GE Medical Systems

Technical Publication

5123449 -100
Revision 12

GE Medical Systems
Precision RXi System Pre-Installation Manual

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IMPORTANT PRECAUTIONS

LANGUAGE

- THIS SERVICE MANUAL IS AVAILABLE IN ENGLISH ONLY.

WARNING

- 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, MECHANICAL OR OTHER HAZARDS.

ADVERTISSEMENT

- CE MANUEL DE MAINTENANCE 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'INTERVENTION 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

- DIESES KUNDENDIENST-HANDBUCH 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, DAS GERÄT ZU REPARIEREN, BEVOR DIESES KUNDENDIENST-HANDBUCH ZU RATE GEZOGEN UND VERSTANDEN WURDE.
- WIRD DIESE WARNUNG NICHT BEACHTET, SO KANN ES ZU VERLETZUNGEN DES KUNDENDIENSTTECHNIKERS, DES BEDIENERS ODER DES PATIENTEN DURCH ELEKTRISCHE SCHLÄGE, MECHANISCHE ODER SONSTIGE GEFAHREN KOMMEN.

AVISO

- ESTE MANUAL DE SERVICIO SÓLO EXISTE EN INGLÉS.
- SI ALGÚN PROVEEDOR DE SERVICIOS AJENO A GEMS SOLICITA UN IDIOMA QUE NO SEA EL INGLÉS, ES RESPONSABILIDAD DEL CLIENTE OFRECER UN SERVICIO DE TRADUCCIÓN.
- 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.

ANTENCAO

- ESTE MANUAL DE ASSISTÊNCIA TÉCNICA SÓ SE ENCONTRA DISPONÍVEL EM INGLÊS.
- SE QUALQUER OUTRO SERVIÇO DE ASSISTÊNCIA TÉCNICA, QUE NÃO A GEMS, SOLICITAR ESTES MANUAIS NOUTRO IDIOMA, É DA RESPONSABILIDADE DO CLIENTE FORNECER OS SERVIÇOS DE TRADUÇÃO.
- NÃO TENTE REPARAR O EQUIPAMENTO SEM TER CONSULTADO E COMPREENDIDO ESTE MANUAL DE ASSISTÊNCIA TÉCNICA.
- O NÃO CUMPRIMENTO DESTE AVISO PODE POR EM PERIGO A SEGURANÇA DO TÉCNICO, OPERADOR OU PACIENTE DEVIDO A' CHOQUES ELÉTRICOS, MECÂNICOS OU OUTROS.

AVVERTENZA

- IL PRESENTE MANUALE DI MANUTENZIONE È DISPONIBILE SOLTANTO IN INGLESE.
- SE UN ADDETTO ALLA MANUTENZIONE ESTERNO ALLA GEMS 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.
- NON TENERE CONTO 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.

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このサービスマニュアルには英語版しかありません。
ＧＥＭＳ以外で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。
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注意:

本维修手册仅存有英文本・
非 GEMS 公司的维修员要求非英文本的维修手册时，
客户需自行负责翻译・
未详细阅读和完全了解本手册之前，不得进行维修・
忽略本注意事项会对维修员，操作员或病人造成触电，机械伤害或其他伤害・

DAMAGE IN TRANSPORTATION

All packages should be closely examined at time of delivery. If damage is apparent, write "Damage In Shipment" on ALL copies of the freight or express bill BEFORE delivery is accepted or "signed for" by a GE representative or 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. Call Traffic and Transportation, Milwaukee, WI (262) 312-1163 or 8*320 1163, or E-mail **@MED Claims-Traffic**, immediately after damage is found. At this time be ready to supply name of carrier, delivery date, consignee name, freight or express bill number, item damaged and extent of damage.

CERTIFIED ELECTRICAL CONTRACTOR STATEMENT

All electrical Installations that are preliminary to positioning of the equipment at the site prepare 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 Systems 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 that 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.

OMISSIONS & ERRORS

Customers, please contact your GE Sales or Service representatives. GE personnel, please use the GEMS **iTrak** (issue tracking) process to report all omissions, errors, and defects in this publication.

REVISION HISTORY

REV	DATE	REASON FOR CHANGE
1	November 2004	Initial Release
2	June 2005	New OTS specs, table base plate change, cable lengths change, additional wallstand and pos cabinet mounting info, added floor flatness requirement, seismic information added, China cable requirements added
3	February 2006	Table base plate information corrections.
4	March 2006	Corrections and additional tube angulations information. Precision RXi Air Kerma Scatter Rates. Broadband information for Europe
5	July 2006	Positioner tabletop longitudinal displacement; room layout.
6	September 2006	Generator 50 kW deleted, moving the Bucky, room layout.
7	April 2007	Console joystick protection and new touch screen 15”
8	November 207	New monitor, new dual monitor cart.
9	April 2008	Replacement monitor cart
10	September 2008	*Maximum momentary power demand kVA* becomes *Minimum recommended distribution transformer rating* Page 68
11	January 2009	Review of electrical safety direction
12	June 2009	New monitor suspension

Table of Contents

1. Preface

1.1. 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.

