports the DX and/or the CR image types. This information should also be in the device's DCS.

4.7 Data Flow Analysis

Now that we have outlined the way your facility works and the devices you work with, we would like to define how the images flow through your network.

The Definium 8000 system is an acquisition-only device. Because of that fact you will need to move acquired images off the Definium 8000 system and into your work/data flow. Please use the chart below to describe your data flow. As an example, if your facility reviewed images as the first step after acquisition, the review box would be checked in the first column of the **Task** row and the review workstation would be checked in the first column of the **Device** row. You should use each of the functions once.

	1st step after acquisition	2nd step after acquisition	3rd step after acquisition
Task	<input type="checkbox"/> Archive <input type="checkbox"/> Print <input type="checkbox"/> Review	<input type="checkbox"/> Archive <input type="checkbox"/> Print <input type="checkbox"/> Review	<input type="checkbox"/> Archive <input type="checkbox"/> Print <input type="checkbox"/> Review
Device	<input type="checkbox"/> Archive device <input type="checkbox"/> PACS <input type="checkbox"/> Printer <input type="checkbox"/> Review Workstation <input type="checkbox"/> Spooler ➡ Printer(s) <input type="checkbox"/> Spooler ➡ Review Workstation(s)	<input type="checkbox"/> Archive device <input type="checkbox"/> PACS <input type="checkbox"/> Printer <input type="checkbox"/> Review Workstation <input type="checkbox"/> Spooler ➡ Printer(s) <input type="checkbox"/> Spooler ➡ Review Workstation(s)	<input type="checkbox"/> Archive device <input type="checkbox"/> PACS <input type="checkbox"/> Printer <input type="checkbox"/> Review Workstation <input type="checkbox"/> Spooler ➡ Printer(s) <input type="checkbox"/> Spooler ➡ Review Workstation(s)

Printing: It is important to us to understand the path your images follow before they are printed. We are now looking to answer the question of what road an image most typically travels on its way to be printed regardless if that is the first step in your process or not. Please try to find in the list below the path that best describes the path the image takes from acquisition to printing.

- ☐ Definium 8000 System ➡ Printer
- ☐ Definium 8000 System ➡ Spooler ➡ Printer(s)
- ☐ Definium 8000 System ➡ Archive Device ➡ Printer
- ☐ Definium 8000 System ➡ Archive Device ➡ Spooler ➡ Printer(s)
- ☐ Definium 8000 System ➡ Archive Device ➡ Review Workstation ➡ Printer
- ☐ Definium 8000 System ➡ Archive Device ➡ Review Workstation ➡ Spooler ➡ Printer
- ☐ Definium 8000 System ➡ PACS ➡ Printer
- ☐ Definium 8000 System ➡ PACS ➡ Spooler ➡ Printer
- ☐ Definium 8000 System ➡ Review Workstation ➡ Printer
- ☐ Definium 8000 System ➡ Review Workstation ➡ Spooler ➡ Printer(s)

- ☐ Definium 8000 System Other: _____ ➡ Printer(s)

Image Review: Now let's trace the path from acquisition to image review. Again, pick the item below that best describes how the image flows from the Definium 8000 system to the radiologist.

- ☐ Definium 8000 System ➡ Printer ➡ Printed Film ➡ Radiologist
- ☐ Definium 8000 System ➡ Review Workstation ➡ Radiologist
- ☐ Definium 8000 System ➡ Archive Device ➡ Review Workstation ➡ Radiologist
- ☐ Definium 8000 System ➡ PACS ➡ Radiologist
- ☐ Definium 8000 System ➡ PACS ➡ Review Workstation ➡ Radiologist
- ☐ Definium 8000 System ➡ Other: _____ ➡ Radiologist

Archive: The final part of this triad is archiving images. Pick the item below that best describes the flow of images to be archived.

- ☐ Definium 8000 System ➡ Archive Device
- ☐ Definium 8000 System ➡ PACS
- ☐ Definium 8000 System ➡ Printer ➡ Printed Film ➡ Filing System
- ☐ Definium 8000 System ➡ Review Workstation ➡ Archive Device
- ☐ Definium 8000 System ➡ Review Workstation ➡ PACS
- ☐ Definium 8000 System ➡ Other: _____ ➡ Archive Device

4.8 What Will Happen Next?

Next, your completed audit sheet will be analyzed by your GE Healthcare representative and any issues identified.

Section 5.0 - Site Readiness Checklist

EHC Global Order #:	
Modality:	
Zone:	
FE Planned Start Date:	
System Type:	
Customer Name:	
Customer City, State, Zip:	
GE PMI Name:	

Inspection Date:			
Site Readiness Item	References	Initial Check (Initial Room Drawings)	Final Check (Prior to Product Arrival)
Room Layout			
1.) Room size	Chapter 6 -- Room Layout, Sections 1 through 5	<input type="checkbox"/>	<input type="checkbox"/>
2.) Delivery route requirements	Chapter 7 -- Planning Aids, Section 3.0 -- Preparing the Delivery Route	<input type="checkbox"/>	<input type="checkbox"/>
3.) Interconnect Routing	Chapter 3 -- Planning Electrical Connections, Section 1.0 -- Routing Cables and Section 3.0 -- Master Interconnect System (MIS)	<input type="checkbox"/>	<input type="checkbox"/>
4.) Flooring surface	Chapter 2 -- Room Requirements, 2.2 - Floor Requirements	<input type="checkbox"/>	<input type="checkbox"/>
5.) Ceiling/Unistrut	Chapter 2 -- Room Requirements, 2.3 - Ceiling Requirements	<input type="checkbox"/>	<input type="checkbox"/>
6.) Equipment Cooling	Chapter 2 -- Room Requirements, 1.3 - Heat Output	<input type="checkbox"/>	<input type="checkbox"/>
7.) Floor loading	Chapter 2 -- Room Requirements, 2.2 - Floor Requirements	<input type="checkbox"/>	<input type="checkbox"/>

Inspection Date:			
Site Readiness Item	References	Initial Check (Initial Room Drawings)	Final Check (Prior to Product Arrival)
Site Environment			
1.) Radiation Protection	Chapter 2 -- Room Requirements, Section 1.6 - Radiation Protection	<input type="checkbox"/>	<input type="checkbox"/>
2.) Temperature and Humidity	Chapter 2 -- Room Requirements, Section 1.1 - Relative Humidity and Temperature	<input type="checkbox"/>	<input type="checkbox"/>
3.) Lighting	Chapter 2 -- Room Requirements, Section 1.5 - Light Specification	<input type="checkbox"/>	<input type="checkbox"/>
Power			
1.) Input Power	Chapter 4 -- System Facility Power & Grounds, Section 1.2 - Electrical Requirements	<input type="checkbox"/>	<input type="checkbox"/>
2.) Power Quality	Chapter 4 -- System Facility Power & Grounds, Section 1.1 - Power Quality	<input type="checkbox"/>	<input type="checkbox"/>
3.) Power Distribution	Chapter 4 -- System Facility Power & Grounds, Section 1.2 - Electrical Requirements	<input type="checkbox"/>	<input type="checkbox"/>
4.) Equipment Grounding	Chapter 4 -- System Facility Power & Grounds, Section 2.0 -- Electrical Grounds	<input type="checkbox"/>	<input type="checkbox"/>
5.) Ground Fault Protection	N/A	<input type="checkbox"/>	<input type="checkbox"/>
6.) Emergency Power	Chapter 4 -- System Facility Power & Grounds, Section 1.2 - Electrical Requirements	<input type="checkbox"/>	<input type="checkbox"/>
System Networking and Support Connectivity	Chapter 3 -- Planning Electrical Connections, Section 2.0 -- Hospital Network and Phone Connections	<input type="checkbox"/>	<input type="checkbox"/>
Equipment Anchor Requirements	Chapter 2 -- Room Requirements, Section 2.2 - Floor Requirements	<input type="checkbox"/>	<input type="checkbox"/>
Comments: _____ _____ _____ _____ _____ _____			

Return completed Site Readiness Checklist to Installation Project Manager

Chapter 8 - System Cable Information

Section 1.0 Introduction

The following information is provided as an aid to make the physical installation of system cables easy and efficient. In the tables that follow, the physical characteristics of each cable and its associated connectors is provided. Thus making it easier to plan cable paths and clearances in advance. Physical characteristics are given for each available cable length. Review cable lengths carefully and choose lengths appropriate for your installation prior to the equipment arriving, to avoid unnecessary installation delays.

Remember, it is up to you to make sure that all cables are routed and connected in accordance with all regulatory laws that may apply.

Section 2.0 Cable Information

2.1 Cable Lengths and Characteristics

Run Number	MIS Number	Description	Short Cables (Standard)			Long Cables (Optional)			Voltage Rating
			Part Number	Total Length	Usable Length	Part Number	Total Length	Usable Length	
1 - System Cabinet to Table	11632A	Table CANopen	2407432-35	15	12.5	2407432-36	20	17.5	300
	11750A	Table Ion Chamber	2407432	15	12.5	2407432-9	20	17.5	300
	11753A	Table Detector PS 120VAC	2407432-4	15	12.5	2407432-12	20	17.5	300
	11754A	Table Emergency Stop RT Line	2407432-5	15	12.5	2407432-13	21	18.5	300
	11752A	Table Ground	2407432-2	15	12.5	2407432-10	20	17.5	600
	020004	(Det. 1) Conditioner Status	5139187-1	15	12.5	5139187-2	21	18.5	300
	020005	Table Power 220VAC	5139187-3	15	12.5	5139187-4	20	17.5	600
2- System Cabinet to Wallstand	020018	WallStand CAN	5139187-12	15	12	5139187-13	20	17	300
	11759A	WallStand Ion Chamber	2407432-32	15	12	2407432-31	20	17	300
	11756A	WallStand Power 120VAC	2407432-7	15	11.25	2407432-15	20	16.25	600
	11757A	WallStand Ground	2407432-8	15	12	2407432-16	20	17	600
2A - System Cabinet to Conditioner	11755A	WallStand Conditioner 120VAC	2407432-6	15	13	2407432-14	20	18	600
	020006	(Det. 2) Conditioner Status	5139187-5	15	13	5139187-6	21	19	300
3 - System Cabinet to OTS	020012	OTS CAN	5139257	15	13.5	5139257-7	20	18.5	300
	020013	OTS Tube 1 Stator / Fan & Pressure Switch (2 cables in bundled)	5139257- 2	15	13.5	5139257-8	20	18.5	600/ 300
	020014	OTS Power	5139257-3	15	13.5	5139257-9	20	18.5	600
	020015	OTS Tube 1 Cathode	5139257-4	15	13.5	5139257-10	20	18.5	75kV
	020016	OTS Tube 1 Anode	5139257-5	15	13.5	5139257-11	20	18.5	75kV
	020017	OTS Ground	5139257-6	15	14	5139257-12	20	19	600

Table 8-1 Cable Lengths (in meters)