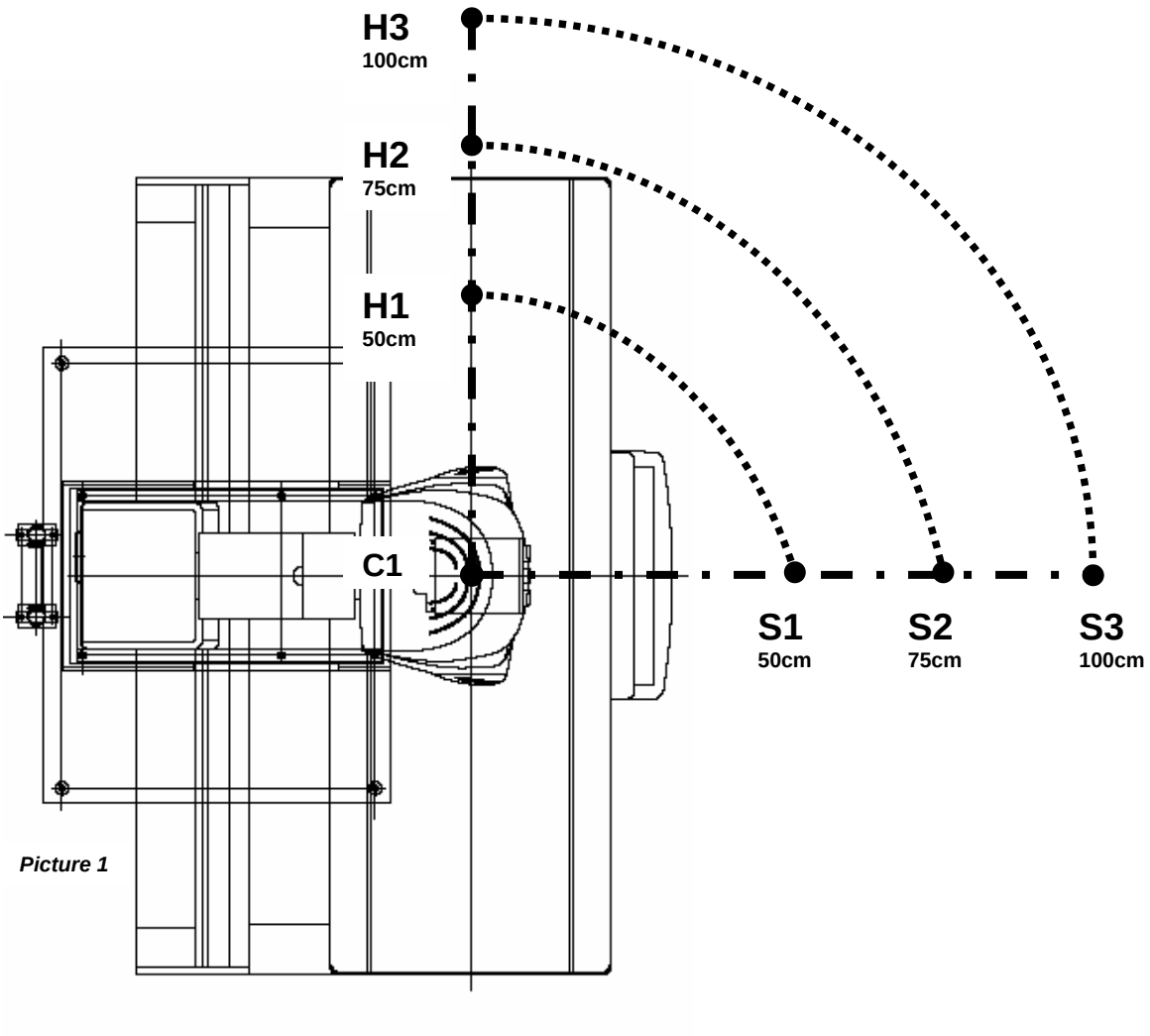
It's important that you read and understand hazard statements, and not just ignore them.

1.2. Safety & Hazard Information

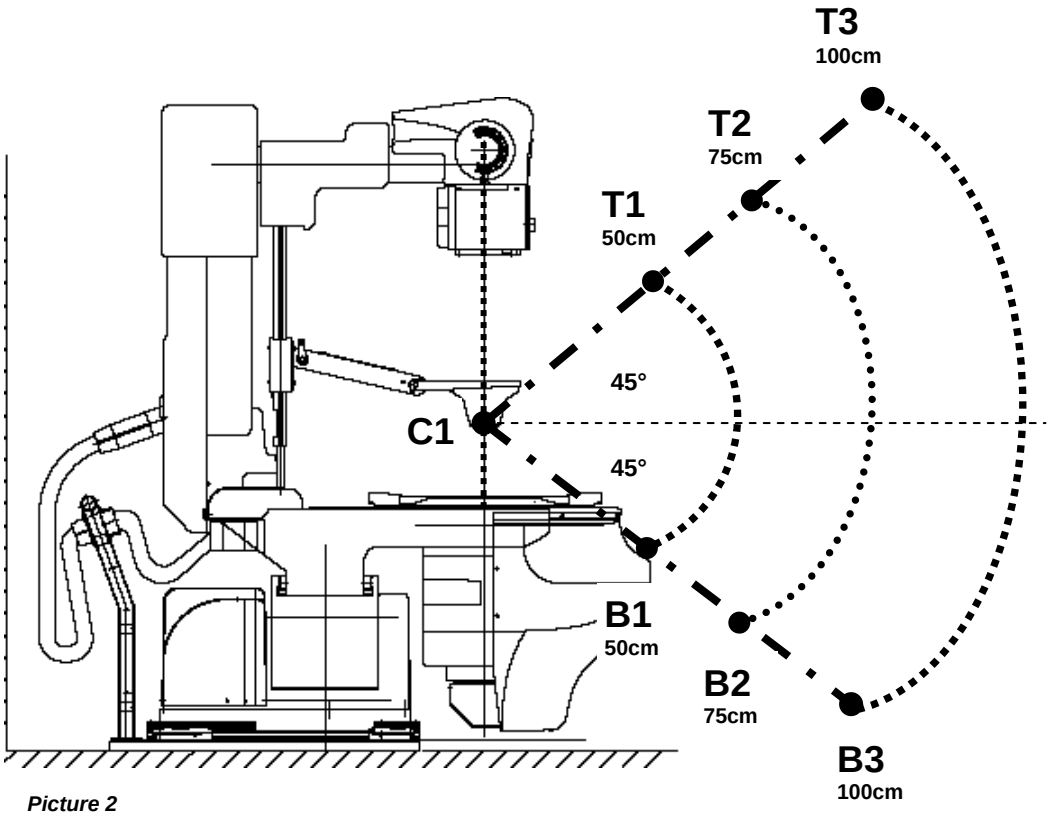
Proper product safety labeling allows a person to safely use or service a product. The format and style for safety communications reflected in this publication represents the harmonization of IEC/ISO 3864 and ANSI Z535 standards.

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.

Precision RXi Air Kerma Scatter Rates



Picture 1



Picture 2

Technique: Fluoroscopic 80kVp @ 2mA Entrance Exposure Rate: (Reference C1)		
H1	217 mR/hr	1.89 mG/hr
H2	103 mR/hr	0.90 mG/hr
H3	58 mR/hr	0.50 mG/hr
S1	265 mR/hr	2.30 mG/hr
S2	103 mR/hr	0.90 mG/hr
S3	56 mR/hr	0.49 mG/hr
T1	438 mR/hr	3.81 mG/hr
T2	239 mR/hr	2.08 mG/hr
T3	125 mR/hr	1.09 mG/hr
C1	***897 mR/min***	***7.8 mGy/min***
B1	5 mR/hr	0.04 mG/hr
B2	11 mR/hr	0.10 mG/hr
B3	9 mR/hr	0.08 mG/hr
Note: C1 is dose rate at entrance phantom surface (SSD=92cm)		

Instrument used

Instrument Type	Make & Model
Dosimeter (scatter exposure only)	Victoreen 660
Chamber (scatter exposure only)	Victoreen 665
Dosimeter (entrance exposure only)	Solidose 400

1.3. Hazard Messages

Any action that will, could or 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's 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 injures 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.

1.4. 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 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.