Run Number	MIS Number	Description	Short Cables (Standard)			Long Cables (Optional)			Voltage Rating
			Part Number	Total Length	Usable Length	Part Number	Total Length	Usable Length	
4 - System Cabinet to Console Wallbox	11760A	Generator (Jedi) CAN	2407432-17	20	18	na	na	na	300
	11761A	System CAN Open	2407432-18	20	18	na	na	na	300
	11763A	Control Room Power	2407432-20	20	18	na	na	na	600
	11764A	Ground	2407432-21	20	18	na	na	na	600
	020007	RCIM	5139187-7	20	18	na	na	na	600
	020008	Table Chiller Serial A	5139187-8	20	19	na	na	na	300
	020009	DSA Chiller Serial B	5139187-9	20	19	na	na	na	300
4A - System Cabinet to System Computer (via Wallbox)	11776A	Ground	2407432-41	18	14	2407432-42	23	19	600
5 - Wallbox to System Computer or Control Components	11590A	External Ethernet (customer supplied)							
	11767A	Generator (Jedi) CAN	2407432-24	3	3	na	na	na	300
	11768A	System CAN Open	2407432-25	3	3	na	na	na	300
	11770A	120VAC from PDU	2407432-27	3	3	na	na	na	300
	11769A or 020072	RCIM or RCIM2	2407432-26 or 5220439	3	3	na	na	na	300
	020011	DSA Chiller Serial	5139187-11	3	3	na	na	na	300
	020010	Table Chiller Serial	5139187-10	3	3	na	na	na	300
	11774A	120VAC for right monitor	2407432-39	3	3	na	na	na	300
	11775A	120VAC for left monitor	2407432-40	3	3	na	na	na	300
6 - System Computer to Wallstand (via Wallbox and System Cabinet)	020002	Ethernet - Wallstand Detector	5138766	50	42	na	na	na	125
	020003	Ethernet - Table Detector	5138766-2	50	43.5	na	na	na	125
7 - Wallstand to DSA	020019	Power Supply CAN	5152154	2	1	na	na	na	300
	020020	Detector Power (DC)	5152155	2	1	na	na	na	300
	11583A	Gnd	2231833	1.5	1	na	na	na	600

Table 8-1 Cable Lengths (in meters)

2.2 Cable Terminations (End A)

Run Number	MIS Number	Cable End A Subsystem (Color)	Cable Connector End A Type	Cable End A Termination	Connector Dimensions				Cable Dimensions		
					Width (mm)	Width (in)	Height (mm)	Height (in)	Dia. (mm)	Dia. (in)	Area (sq. in)
1 - System Cabinet to Table	11632A	System Cabinet (orange)	9 Pin Sub-D (M)	A25 J106	34.04	1.34	16.06	0.63	9.75	0.38	0.113
	11750A		9 Pin Sub-D (M)	A25 J81	33.71	1.32	16.08	0.63	7.76	0.3	0.971
	11753A		3 Pin Mate 'n Lok	A25 J4	28.42	1.11	14.79	0.58	8.14	0.32	0.08
	020004		9 Pin Sub-D (M)	A25 J103	33.53	1.32	16.3	0.64	7.55	0.3	0.071
	11754A		9 Pin Sub-D (F)	A25 J110	33.60	1.32	16.04	0.63	7.54	0.31	0.075
	020005		3 Pin Mate 'n Lok	A25 J5	27.94	1.10	22.86	0.90	7.62	0.3	0.071
	11752A		1/4" Ring Terminal		12.7	0.50	7.11	0.28	12.7	0.5	0.785
2 - System Cabinet to Wallstand	020018	System Cabinet (orange)	9 Pin Sub-D (M)	A25 J206	34.04	1.34	16.06	0.63	9.75	0.38	0.113
	11759A		9 Pin Sub-D (M)	A25 J14 (TBL/WS) or A25 J81 (WS-only)	33.65	1.32	16.4	0.64	7.92	0.31	0.075
	11756A		3 Pin Mate 'n Lok	A25 J1	28.61	1.12	14.79	0.58	8.06	0.31	0.075
	11757A		1/4" Ring Terminal		12.7	0.50	7.11	0.28	12.7	0.50	0.785
	020021		9 Pin Sub-D (M)	SKL A25 J14	32.51	1.28	16	0.63	8.89	0.35	0.096
2A - System Cabinet to Conditioner	11755A	System Cabinet (orange)	3 Pin Mate 'n Lok	A25 J2	28.61	1.12	14.79	0.58	8.06	0.32	0.08
	020006		9 Pin Sub-D (M)	A25 J203 (TBL/WS) or A25 J103 (WS-only)	33.53	1.32	16.3	0.64	7.55	0.29	0.066
3 - System Cabinet to OTS	020012	System Cabinet (orange)	9 Pin Sub-D (M)	A25 J41	34.04	1.34	16.06	0.58	9.75	0.38	0.113
	020014		3 Pin Mate 'n Lok	A25 J3							
	020013		12 Pin Mate 'n Lok	A25 J42							
	020015		HV "Candle Stick"								
	020016		HV "Candle Stick"								
	020017		1/4" Ring Terminal		12.7	0.50	7.11	0.28	12.7	0.50	0.785
4 - System Cabinet to Console Wallbox	11760A	System Cabinet (orange))	9 Pin Sub-D (M)	A25 J108	33.27	1.31	16.51	0.65	10.16	0.4	0.125
	11761A		9 Pin Sub-D (M)	A25 J107	33.27	1.31	16.51	0.65	10.16	0.4	0.125
	11763A		3 Pin Mate 'n Lok	A25 J6	29.46	1.16	14.73	0.58	8.89	0.35	0.096
	11764A		1/4" Ring Terminal		12.70	0.5	7.11	0.28	6.35	0.25	0.049
	020007		50 Pin Sub-D (M)	A25 J109	58.42	2.3	20.57	0.81	8.89	0.35	0.096

Table 8-2 Cable Terminations - End A

Run Number	MIS Number	Cable End A Subsystem (Color)	Cable Connector End A Type	Cable End A Termination	Connector Dimensions				Cable Dimensions		
					Width (mm)	Width (in)	Height (mm)	Height (in)	Dia. (mm)	Dia. (in)	Area (sq. in)
4A - System Cabinet to System Computer (via Wallbox)	020009	System Cabinet (orange)	9 Pin Sub-D (M)	Serial B	32.51	1.28	16	0.63	8.89	0.35	0.096
	020008		9 Pin Sub-D (F)	Serial A	32.51	1.28	16	0.63	8.89	0.35	0.096
	11776A		1/4" Ring Terminal	SKL GND	12.70	0.5	7.11	0.28	6.35	0.25	0.049
5 - Wallbox to System Computer or Control Components	11590A	Hospital Network	RJ 45		11.68	0.46	8.04	0.32	5.63	0.22	0.038
	11767A	Wallbox (no color))	9 Pin Sub-D (M)	Generator (Jedi) CAN	33.46	1.32	16.87	0.66	10.26	0.4	0.125
	11768A		9 Pin Sub-D (M)	WB1 CAN	33.84	1.33	17.02	0.67	10.2	0.4	0.125
	11770A		NEMA 5-15 P	WB1Power	25.23	1	19.02	0.75	8.89	0.35	0.096
	11769A or 020072		50 Pin Sub-D (M)	WB1RCIM	69.85	2.75	19.02	0.75	8.89	0.35	0.096
	020011		9 Pin Sub-D (M)	WB1 Serial B	32.51	1.28	16	0.63	8.89	0.35	0.096
	020010		9 Pin Sub-D (F)	WB1 TBL Chiller Serial A	32.51	1.28	16	0.63	8.89	0.35	0.096
6 - System Computer to Wallstand (via Wallbox and System Cabinet)	020002	System Computer (Magic)									
	020003										
7 - Wallstand to DSA	020020	Wallstand									
	11583A										

Table 8-2 Cable Terminations - End A (Continued)

2.3 Cable Terminations (End B)

Run Number	MIS Number	Cable End B Subsystem (Color)	Cable Connector End B Type	Cable End B Termination	Connector Dimensions				Cable Dimensions		
					Width (mm)	Width (in)	Height (mm)	Height (in)	Dia. (mm)	Dia. (in)	Area (sq. in)
1 - System Cabinet to Table	11632A	Table (brown)	9 Pin Sub-D (F)	A1 J5	33.97	1.34	16.18	0.64	9.66	0.38	0.113
	11750A		9 Pin Sub-D (F)	A1 J4	33.35	1.31	16.28	0.64	7.77	0.31	0.075
	11753A		IEC 32D (F0)	A1 A1	28.88	1.31	20.84	0.82	8.8	0.35	0.096
	020004		9 Pin Sub-D (M)	A2 J1	33.29	1.31	16.27	0.64	7.77	0.31	0.075
	11754A		9 Pin Sub-D (F)	A1 J6	33.16	1.3	16.19	0.68	8.09	0.32	0.08
	020005		6 Pin (Matrix) Mate 'n Lok	A1 J1	3@10.08	3@0.4	3@4.94	3@0.2	8.92	0.35	0.096
	11752A		1/4" Ring Terminal	A1	12.70	0.5	7.11	0.28	6.35	0.25	0.049
2 - System Cabinet to Wallstand	020018	Wallstand (blue)	9 Pin Sub-D (F)	A2 A1 J2	33.28	1.31	16.6	0.65	9.15	0.36	0.102
	11759A		9 Pin Sub-D (F)	A1 J4	33.68	1.32	16.69	0.65	7.58	0.29	0.066
	11756A		IEC 32D	A2 A1 J1	29.05	1.14	20.98	0.83	8	0.31	0.075
	11757A		1/4" Ring Terminal	A1 J6	12.70	0.5	7.11	0.28	6.35	0.25	0.049
	020021		9 Pin Sub-D (F)	WS A1 J4	32.51	1.28	16	0.63	8.89	0.35	0.096
2A - System Cabinet to Conditioner	11755A	Wallstand Conditioner (blue)	IEC 320	A1 J10	29.05	1.14	21.07	0.83	8.32	0.37	0.108
	020006		9 Pin Sub-D (M)	A2 J1	33.02	1.3	16.34	0.64	8.14	0.32	0.08
	11639A		26 Pin HD Sub-D (F)	A3 J2	41.84	1.65	16.5	0.65	9.16	0.36	0.102
3 - System Cabinet to OTS	020012	OTS (no color)	9 Pin Sub-D (F)	OTS B1 J3	33.49	1.31	16.65	0.65	8.99	0.35	0.096
	020014		3 Pin Mate 'n Lok	A7 J5	28.19	1.11	14.73	0.58	8.14	0.32	0.08
	020013		Spade & Ring Connectors (2 cables bundled together)	A12					14.05/6.37	0.81	0.515
	020015		HV Candle Stick	A12	62.79	2.47	62.79	2.47	16.82	0.67	0.353
	020016		HV Candle Stick	A12	62.79	2.47	62.79	2.47	16.82	0.67	0.353
	020017		#10 Ring Terminal	A1	10.41	0.41	7.11	0.28	6.51	0.25	0.049
4 - System Cabinet to Console Wallbox	11760A	Wallbox (no color)	9 Pin Sub-D (F)	Generator (Jedi) CAN	33.49	1.31	16.65	0.65	8.99	0.35	0.096
	11761A		9 Pin Sub-D (F)	WB1 CAN	33.97	1.33	16.18	0.64	9.66	0.38	0.113
	11763A		Receptacle	WB1 Power	3@10.08	3@0.4	3@4.94	3@0.2	8.92	0.35	0.096
	11764A		#10 Ring Terminal	GND	10.41	0.41	7.11	0.28	6.35	0.25	0.049
	020007		50 Pin Sub-D (F)	RCIM	69.79	2.74	19.54	0.79	8.49	0.33	0.086

Table 8-3 Cable Terminations (End B)

Run Number	MIS Number	Cable End B Subsystem (Color)	Cable Connector End B Type	Cable End B Termination	Connector Dimensions				Cable Dimensions		
					Width (mm)	Width (in)	Height (mm)	Height (in)	Dia. (mm)	Dia. (in)	Area (sq. in)
4A - System Cabinet to System Computer (via Wallbox)	020009	System Computer (yellow)	9 Pin Sub-D (F)	WB1	32.51	1.28	16	0.63	8.89	0.35	0.096
	020008		9 Pin Sub-D (M)	WB1 Serial A	32.51	1.28	16	0.63	8.89	0.35	0.096
	11776A		#10 Ring Terminal	System Computer Ground Stud		0.41		0.28		0.25	
5 - Wallbox to System Computer or Control Component	11590A	System Computer (yellow)	RJ 45								
	11767A		9 Pin Sub-D (F)	System Computer J2	32.51	1.28	16	0.63	8.89	0.35	0.096
	11768A		9 Pin Sub-D (F)	System Computer J1	32.51	1.28	16	0.63	8.89	0.35	0.096
	11770A		IEC 320	System Computer Power	25.40	1	16.51	0.65	8.89	0.35	0.096
	11769A or 020072	RCIM (yellow)	SCSI Connector or 26-Pin Sub-D (F)	RCIM	50.80 or 40	2 or 1.6	10.16 or 15	0.4 or 0.6	8.89	0.35	0.096
	020011		Pin Sub-D (F)	System Serial B	32.51	1.28	16	0.63	8.89	0.35	0.096
	020010		Pin Sub-D (F)	System Serial A	32.51	1.28	16	0.63	8.89	0.35	0.096
6 - System Computer to Wallstand (via Wallbox and System Cabinet)	020002	Wallstand									
	020003										
7 - Wallstand to DSA	020020	DSA									
	11583A										

Table 8-3 Cable Terminations (End B) (Continued)

Section 3.0 - System Master Interconnect Schematic (MIS)

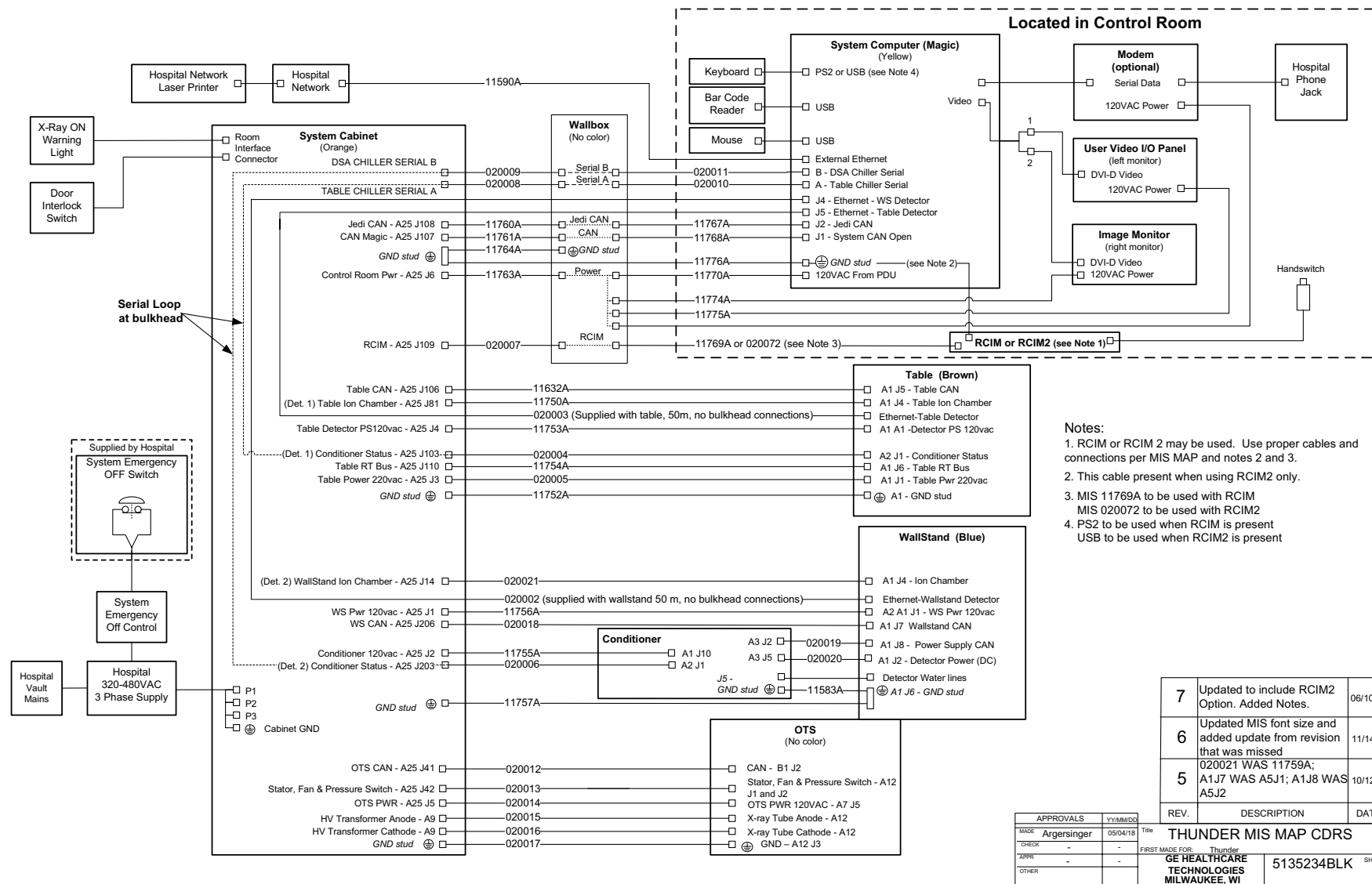


Figure 8-1 System MIS Map 5135234 - Table and Wall Stand

APPROVALS	YYMMDD	Title
MADE Argersinger	05/04/18	
CHECK -	-	FIRST MADE FOR: Thunder
APPR -	-	GE HEALTHCARE
OTHER -	-	TECHNOLOGIES
		MILWAUKEE, WI

REV.	DESCRIPTION	DATE	BY
7	Updated to include RCIM2 Option. Added Notes.	06/10/08	AA
6	Updated MIS font size and added update from revision that was missed	11/14/05	KS
5	020021 WAS 11759A; A1J7 WAS A5J1; A1J8 WAS A5J2	10/12/05	KS

Chapter 9 - Seismic Calculations

Section 1.0 Overview

Seismic requirements are determined and specified by the hospital architect of record and may require approval by the specific state or country agency.

Seismic attachment hardware shown on seismic calculations may differ from hardware supplied with system. Any additional hardware that is required will be the responsibility of the institution and/or their contractor. Contact your Installation Specialist with any related questions.

Seismic calculations included in this chapter are per California Building Code.

Section 2.0 Calculations

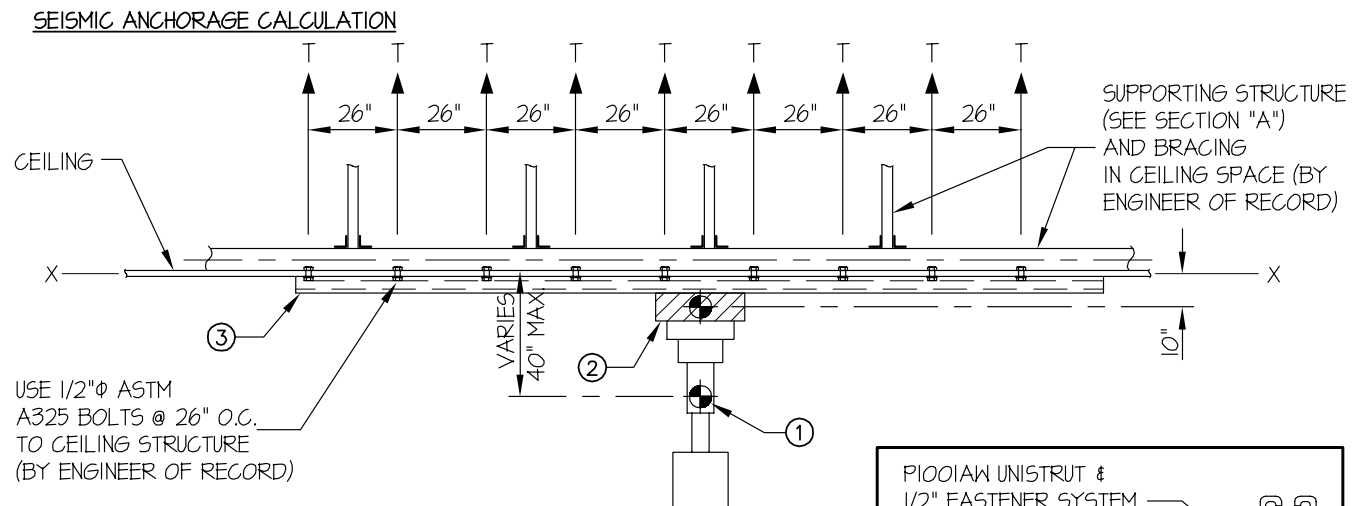
Seismic calculations are included for the following:

- [Overhead Tube Suspension \(OTS\) - Sheet 1 of 2 on page 141](#)
- [System Cabinet \(SKL\) - Slab on Grade on page 143](#)
- [System Cabinet \(SKL\) - Upper Floor on page 144](#)
- [Table \(TBL\) - Slab on Grade - Sheet 1 of 2 on page 145](#)
- [Table \(TBL\) - Upper Floor - Sheet 1 of 2 on page 147](#)
- [Wall Stand \(WLS\) - Slab on Grade on page 149](#)
- [Wallstand \(WLS\) - Upper Floor on page 150](#)
- [Extended Wall Stand \(WLS\) - Slab on Grade on page 151](#)
- [Extended Wall Stand \(WLS\) - Upper Floor on page 152](#)
- [Detector Support Assembly \(DSA\) - Slab on Grade on page 153](#)
- [Detector Support Assembly \(DSA\) - Upper Floor on page 154](#)
- [Grid Holder \(GH\) on page 155](#)

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2.1 Overhead Tube Suspension (OTS) - Sheet 1 of 2

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		DES. R. LA BRIE		SHEET 1 OF 2 SHEETS
GEHC PIM 5137435		JOB NO. 12-0534		
Definium 8000 Overhead Tube Suspension (OTS)		DATE 11/21/05		



ELEVATION

DESCRIPTION	WEIGHT (LBS)
① COLUMN & TUBE SUPPORT	311
② BRIDGE AND CABLE ASSEMBLY	248
③ LONGITUDINAL RAILS	5.8 LBS/FT.

PROVIDE UNISTRUT & 1/2" FASTENER SYSTEM (ENGINEER OF RECORD)

CEILING RAIL BY G.E. ③

BOLT & NUT. TORQUE TO 50 FT. LBS.

NOTE:
STEEL CHANNEL MAY BE PARALLEL TO CEILING RAIL AS SHOWN OR PERPENDICULAR AS REQUIRED.