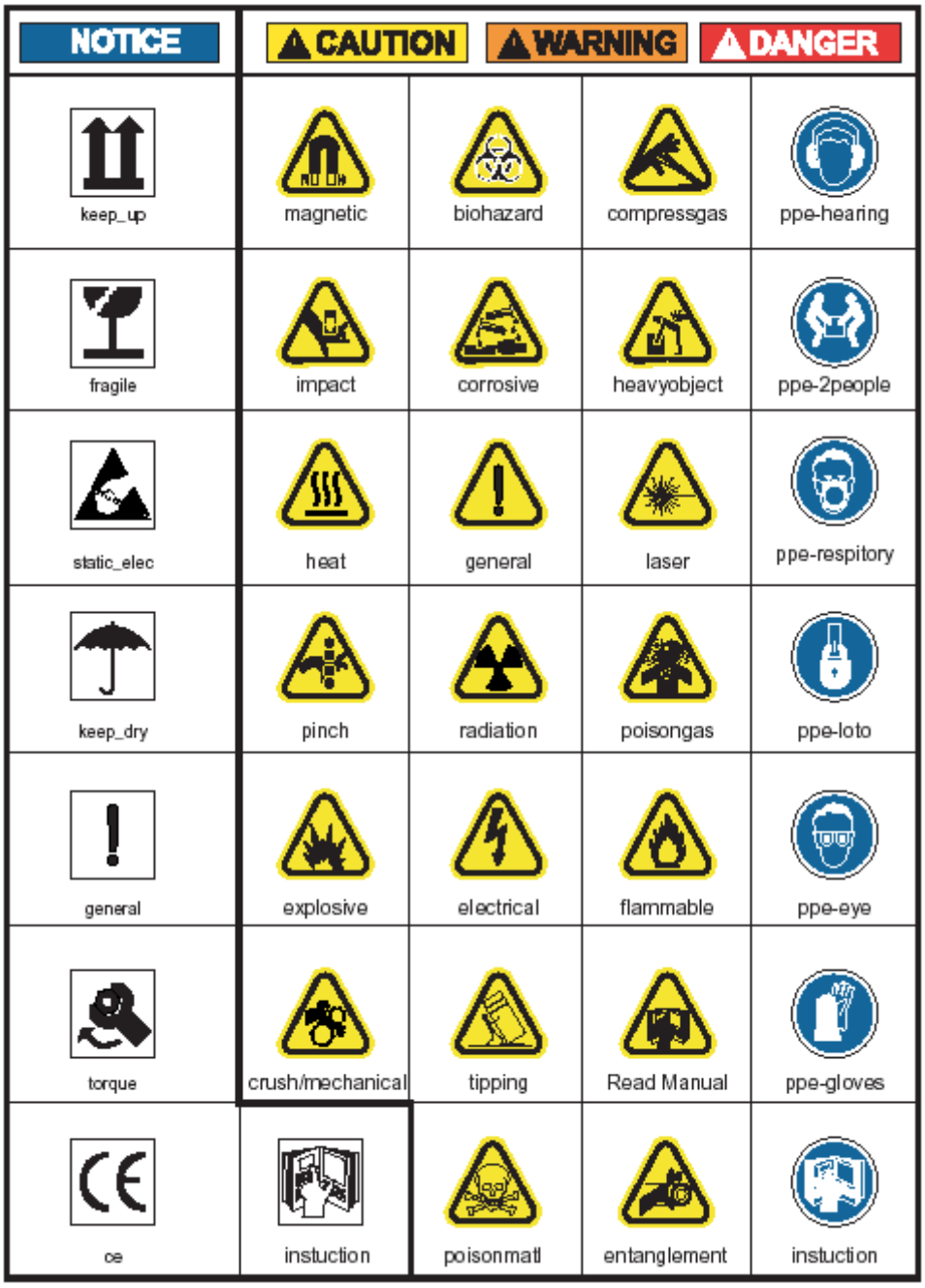
NOTICE - Indicates information or a company policy that relates directly or indirectly to the safety of personnel or protection of property. This signal word is associated directly with a hazard or hazardous situation and is used in place of 'DANGER,' 'WARNING,' or 'CAUTION.'

It can include:

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

1.5. Symbols and Pictorials Used

The following Symbols and Pictorials are 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.



2. 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

Headers and footers in this publication are designed to allow you to quickly identify your location. The document part number and revision number appears in every header on every page. The page number appears on the left-hand side (or right-hand side) of the footer.

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**.

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

2.3. Computer Screen Output/Input Text Character Styles

Within this publication, mono-spaced character styles (fonts) are used to indicate computer text that's either screen input and output. Mono-spaced fonts, such 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: Fixed Output
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's 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: Variable Output
This paragraph's font represents computer screen output that is "variable". It's 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_ouput> or <3.45.120.3>. In both cases, the < and > operators are not part of the actual input.

Example: Fixed Input
This paragraph's font represents fixed input. It's 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: Variable Input
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: Hard Keys
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 that is bold. This is a hard key.

Example: Soft Keys
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.

3. Introduction

3.1. Objective and Scope of Pre-Installation

This document is intended as a guide and informational resource for planning and properly preparing a location for the installation of a Precision RXi R&F system. This document is intended to assist the customer and installer in properly preparing a site for product installation.

3.2. 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 checklists summarizes the preparations and allows you to record a permanent record of the activities that have taken place.

3.3. An Overview of the Pre-Installation Process

Pre-installation is a co-operative effort between the customer/purchaser and GE Medical Systems (GEMS). **Figure 1-1** outlines the information in this document and its place in the pre-installation process.