SECTION "A"

$T_{MAX} = 2056 \text{ LBS/BOLT}$
 $V_{MAX} = 605 \text{ LBS/BOLT}$

NOTES:

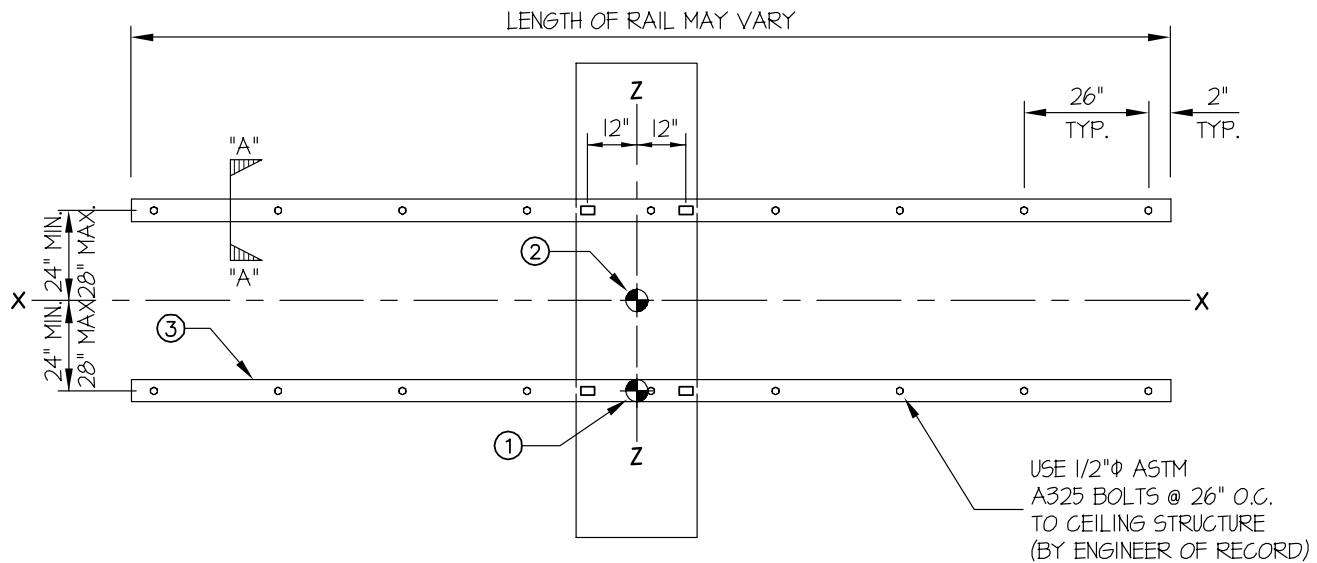
- FORCES ARE DETERMINED PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A AND HAVE BEEN FACTORED TO REPRESENT WORKING DESIGN LOADS, NOT ULTIMATE.
HORIZONTAL FORCE (V_H) = $2.36W$ ($C_a = .66$, $a_p = 2.5$, $I_p = 1.5$, $R_p = 3.0$)
VERTICAL FORCE (V_V) = $0.33(V_H)$
- CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.



Overhead Tube Suspension (OTS) - Sheet 2 of 2

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435 Definium 8000 Overhead Tube Suspension (OTS)	DES. R. LA BRIE	SHEET 2 OF 2 SHEETS
	JOB NO. 12-0534	
	DATE 11/21/05	

SEISMIC ANCHORAGE CALCULATION



PLAN AT CEILING RAILS

LOADS:

- ① COLUMN & TUBE SUPPORT
WEIGHT = 377 LBS
HORIZ. FORCE = 890 LBS
VERT. FORCE = 297 LBS
- ② BRIDGE AND CABLE ASSEMBLY
WEIGHT = 248 LBS
HORIZ. FORCE = 585 LBS
VERT. FORCE = 195 LBS
- ③ LONGITUDINAL RAILS
WEIGHT = 5.8 LBS/FT
HORIZ. FORCE = 13.7 LBS/FT
VERT. FORCE = 4.6 LBS/FT

BOLT FORCES:

TENSION (T)

$$T_1 = \frac{(377\# + 297\#)}{2 \text{ BOLTS}} + \frac{890\#(40")}{24"} = 1800 \text{ LBS}$$

$$T_2 = \frac{248\# + 195\#}{4 \text{ BOLTS}} + \frac{585\#(10")}{2 \text{ BOLTS} (24")} = 233 \text{ LBS}$$

$$T_3 = \frac{(5.8\#/FT + 4.6\#/FT)(26")}{12"/FT} = 23 \text{ LBS}$$

$$T_{MAX} = 1800\# + 233\# + 23\# = 2056 \text{ LBS/BOLT (MAX)}$$

SHEAR (V)

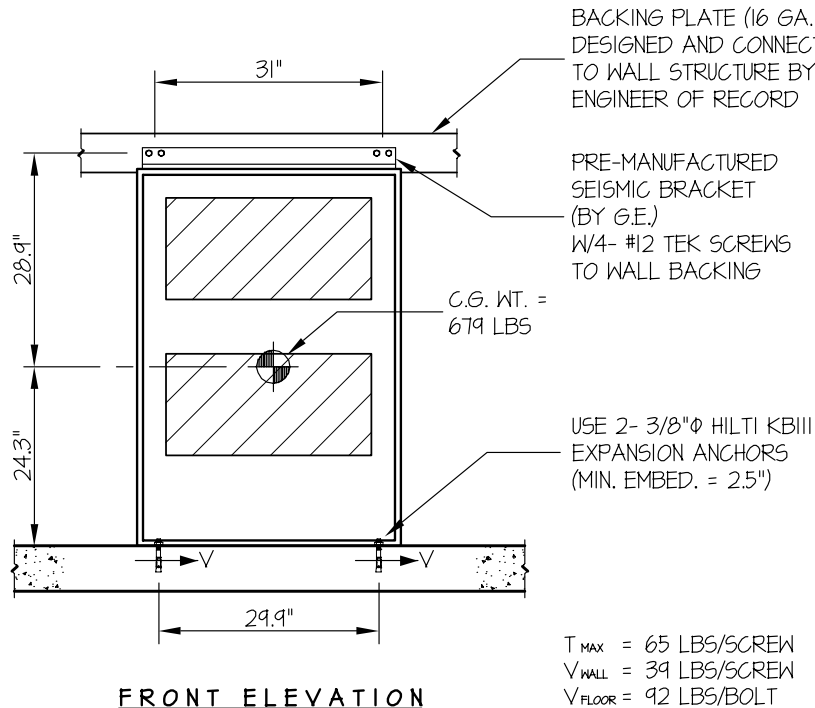
$$V = \frac{890\#}{2 \text{ BOLTS}} + \frac{585\#}{4 \text{ BOLTS}} + \frac{13.7\#}{1 \text{ BOLT}}$$

$$V_{MAX} = 605 \text{ LBS/BOLT (MAX)}$$

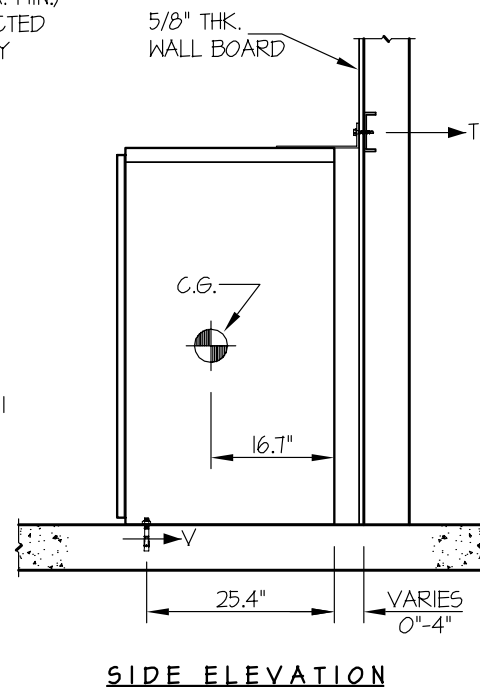
2.2 System Cabinet (SKL) - Slab on Grade

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435 System Cabinet (SKL)	DES. R. LA BRIE	SHEET 1 OF 1 SHEET
	JOB NO. 12-0534	
	DATE 11/21/05	

SEISMIC ANCHORAGE CALCULATION



SLAB ON GRADE



LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)

WEIGHT = 679 LBS

HORIZONTAL FORCE (V_H) = $0.50W$ = 340 LBS

VERTICAL FORCE (V_V) = $0.33(V_H)$ = 113 LBS

TENSION (T)

$$T_{\text{PARALLEL}} = \frac{340\#(20.7\")(24.3\"){}}{2 \text{ SCREWS } (31\")(53.2\"){}} = 52 \text{ LBS}$$

$$T_{\text{PERP.}} = \frac{340\#(24.3\"){}}{4 \text{ SCREWS } (53.2\"){}} = 39 \text{ LBS}$$

$$T_{\text{MAX}} = \sqrt{52^2 + 39^2} = 65 \text{ LBS/SCREW (MAX)}$$

SHEAR (V)

$$V_{\text{WALL}} = \frac{340\#(24.3\"){}}{4 \text{ SCREWS } (53.2\"){}} = 39 \text{ LBS/SCREW (MAX)}$$

$$V_{\text{FLOOR}} = \frac{340\#(28.9\"){}}{2 \text{ BOLTS } (53.2\"){}} = 92 \text{ LBS/SCREW (MAX)}$$

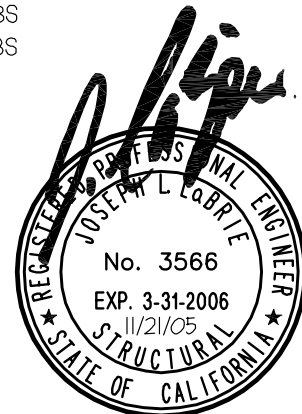
NOTE:

ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

#12 SM SCREWS TO 16 GAGE, 50 KSI

T_{ALLOW.} = 225 LBS

V_{ALLOW.} = 570 LBS

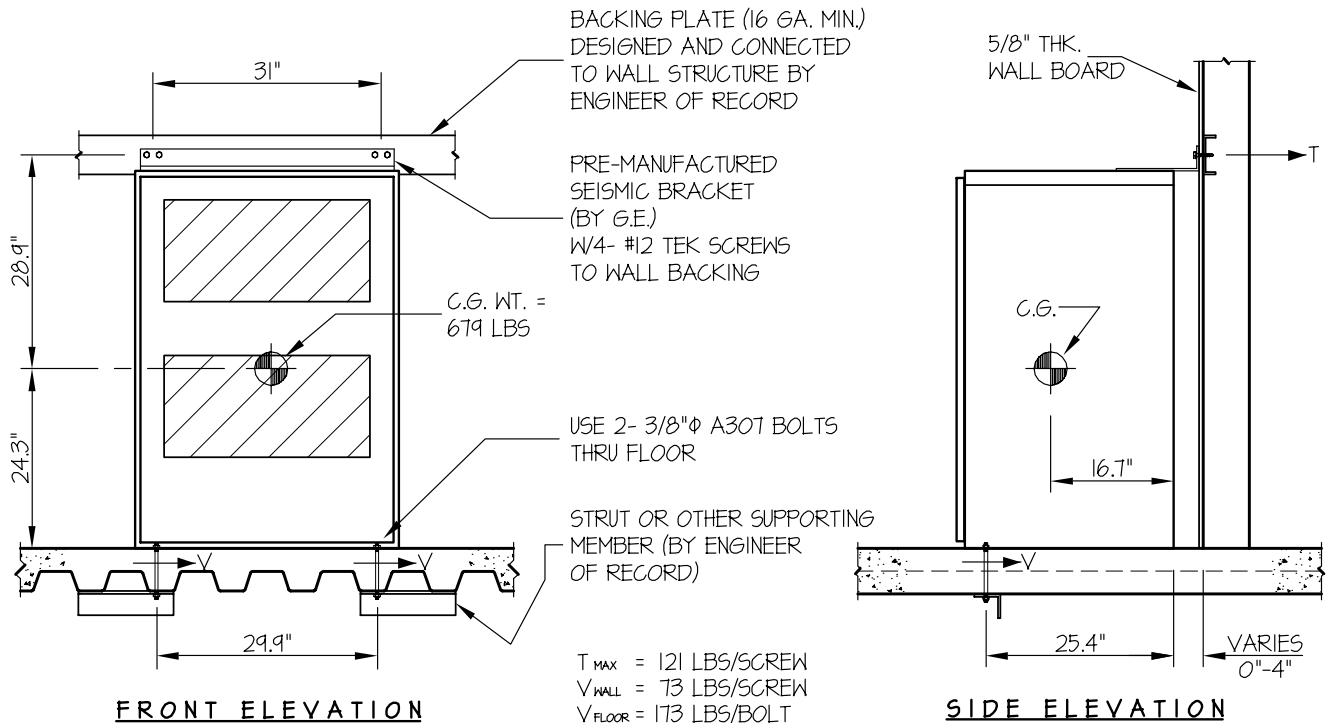


2.3 System Cabinet (SKL) - Upper Floor

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435 System Cabinet (SKL)	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0534	
	DATE 11/21/05	OF 1 SHEET

SEISMIC ANCHORAGE CALCULATION

UPPER FLOOR



LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)

WEIGHT = 679 LBS

HORIZONTAL FORCE (V_H) = $0.94W = 638 \text{ LBS}$

VERTICAL FORCE (V_V) = $0.33(V_H) = 213 \text{ LBS}$

TENSION (T)

$$T_{PARALLEL} = \frac{638 \#(20.7'')(24.3'')}{2 \text{ SCREWS } (31'')(53.2'')} = 97 \text{ LBS}$$

$$T_{PERP.} = \frac{638 \#(24.3'')}{4 \text{ SCREWS } (53.2'')} = 73 \text{ LBS}$$

$$T_{MAX} = \sqrt{97^2 + 73^2} = 121 \text{ LBS/SCREW (MAX)}$$

SHEAR (V)

$$V_{WALL} = \frac{638 \#(24.3'')}{4 \text{ SCREWS } (53.2'')} = 73 \text{ LBS/SCREW (MAX)}$$

$$V_{FLOOR} = \frac{638 \#(28.9'')}{2 \text{ BOLTS } (53.2'')} = 173 \text{ LBS/SCREW (MAX)}$$

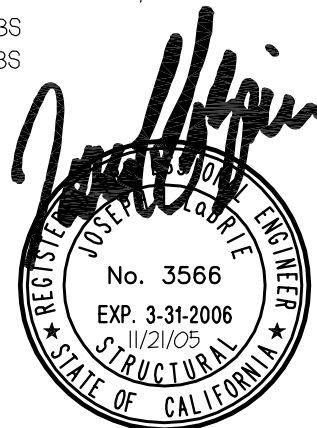
NOTE:

ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT
STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

#12 SM SCREWS TO 16 GAGE, 50 KSI

$T_{ALLOW.} = 225 \text{ LBS}$

$V_{ALLOW.} = 570 \text{ LBS}$

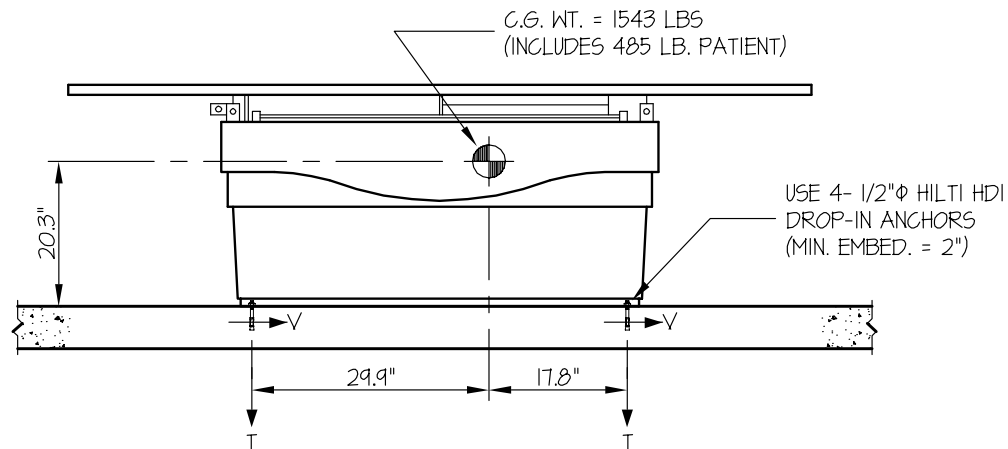


2.4 Table (TBL) - Slab on Grade - Sheet 1 of 2

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435 Definium 8000 Table (TBL)	DES. R. LA BRIE	SHEET 1 OF 2 SHEETS
	JOB NO. 12-0534	
	DATE 11/21/05	

SEISMIC ANCHORAGE CALCULATION

SLAB ON GRADE



ELEVATION

$T_{MAX} = 39 \text{ LBS/BOLT}$
 $V_{MAX} = 242 \text{ LBS/BOLT}$

NOTES:

- FORCES ARE DETERMINED PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A AND HAVE BEEN FACTORED TO REPRESENT WORKING DESIGN LOADS, NOT ULTIMATE.
HORIZONTAL FORCE (V_H) = $0.50W$ ($C_a = .66$, $a_p = 1.0$, $I_p = 1.5$, $R_p = 1.5$)
VERTICAL FORCE (V_V) = $0.33(V_H)$
- CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

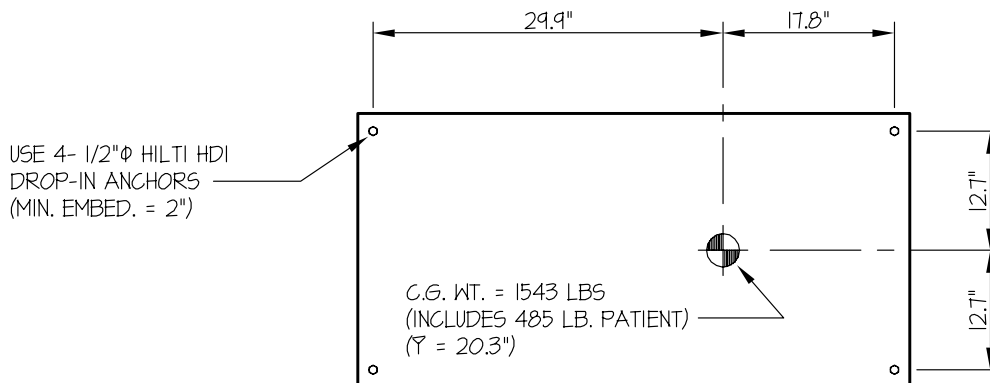


Table (TBL) - Slab on Grade - Sheet 2 of 2

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435 Definium 8000 Table (TBL)	DES. R. LA BRIE	SHEET 2 OF 2 SHEETS
	JOB NO. 12-0534	
	DATE 11/21/05	

SEISMIC ANCHORAGE CALCULATION

SLAB ON GRADE



PLAN AT BASE

LOADS:

WEIGHT = 1543 LBS (INCLUDES 485 LB. PATIENT)

HORIZONTAL FORCE (V_H) = 772 LBS

VERTICAL FORCE (V_V) = 257 LBS

BOLT FORCES:

TENSION (T)

$$T_{\text{MAXIMUM}} = \left[\frac{772\#(20.3'')(12.7'')}{47.7''(25.4'')} \times (0.3) \right] + \frac{772\#(20.3'')(17.8'')}{25.4''(47.7'')} - \frac{(1543\# - 257\#)(17.8'')(12.7'')}{47.7''(25.4'')} = 39 \text{ LBS/BOLT (MAX)}$$

(HORIZ. - SIDE TO SIDE) (HORIZ. - FRONT TO BACK) (WEIGHT - V_V)

SHEAR (V)

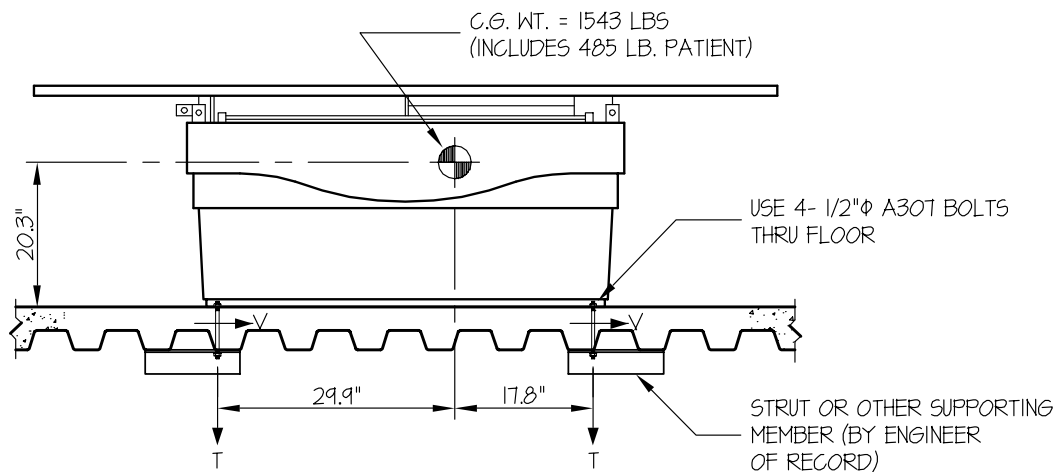
$$V = \frac{772\#(29.9'')}{2 \text{ BOLTS } (47.7'')} = 242 \text{ LBS/BOLT (MAX)}$$

2.5 Table (TBL) - Upper Floor - Sheet 1 of 2

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435 Definium 8000 Table (TBL)	DES. R. LA BRIE	SHEET 1 OF 2 SHEETS
	JOB NO. 12-0534	
	DATE 11/21/05	

SEISMIC ANCHORAGE CALCULATION

UPPER FLOOR

ELEVATION

$T_{MAX} = 487 \text{ LBS/BOLT}$
 $V_{MAX} = 455 \text{ LBS/BOLT}$

NOTES:

- FORCES ARE DETERMINED PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A AND HAVE BEEN FACTORED TO REPRESENT WORKING DESIGN LOADS, NOT ULTIMATE.
 HORIZONTAL FORCE (V_H) = $0.94W$ ($C_a = .66$, $a_p = 1.0$, $I_p = 1.5$, $R_p = 3.0$)
 VERTICAL FORCE (V_V) = $0.33(V_H)$
- CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