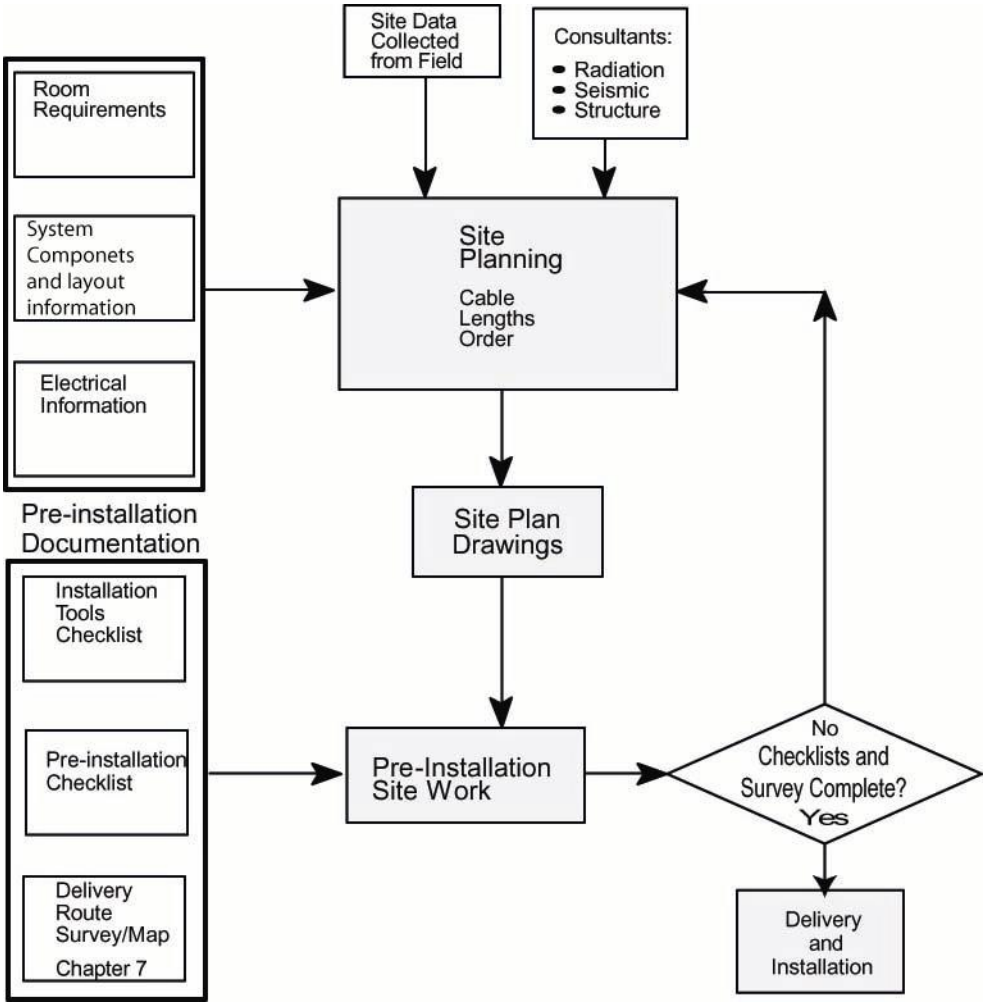


Figure 1-1 Pre-Installation Process

3.4. 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 - Suite/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 3 - System Physical Characteristics** and **Chapter 4 - Planning Electrical Connections**
- Electrical power and grounds of specified quality and reliability. See **Chapter 6 – 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.

3.5. What You Will Receive (System Components)

The Precision RXi R&F System is divided into sub-systems:

- Precision RXi Remote R&F Table with SFD and Positioner Cabinet
- Compact Generator Cabinet
- Digital or Analog Imaging System

The following options are also available:

- Integrated Console (in case the integrated console is not required the different elements will be delivered separately. Then a support needs to be provided by the customer); supports Positioner Console, Digital Imaging PC and LCD Monitor and Generator Touch Screen
- Overhead Tube Suspension
- Vertical Wallstand, Tilting or Non-tilting
- Single or Double Overhead Monitor Suspension
- Single Monitor Cart

	
Table assembly with table cabinet (far left) and generator (rear left)	Wallstand

	
Double Monitor Suspension	Integrated Console with Digital subsystem, table console and generator touch screen.

Product Name	Catalog Number
90/30 Non-elevating Tilting Table	S1303RA
90/90 Elevating Table	S1303RB
Integrated Control Room Console Stand	S1303JE
Generator 65KW for analog	S1303JK
Generator 65KW for digital	S1303JL
Generator 80KW for digital	S1303JM
TV Chain CCD 512*	S1303JW
TV Chain CCD 1K*1K	S1303JY
Digital System with 12” II	S1303NC
Digital System with 16” II	S1303ND
Cart for 1 Monitor	S13401CT
Cart for 2 Monitors	S13401CK
In room Ceiling Suspension for single monitor including Bridge & Carriage	S13401NG
Ceiling Suspension for 1 Monitor fixed on ceiling	S13401FA
2 Monitors Ceiling Suspension including Bridge & Carriage	S13401NH
Ceiling Suspension for 2 Monitors fixed on ceiling	S13401FB
Tilting Wall Stand	S1303RL/RP
Non-tilting Wall Stand	S1303RM/RN
OTS	S1303PT
Main Power Disconnect 380V-400V	E4502KR
Main Power Disconnect 480V	E4502KP

4. Suite/Room Requirements

4.1. Environmental

4.1.1. Relative Humidity and Temperature

COMPONENT	RELATIVE HUMIDITY (NON CONDENSING				TEMPERATURE			
	STORAGE		IN-USE		STORAGE		IN-USE	
	MIN.	MAX	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
Table	30%	70%	30%	70%	-20°C -4°F	60°C 140°F	10°C 50°F	40°C 104°F
OTS	30%	75%	30%	75%	-20°C -4°F	60°C 140°F	10°C 50°F	40°C 104°F
Wallstand	30%	75%	30%	75%	-20°C -4°F	60°C 140°F	10°C 50°F	40°C 104°F
Monitor Suspension (single and double)	30%	95%	30%	75%	-20°C -4°F	70°C 140°F	10°C 50°F	40°C 104°F
LCD Monitor	10%	95%	30%	75%	-10°C 14°F	60°C 140°F	10°C 50°F	40°C 104°F
Generator	10%	95%	30%	75%	-20°C -4°F	70°C 158°F	10°C 50°F	40°C 104°F
Digital	20%	80%	20%	80%	-40°C -40°F	60°C	18°C 64°F	30°C 86°F
Analog TV chain	30%	75%	30%	75%	-20°C -4°F	60°C 140°F	10°C 50°F	40°C 104°F

4.1.2. Atmospheric Pressure

COMPONENT	ATMOSPHERIC PRESSURE			
	STORAGE		IN-USE	
	MIN.	MAX.	MIN.	MAX.
Table	-	-	700hPa	1060hPa
OTS	-	-	700hPa	1110hPa
Wallstand	-	-	700hPa	1060hPa
Monitor Suspension (single and double)	-	-	700hPa	1060hPa
LCD Monitor	500hPa	1060hPa	500hPa	1060hPa
Generator	500hPa	1060hPa	500hPa	1060hPa
Digital	700hPa	1060hPa	700hPa	1060hPa
Analog TV chain	700hPa	1060hPa	700hPa	1060hPa

4.1.3. System Heat Output (Dissipation)

COMPONENT	STANDBY	IN-USE
Table	62 W 212 BTU/h	550 W 1878 BTU/h
Table Cabinet	365 W 1247 BTU/h	1465 W 5003 BTU/h
OTS	150 W 512 BTU/h	480 W 1639 BTU/h
Wallstand	37 W 126 BTU/h	50 W 171 BTU/h
Single Monitor Suspension	-	55W (Max) 188 BTU/h
Double Monitor Suspension	-	110W (Max) 376 BTU/h
Generator	22 W 75 BTU/h	1172 W 4000 BTU/h (during fluoro operation)
Control Room (Monitor (55W), TouchScreen (48W) (PC (300), Console (44W))	87 W 297 BTU/h	447 W 1526 BTU/h

4.1.4. Magnetic/Electrical Field Sensitivity and Electromagnetic Emissions

All the products or components of the Precision RXi R&F system meet EMI and EMC requirements 46-319024 and IEC 601-1-2 (International). Because X-ray equipment produces radiation, special precautions may need to be taken or special site modifications may be required. GE Medical Systems 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.

4.2. Structural

4.2.1. Door Size Requirements

Note: Door widths are based on a “straight-in” approach requiring an 8 ft. (2.44 m) wide corridor.
Calculations need to be made for accommodation of equipment through narrower corridors.
Minimum door sizes also apply to hallways and elevators. See **Chapter 7 - Planning Aids**, for additional details.

Component	Minimum Door Size Requirements (using provided dollies, pallets, etc			
	Height		Width	
	inches	cm	inches	cm
Table	65	165	34	85[1]
Table cabinet	77	196	13	34
Generator cabinet	40	102	24	60

[1] Make reference to **9.3.1Table Delivery Route Specifics** for the path required to allow clearance through an 80cm/32inch door.

4.2.2. Room Height Requirements

For a table with no longitudinal drive, the minimum room height is 240 cm (95”). For a table with longitudinal drive, the minimum room height is 260 cm (103”). In both cases, the recommended room height is 300 cm (118”). By default all tables have the longitudinal drive. In case of longitudinal drive forbidden, the height can be reduced to 240 cm.
However, for a system with OTS and wallstand, full range of wallstand use is achieved with a ceiling height of 290 cm. A higher height will limit the lower end of the useful travel range of the wallstand.
For all OTS dimensions and travels make reference to par. 5.2.10, page 50.

Minimum ceiling height [cm]	Parameter value	Precision RXi Elevable positioner -90 / +90	Precision RXi NON Elevable positione -30 / +90
From 0 to 239	???	**WARNING!** The positioner movement is protected by the hardware safety photocell only!	**WARNING!** The Positioner movement is protected by the hardware safety photocell only!
From 240 to 249	240	Table movements limited by software. Table in horizontal position: the FD[2] has a limited SID[3] (it never reaches 150 cm). Table in vertical position: the tabletop has no longitudinal drive.	Table movements limited by software. Table in horizontal position: the FD has a SID limited to 115 cm. Table in vertical position: the tabletop has no longitudinal drive.
From 250 to 259	250	Table movements limited by software. Table in horizontal position: the FD has a limited SID (it never reaches 150 cm). Table in vertical position: the tabletop has limited longitudinal drive.	Table movements limited by software. Table in horizontal position: the FD has a SID limited to 135 cm. Table in vertical position: the tabletop has limited longitudinal drive.
From 260 to 269	260	Table movements limited by software. Table in horizontal position: the FD could have a limited SID (no maximum SID and maximum table elevation in the same moment). Table in vertical position: the tabletop has limited longitudinal drive.	Table movements limited by software. Table in horizontal position: the FD can reach the maximum SID; Table in vertical position: the tabletop has limited longitudinal drive.
From 270 to 279	270	Table movements limited by software. Table in horizontal position: the FD could have a limited SID (no maximum SID and maximum table elevation in the same moment). Table in vertical position: the tabletop has limited longitudinal drive.	Table movements limited by software. Table in horizontal position: the FD can reach the maximum SID; Table in vertical position: the tabletop has limited longitudinal drive.
From 280 to 289	280	Table movements limited by software. Table in horizontal position: the FD can reach the maximum SID; Table in vertical position: the tabletop has limited longitudinal drive.	Table movements limited by software. Table in horizontal position: the FD can reach the maximum SID; Table in vertical position: the tabletop has limited longitudinal drive.
From 290 to 299	290	Table movements limited by software. Table in horizontal position: the FD can reach the maximum SID; Table in vertical position: the tabletop has its maximum longitudinal drive.	Table movements limited by software. Table in horizontal position: the FD can reach the maximum SID; Table in vertical position: the tabletop has its maximum longitudinal drive.
From 300 to ∞	300	Table without limited movements. Table in horizontal position: the FD can reach the maximum SID; Table in vertical position: the tabletop has its maximum longitudinal drive.	Table without limited movements. Table in horizontal position: the FD can reach the maximum SID; Table in vertical position: the tabletop has its maximum longitudinal drive.

[2] FD = Focal Distance
[3] SID = Source to Image Distance

Minimum ceiling Height [cm]	Precision RXi with Wall Stand (WS, WS-T models)
From 0 to 259	Wall Stand Arm Support option not applicable for WS and WS-T
From 260 to 269	Wall Stand Arm Support option not applicable for WS
From 270 to ∞	Wall Stand Arm Support option applicable

Minimum ceiling Height [cm]	Precision RXi with OTS
From 0 to 279	OTS with movement limitation
From 280 to 289	OTS could have some movement limitation
From 290 to ∞	OTS complete movements

4.2.3. Floors, Ceilings and Walls

4.2.3.1. Seismic Requirements

Seismic requirements are determined and specified by the hospital structural engineer of record and approved by the specific state or country agency. Refer to Chapter 9 for seismic anchoring information.

4.2.3.2. Floor Flatness Requirements

Before placing the base plate, the floor must be within 1mm of flat across the entire area of the base plate, i.e. the maximum height difference across any two points on the floor under base plate cannot exceed 1mm.

4.2.3.3. Floor Requirements when using provided Table Floor Anchors

The maximum pullout force per provided anchor was calculated assuming:
A regular weight concrete having a minimum, 28 day, compression strength (f'c) of 2500 psi (17.24 MPa) at the time of installation.
Concrete thickness of at least 200mm
Anchors installed to the required hole depth of 140mm,
Center of anchor hole to concrete edge distance 4.5 in. (114 mm).
Make sure to obtain data on compression strength of the concrete before using floor anchors.

4.2.3.4. Ceiling

Aluminum rails support the Overhead Tube Suspension and In-Room LCD Monitor bridge used in Precision RXi R&F system X-ray rooms.
Reference - For details on ceiling requirements for stationary rails, refer to **Chapter 3 – System Physical Characteristics.**

4.2.3.5. Walls

The Precision RXi R&F Positioner cabinet must be securely fastened to the wall to prevent tipping.
Under normal conditions, the wall at the installation site must be capable of supporting, minimally, a 110 lb. (490 N) pull from the wall at each anchor bolt.