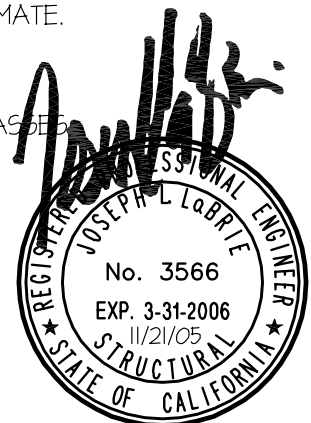
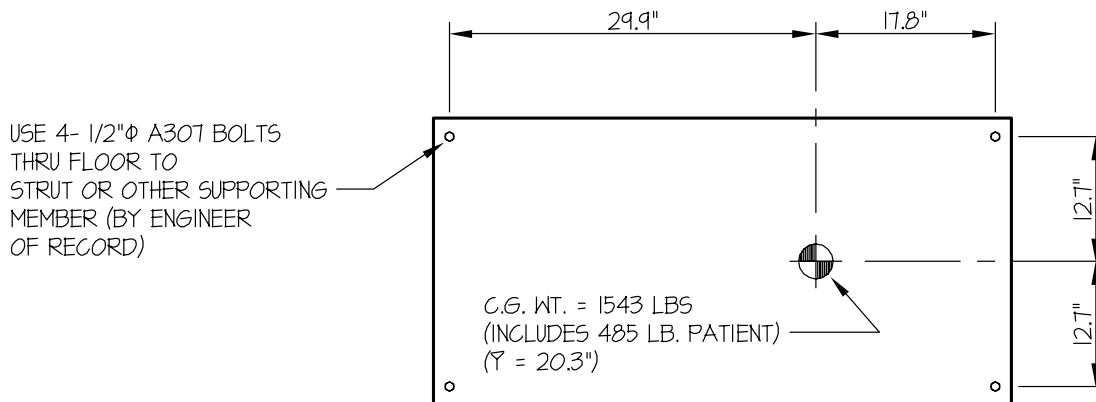


Table (TBL) - Upper Floor - Sheet 2 of 2

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435	DES. R. LA BRIE	SHEET 2
	JOB NO. 12-0534	
	DATE 11/21/05	
Definium 8000 Table (TBL)		OF 2 SHEETS

SEISMIC ANCHORAGE CALCULATION

UPPER FLOOR



PLAN AT BASE

LOADS:

WEIGHT = 1543 LBS (INCLUDES 485 LB. PATIENT)

HORIZONTAL FORCE (V_H) = 1450 LBS

VERTICAL FORCE (V_V) = 483 LBS

BOLT FORCES:

TENSION (T)

$$T_{\text{MAXIMUM}} = \left[\frac{1450\#(20.3'')(12.7'')}{47.7''(25.4'')} \times (0.3) \right] + \frac{1450\#(20.3'')(29.9'')}{25.4''(47.7'')} - \frac{(1543\# - 483\#)(29.9'')(12.7'')}{47.7''(25.4'')} = 487 \text{ LBS/BOLT (MAX)}$$

(HORIZ. - SIDE TO SIDE) (HORIZ. - FRONT TO BACK) (WEIGHT - V_V)

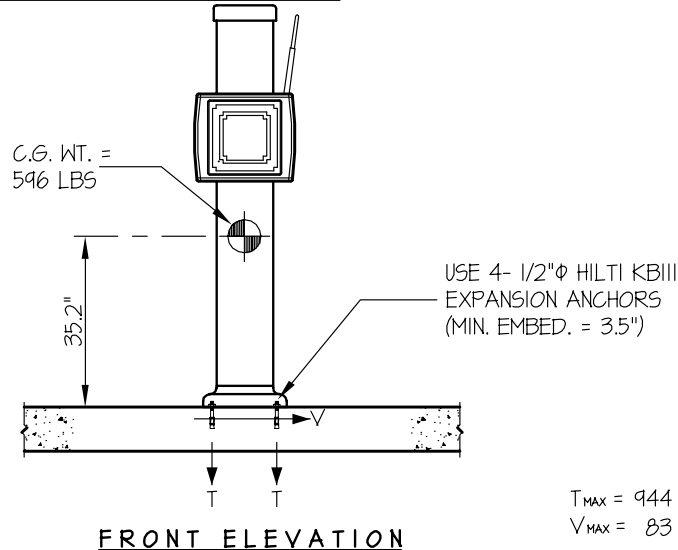
SHEAR (V)

$$V = \frac{1450\#(29.9'')}{2 \text{ BOLTS } (47.7'')} = 455 \text{ LBS/BOLT (MAX)}$$

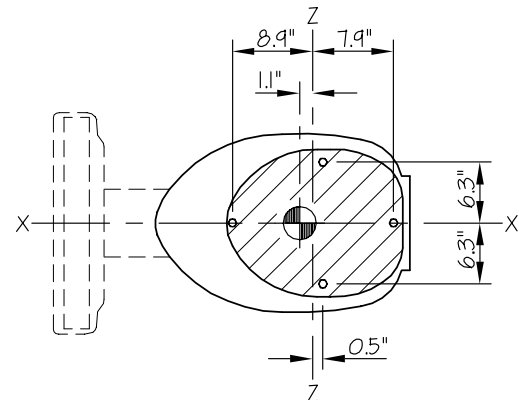
2.6 Wall Stand (WLS) - Slab on Grade

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435	DES. R. LA BRIE	SHEET 1 OF 1 SHEET
	JOB NO. 12-0534	
	DATE 11/21/05	
Wall Stand (WLS)		

SEISMIC ANCHORAGE CALCULATION



SLAB ON GRADE



PLAN AT BASE

$$T_{MAX} = 944 \text{ LBS/BOLT}$$

$$V_{MAX} = 83 \text{ LBS/BOLT}$$

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)

WEIGHT = 596 LBS

HORIZONTAL FORCE (V_H) = $0.50W$ = 298 LBS

VERTICAL FORCE (V_V) = $0.33(V_H)$ = 99 LBS

BOLT GROUP PROPERTIES:

$$I_{X-X} = 79 \text{ in}^4$$

$$I_{Z-Z} = 142 \text{ in}^4$$

$$I_{Y-Y} = 221 \text{ in}^4$$

MOMENTS: (FROM VERTICAL LOADS)

$$M_{ZZ} = (596\# - 99\#)(1.1') = 547'\#$$

MOMENTS: (FROM LATERAL LOADS)

$$M_{XX} = 298\#(35.2'') = 10,490'\#$$

$$M_{ZZ} = 298\#(35.2'') = 10,490'\#$$

$$M_{YY} = 298\#(1.1') = 328'\#$$

BOLT FORCES:

TENSION (T)

$$T = \left[\frac{10490'\#(6.3'')}{79} \right] + \left[\frac{10490'\#(8.9'')}{142} \times (0.3) \right] + \left[\frac{547'\#(8.9'')}{142} \right] - \left[\frac{596\# - 99\#}{4 \text{ BOLTS}} \right] = 944 \text{ LBS/BOLT (MAX)}$$

$\frac{M_{XX-LAT}(C)}{I}$ $\frac{M_{ZZ-LAT}(C)}{I}$ $\frac{M_{ZZ-VERT}(C)}{I}$ $\frac{P}{A}$

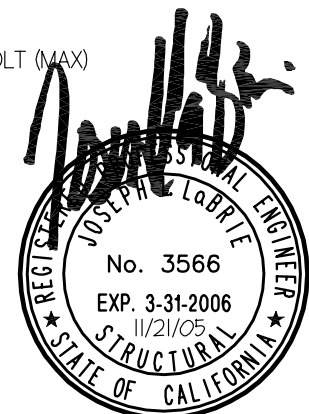
SHEAR (V)

$$V = \frac{298\#}{4 \text{ BOLTS}} + \frac{328'\#\sqrt{0.5^2 + 6.3^2}}{221} = 83 \text{ LBS/BOLT (MAX)}$$

$\frac{P}{A}$ $\frac{M_{YY}(C)}{I}$

NOTE:

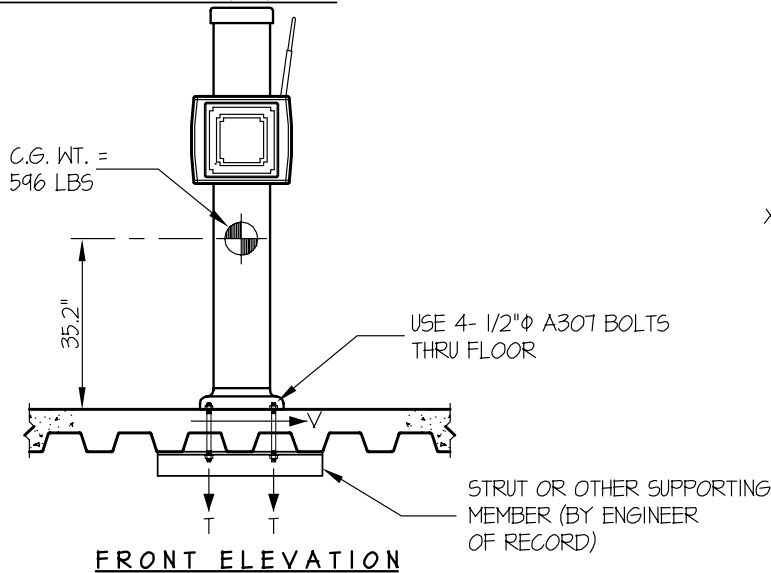
ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.