5. System Physical Characteristics

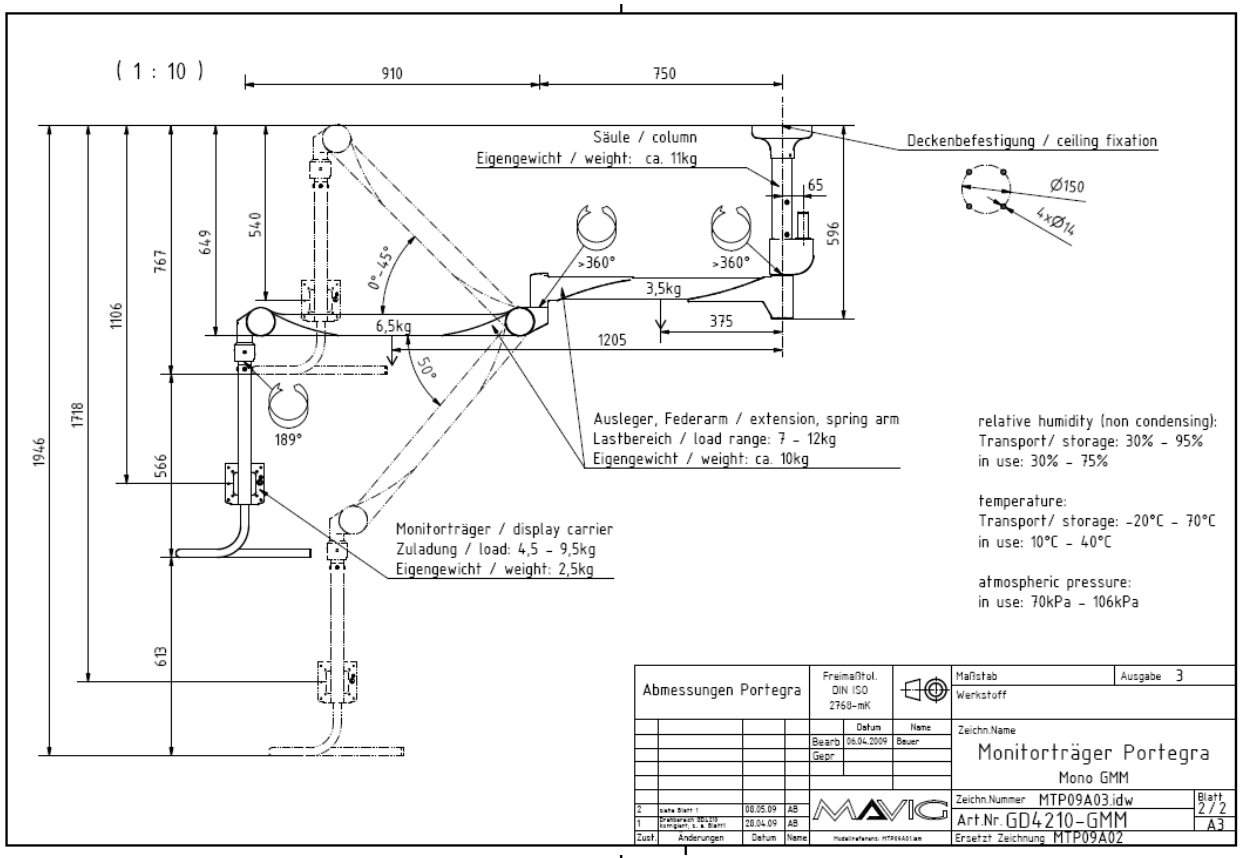
Refer to this section for the dimensional drawings of the components of the Precision RXi R&F System.
Note: Drawings are not to scale. Dimensions are called out on each drawing.

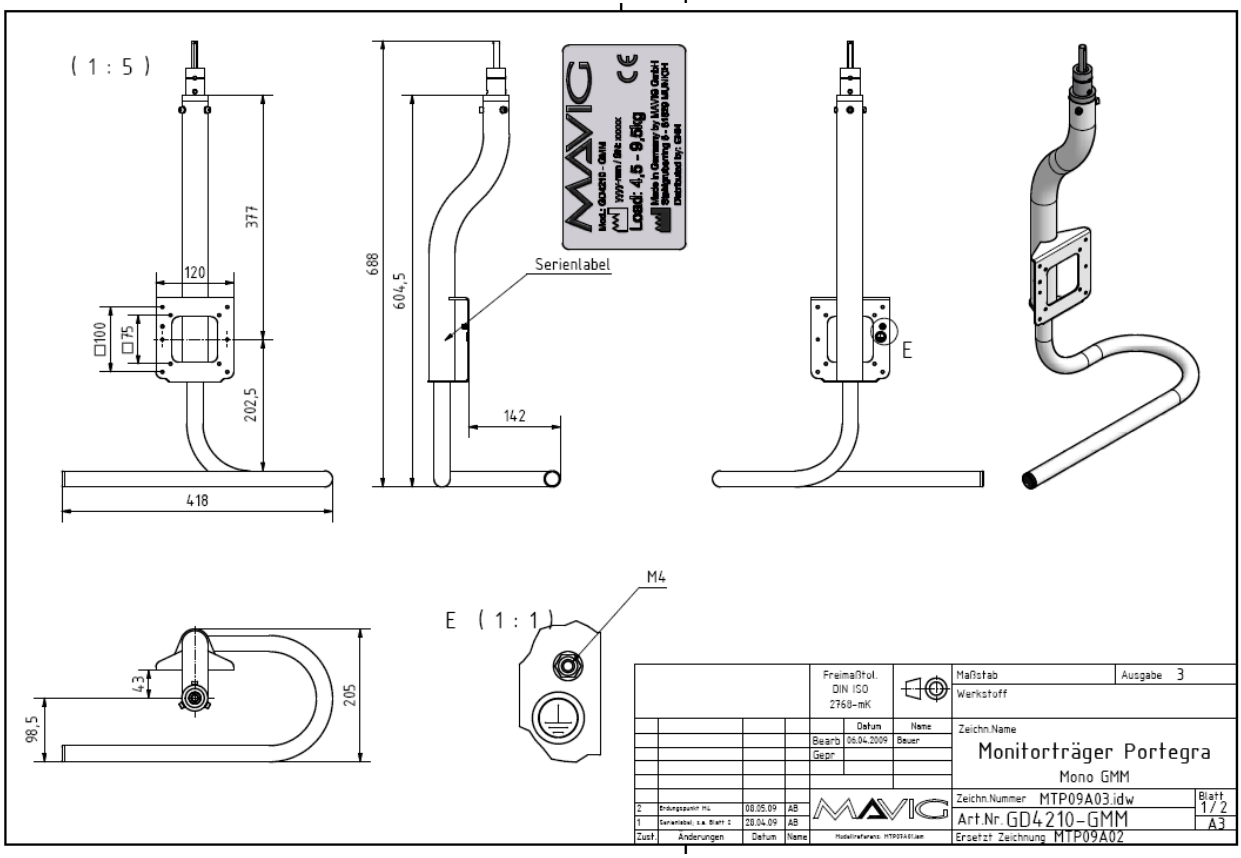
5.1. Dimension Overview

Component	Width	Height	Depth	Weight	Mounting Comments
Table Assembly	2100mm	2340mm	2022mm	998kg	Mount on floor
Table Cabinet	600mm	1960mm	340mm	170kg	Bracket to wall
Generator Cabinet	459mm	1237mm	408mm	107kg	Mount on floor
Integrated Console	900mm	1200mm	680mm	100kg (without components mounted)	Mount on floor
19" LCD Monitor	418mm	424mm	226mm	9.7 kg	On desk stand or mounted to supporting component
Positioner Console	650mm	150mm	500mm	25kg	Desktop or on Integrated Console
Digital PC	200mm	420mm	460mm	30kg	Floor standing or on Integrated Console
Generator Touch Screen	365mm	326mm	85mm	4.5 kg	On desk stand or on Integrated Console
Single Monitor Suspension	418mm	1946mm (Max value)	1869mm	23 kg	Does not include weight of monitor
Double Monitor Suspension	836mm	2016mm (Max value)	1940mm	24 kg	Does not include weight of monitor
Single Monitor Cart	627 ÷ 709 mm	1338 mm	651 ÷ 691 mm	15,5kg	Does not include monitor weight / dimensions
Overhead Tube Suspension	800mm	1275mm	600mm	140kg	
Bridge (Tube or Monitor)	3000mm	113mm	670mm	85 kg	
Stationary Rails	1730mm	80mm	4400mm	90 kg	
Non-tilting Wallstand	620mm	2230mm	460mm	170 kg	Mount on floor
Tilting Wallstand	620mm	2230mm	990mm max (tilted horizontal)	200 kg	Mount on floor

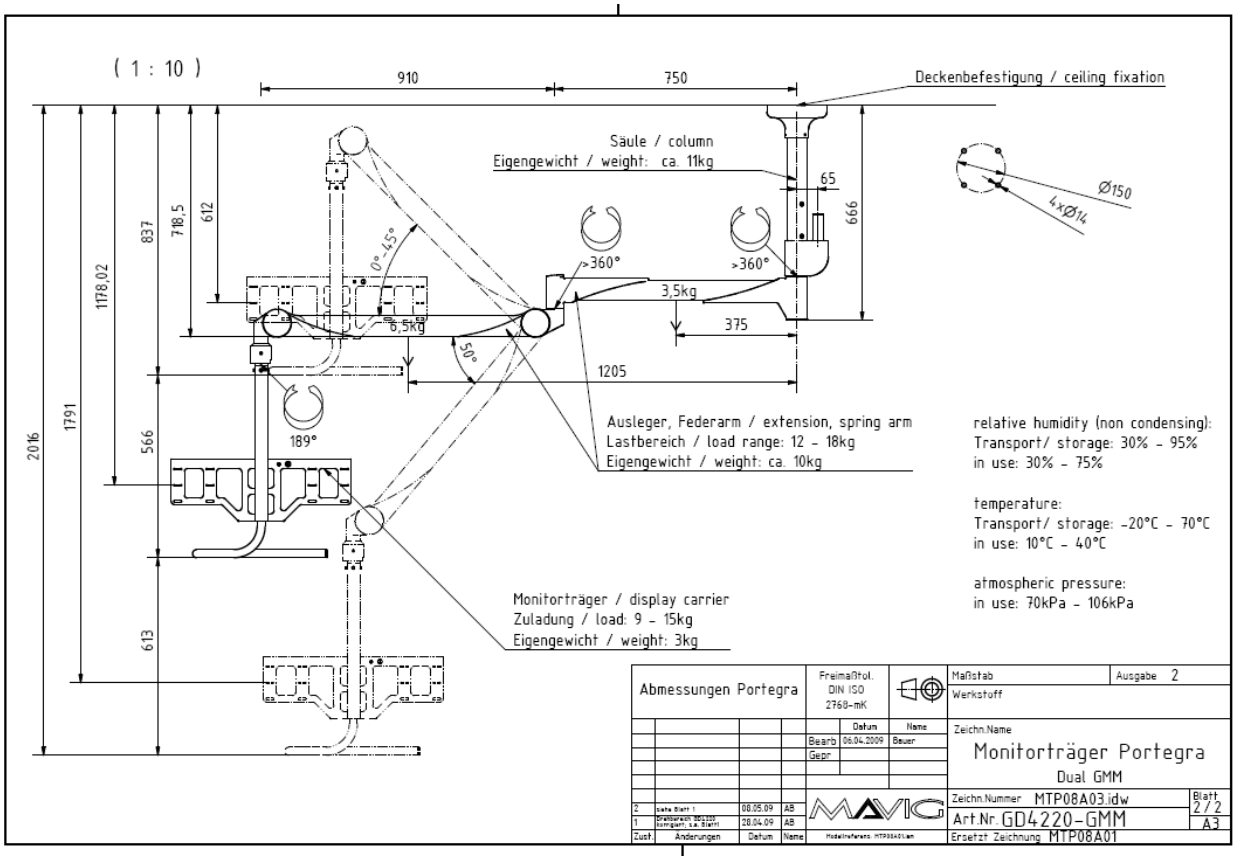
IMPORTANT
For details, please make reference to PORTEGRA2 Installation Manual PTZ15002E by MAVIG