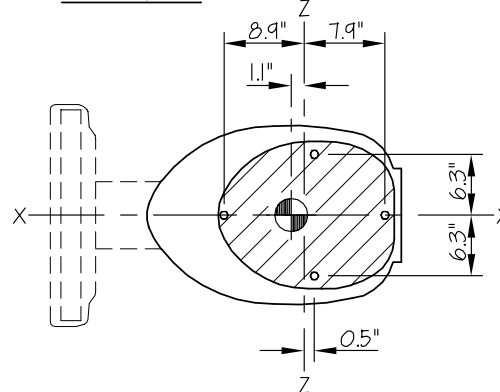
2.7 Wallstand (WLS) - Upper Floor

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING GEHC PIM 5137435 Wall Stand (WLS)	DES. R. LA BRIE	SHEET 1 OF 1 SHEET
	JOB NO. 12-0534	
	DATE 11/21/05	

SEISMIC ANCHORAGE CALCULATION



UPPER FLOOR



PLAN AT BASE

$$T_{MAX} = 1869 \text{ LBS/BOLT}$$

$$V_{MAX} = 158 \text{ LBS/BOLT}$$

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)

WEIGHT = 596 LBS

HORIZONTAL FORCE (V_H) = $0.94W$ = 560 LBS

VERTICAL FORCE (V_V) = $0.33(V_H)$ = 187 LBS

BOLT GROUP PROPERTIES:

$$I_{X-X} = 79 \text{ in.}^4$$

$$I_{Z-Z} = 142 \text{ in.}^4$$

$$I_{Y-Y} = 221 \text{ in.}^4$$

MOMENTS: (FROM VERTICAL LOADS)

$$M_{ZZ} = (596\# - 187\#)(1\text{'}) = 450\text{'}\#$$

MOMENTS: (FROM LATERAL LOADS)

$$M_{XX} = 560\#(35.2\text{'}) = 19,712\text{'}\#$$

$$M_{ZZ} = 560\#(35.2\text{'}) = 19,712\text{'}\#$$

$$M_{YY} = 560\#(1\text{'}) = 616\text{'}\#$$

BOLT FORCES:

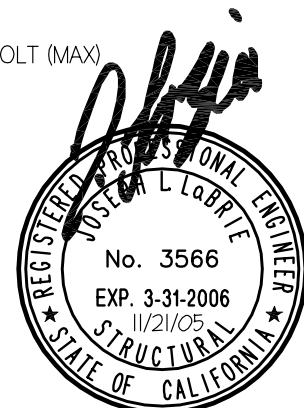
TENSION (T)

$$T = \left[\frac{19712\text{'}\#(6.3\text{'})}{79} \right] + \left[\frac{19712\text{'}\#(8.9\text{'})}{142} \times (0.3) \right] + \left[\frac{450\text{'}\#(8.9\text{'})}{142} \right] - \left[\frac{596\# - 187\#}{4 \text{ BOLTS}} \right] = 1869 \text{ LBS/BOLT (MAX)}$$

$$V = \frac{560\#}{4 \text{ BOLTS}} + \frac{616\text{'}\# \sqrt{0.5^2 + 6.3^2}}{221} = 158 \text{ LBS/BOLT (MAX)}$$

NOTE:

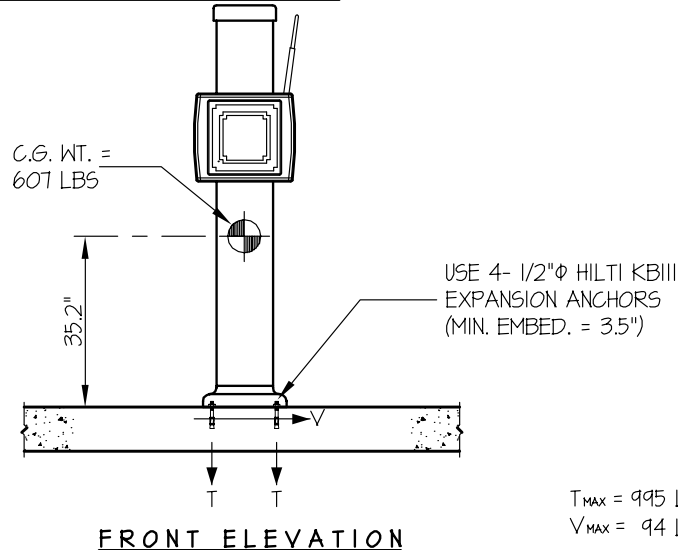
ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.



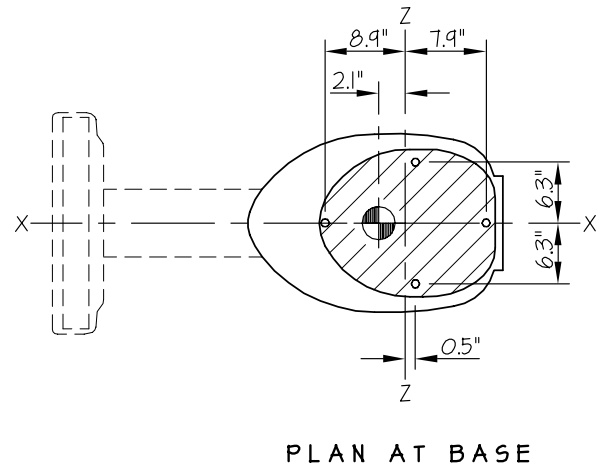
2.8 Extended Wall Stand (WLS) - Slab on Grade

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435	DES. R. LA BRIE	SHEET 1 OF 1 SHEET
	JOB NO. 12-0534	
	DATE 11/21/05	
Extended Wall Stand (WLS)		

SEISMIC ANCHORAGE CALCULATION



SLAB ON GRADE



$$T_{MAX} = 995 \text{ LBS/BOLT}$$

$$V_{MAX} = 94 \text{ LBS/BOLT}$$

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)

WEIGHT = 607 LBS

HORIZONTAL FORCE (V_H) = $0.50W$ = 304 LBS

VERTICAL FORCE (V_V) = $0.33(V_H)$ = 101 LBS

MOMENTS: (FROM VERTICAL LOADS)

$$M_{ZZ} = (607\# - 101\#)2.1" = 1,063\#\text{'}$$

BOLT GROUP PROPERTIES:

$$I_{X-X} = 79 \text{ in.}^4$$

$$I_{Z-Z} = 142 \text{ in.}^4$$

$$I_{Y-Y} = 221 \text{ in.}^4$$

MOMENTS: (FROM LATERAL LOADS)

$$M_{XX} = 304\#(35.2") = 10,701\#\text{'}$$

$$M_{ZZ} = 304\#(35.2") = 10,701\#\text{'}$$

$$M_{YY} = 304\#(2.1") = 638\#\text{'}$$

BOLT FORCES:

TENSION (T)

$$T = \left[\frac{10701\#(6.3")}{79} \right] + \left[\frac{10701\#(8.9")}{142} \times (0.3) \right] + \left[\frac{1063\#(8.9")}{142} \right] - \left[\frac{607\# - 101\#}{4 \text{ BOLTS}} \right] = 995 \text{ LBS/BOLT (MAX)}$$

$\frac{M_{XX-LAT}(C)}{I}$
 $\frac{M_{ZZ-LAT}(C)}{I}$
 $\frac{M_{ZZ-VERT}(C)}{I}$
 $\frac{P}{A}$

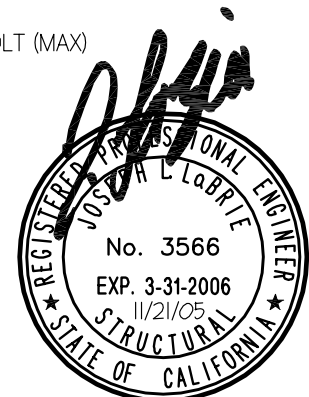
SHEAR (V)

$$V = \frac{304\#}{4 \text{ BOLTS}} + \frac{638\#\sqrt{0.5^2 + 6.3^2}}{221} = 94 \text{ LBS/BOLT (MAX)}$$

$\frac{P}{A}$
 $\frac{M_{YY}(C)}{I}$

NOTE:

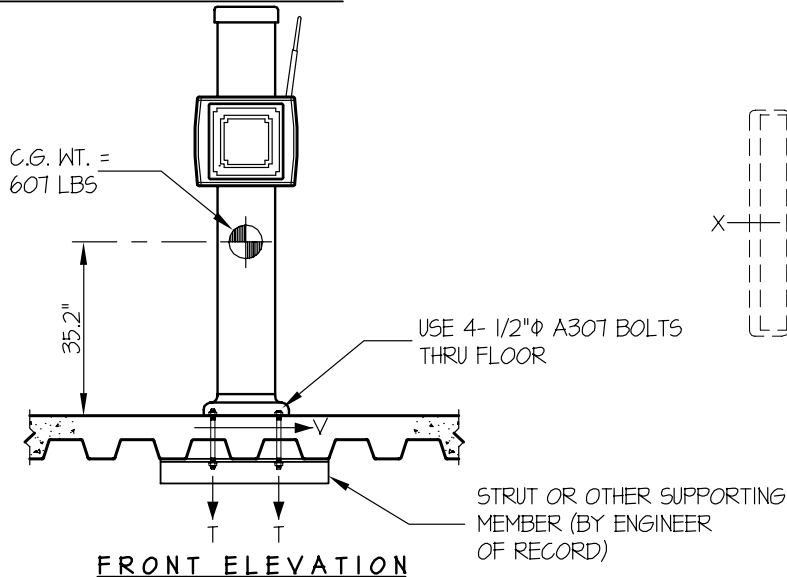
ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.



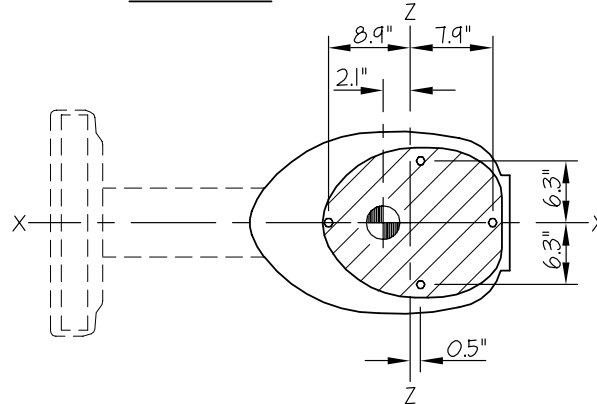
2.9 Extended Wall Stand (WLS) - Upper Floor

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435 Extended Wall Stand (WLS)	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0534	OF 1 SHEET
	DATE 11/21/05	

SEISMIC ANCHORAGE CALCULATION



UPPER FLOOR



PLAN AT BASE

$T_{MAX} = 1931 \text{ LBS/BOLT}$
 $V_{MAX} = 177 \text{ LBS/BOLT}$

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)

WEIGHT = 607 LBS

HORIZONTAL FORCE (V_H) = $0.94W = 571 \text{ LBS}$

VERTICAL FORCE (V_V) = $0.33(V_H) = 190 \text{ LBS}$

MOMENTS: (FROM VERTICAL LOADS)

$$M_{ZZ} = (607\# - 190\#)2.1" = 876\#\text{'}$$

BOLT GROUP PROPERTIES:

$$I_{X-X} = 79 \text{ in.}^4$$

$$I_{Z-Z} = 142 \text{ in.}^4$$

$$I_{Y-Y} = 221 \text{ in.}^4$$

MOMENTS: (FROM LATERAL LOADS)

$$M_{XX} = 571\#(35.2") = 20,099\#\text{'}$$

$$M_{ZZ} = 571\#(35.2") = 20,099\#\text{'}$$

$$M_{YY} = 571\#(2.1") = 1,199\#\text{'}$$

BOLT FORCES:

TENSION (T)

$$T = \left[\frac{20099\#(6.3")}{79} \right] + \left[\frac{20099\#(8.9")}{142} \times (0.3) \right] + \left[\frac{876\#(8.9")}{142} \right] - \left[\frac{607\# - 190\#}{4 \text{ BOLTS}} \right] = 1931 \text{ LBS/BOLT (MAX)}$$

$\frac{M_{XX-LAT}(C)}{I}$
 $\frac{M_{ZZ-LAT}(C)}{I}$
 $\frac{M_{ZZ-VERT}(C)}{I}$
 $\frac{P}{A}$

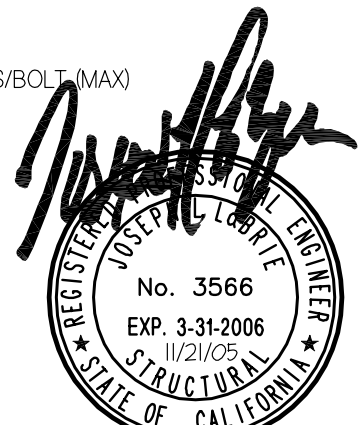
SHEAR (V)

$$V = \frac{571\#}{4 \text{ BOLTS}} + \frac{1199\#\sqrt{0.5^2 + 6.3^2}}{221} = 177 \text{ LBS/BOLT (MAX)}$$

$\frac{P}{A}$
 $\frac{M_{YY}(C)}{I}$

NOTE:

ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN

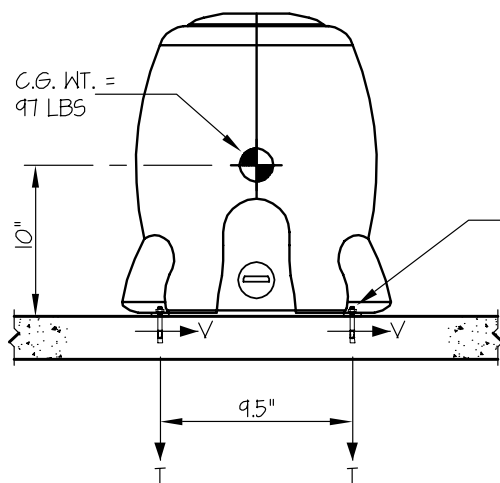


2.10 Detector Support Assembly (DSA) - Slab on Grade

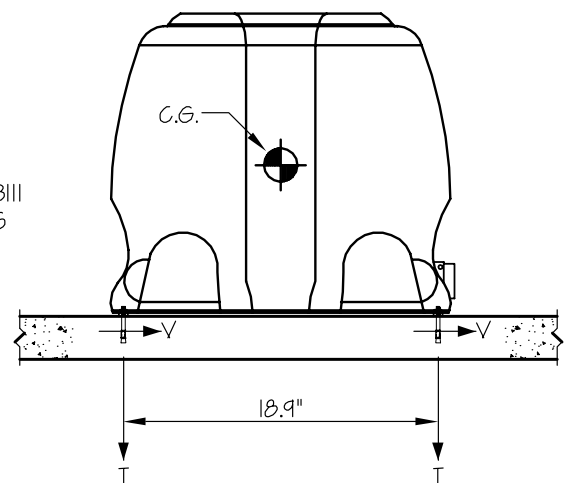
EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435 Detector Support Assembly (DSA)	DES. R. LA BRIE	SHEET 1 OF 1 SHEET
	JOB NO. 12-0534	
	DATE 11/21/05	

SEISMIC ANCHORAGE CALCULATION

SLAB ON GRADE

**FRONT ELEVATION**

USE 4- 1/4" Ø HILTI KBIII
EXPANSION ANCHORS
(MIN. EMBED. = 2")

**SIDE ELEVATION**

$T_{MAX} = 9 \text{ LBS/BOLT}$
 $V_{MAX} = 12 \text{ LBS/BOLT}$

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)

WEIGHT = 97 LBS

HORIZONTAL FORCE (V_H) = $0.50W = 49 \text{ LBS}$

VERTICAL FORCE (V_V) = $0.33(V_H) = 16 \text{ LBS}$

BOLT FORCES:

TENSION (T)

$$T_{MAXIMUM} = \frac{49\#(10'')}{2 \text{ BOLTS } (9.5'')} + \left[\frac{49\#(10'')}{2 \text{ BOLTS } (18.9'')} \times (0.3) \right] - \frac{97\# - 16\#}{4 \text{ BOLTS}} = 9 \text{ LBS/BOLT (MAX)}$$

(HORIZ - SIDE TO SIDE) (HORIZ - FRONT TO BACK) (WEIGHT - V_V)

SHEAR (V)

$$V = \frac{49\#}{4 \text{ BOLTS}} = 12 \text{ LBS/BOLT (MAX)}$$

NOTE:

ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

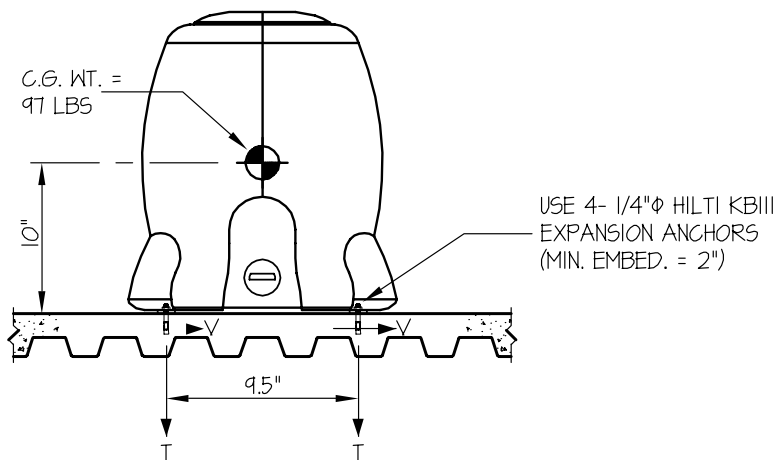


2.11 Detector Support Assembly (DSA) - Upper Floor

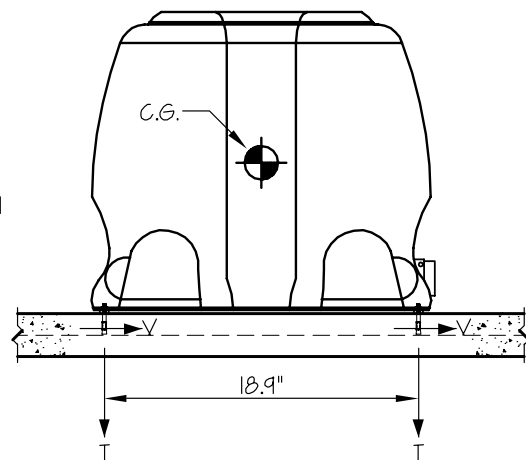
EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0534	
	DATE 11/21/05	OF 1 SHEET
Detector Support Assembly (DSA)		

SEISMIC ANCHORAGE CALCULATION

UPPER FLOOR



FRONT ELEVATION



SIDE ELEVATION

$$T_{\text{MAX}} = 38 \text{ LBS/BOLT}$$

$$V_{\text{MAX}} = 23 \text{ LBS/BOLT}$$

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)

WEIGHT = 97 LBS

HORIZONTAL FORCE (V_H) = $0.94W$ = 91 LBS

VERTICAL FORCE (V_V) = $0.33(V_H)$ = 30 LBS

BOLT FORCES:

TENSION (T)

$$T_{\text{MAXIMUM}} = \frac{91\#(10'')}{2 \text{ BOLTS } (9.5'')} + \left[\frac{91\#(10'')}{2 \text{ BOLTS } (18.9'')} \times (0.3) \right] - \frac{97\# - 30\#}{4 \text{ BOLTS}} = 38 \text{ LBS/BOLT (MAX)}$$

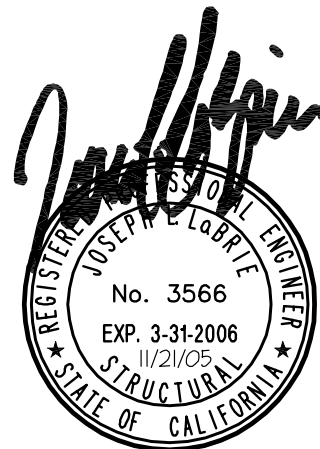
(HORIZ - SIDE TO SIDE) (HORIZ - FRONT TO BACK) (WEIGHT - V_V)

SHEAR (V)

$$V = \frac{91\#}{4 \text{ BOLTS}} = 23 \text{ LBS/BOLT (MAX)}$$

NOTE:

ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

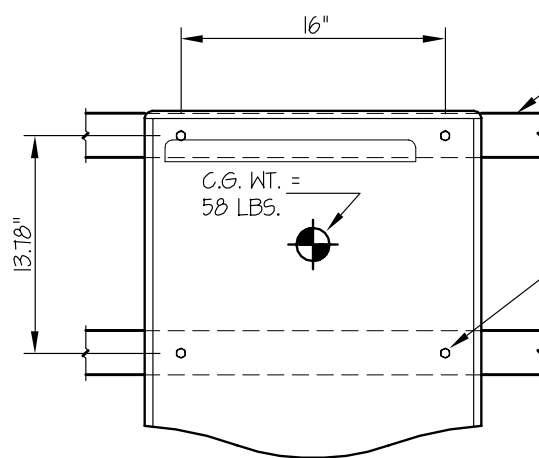


2.12 Grid Holder (GH)

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5137435 Grid Holder (GH)	DES. R. LA BRIE	SHEET 1 OF 1 SHEET
	JOB NO. 12-0534	
	DATE 11/21/05	

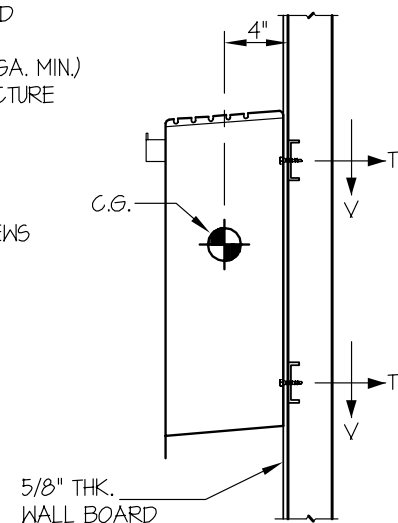
SEISMIC ANCHORAGE CALCULATION

WALL MOUNTED



FRONT ELEVATION

$T_{MAX} = 27 \text{ LBS/SCREW}$
 $V_{MAX} = 33 \text{ LBS/SCREW}$



SIDE ELEVATION

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)

WEIGHT = 58 LBS (INCLUDES 24 LBS FOR ACCESSORIES)

HORIZONTAL FORCE (V_H) = $0.94W = 55 \text{ LBS}$ VERTICAL FORCE (V_V) = $0.33(V_H) = 18 \text{ LBS}$

TENSION (T)

$$T_{\text{VERTICAL}} = \frac{(58\# + 18\#)4''}{2 \text{ SCREWS } (13.78'')} = 11 \text{ LBS}$$

$$T_{\text{PARALLEL}} = \frac{55\#(4'')}{2 \text{ SCREWS } (16'')} = 7 \text{ LBS}$$

$$T_{\text{PERP.}} = \frac{55\#}{4 \text{ SCREWS}} = 14 \text{ LBS}$$

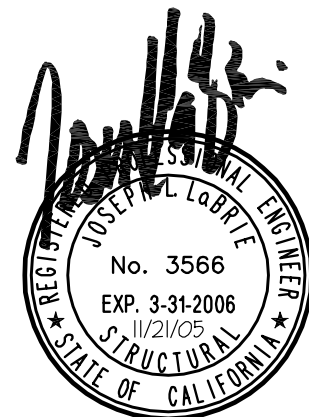
$$T_{\text{MAX}} = 11\# + \sqrt{7^2 + 14^2} = 27 \text{ LBS/SCREW (MAX)}$$

SHEAR (V)

$$V_{\text{MAX}} = \frac{58\# + 18\# + 55\#}{4 \text{ SCREWS}} = 33 \text{ LBS/SCREW (MAX)}$$

NOTE:

ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT
 STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.



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GE Medical Systems, a General Electric Company, going to market as GE Healthcare.
3000 N. Grandview Boulevard
Waukesha, Wisconsin 53188
USA

www.gehealthcare.com