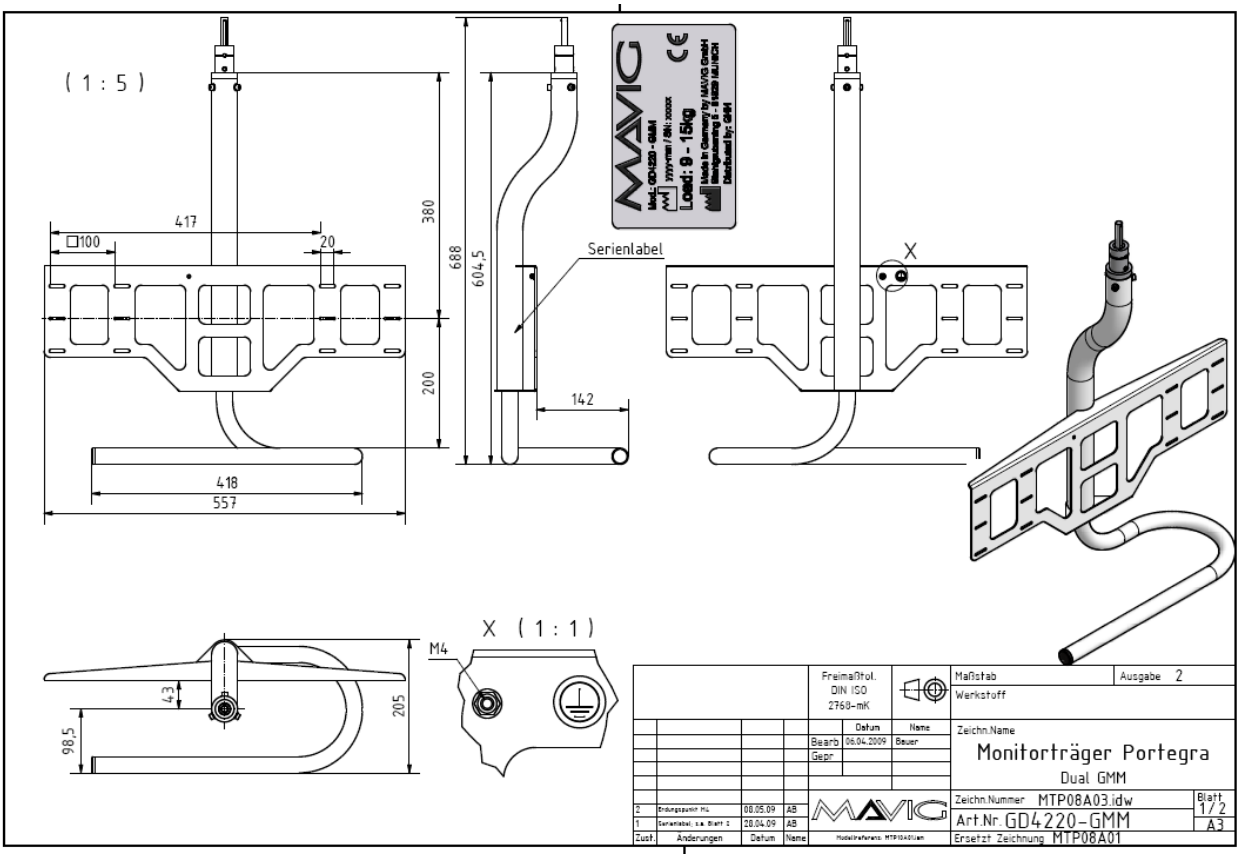
5.1.1. Single monitor suspension





5.1.2. Double monitor suspension



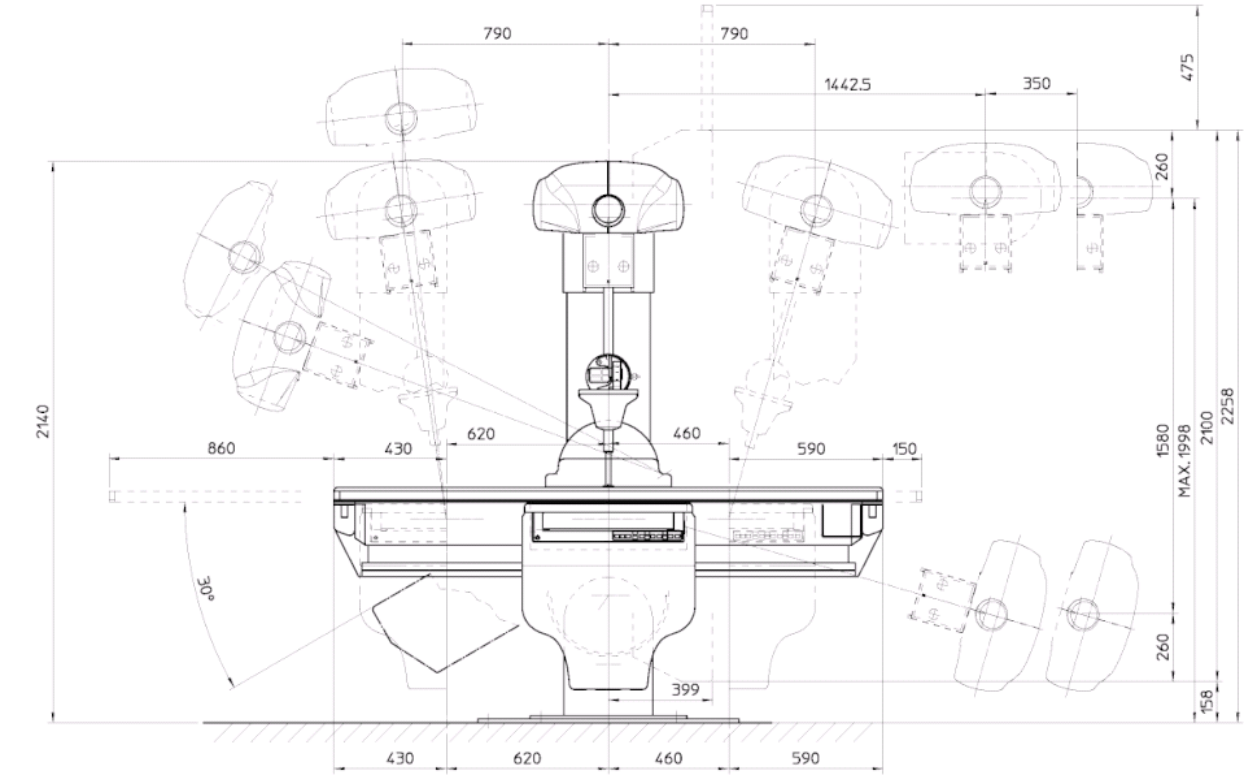


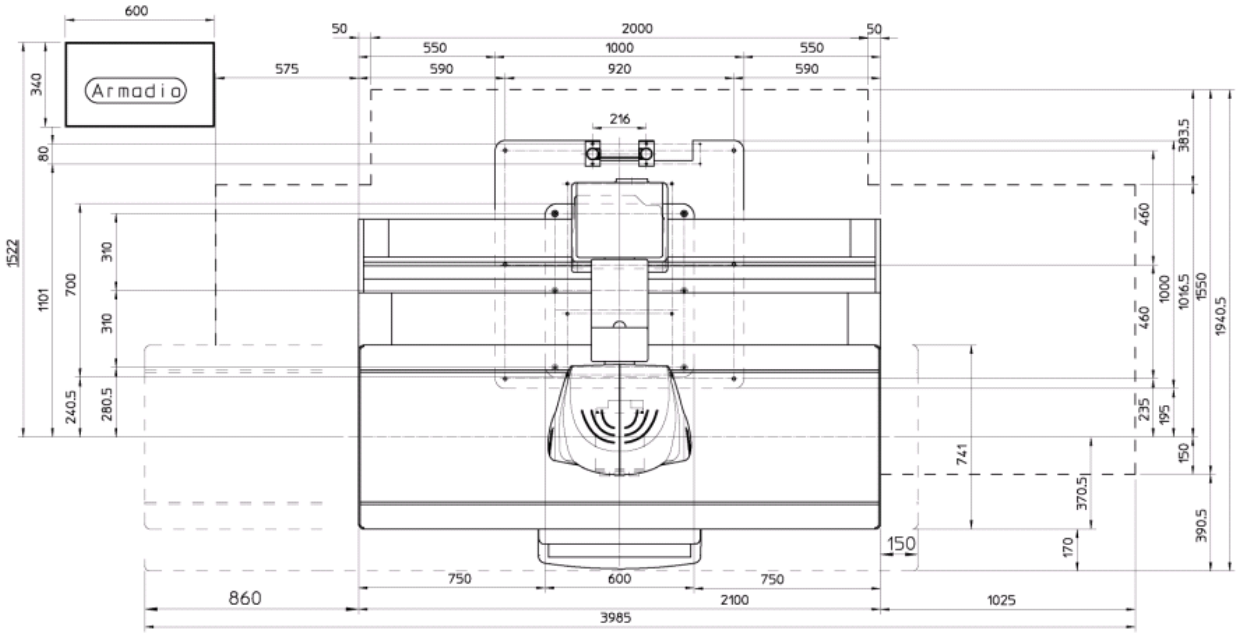
5.2. Dimensioned Drawings

5.2.1. Table

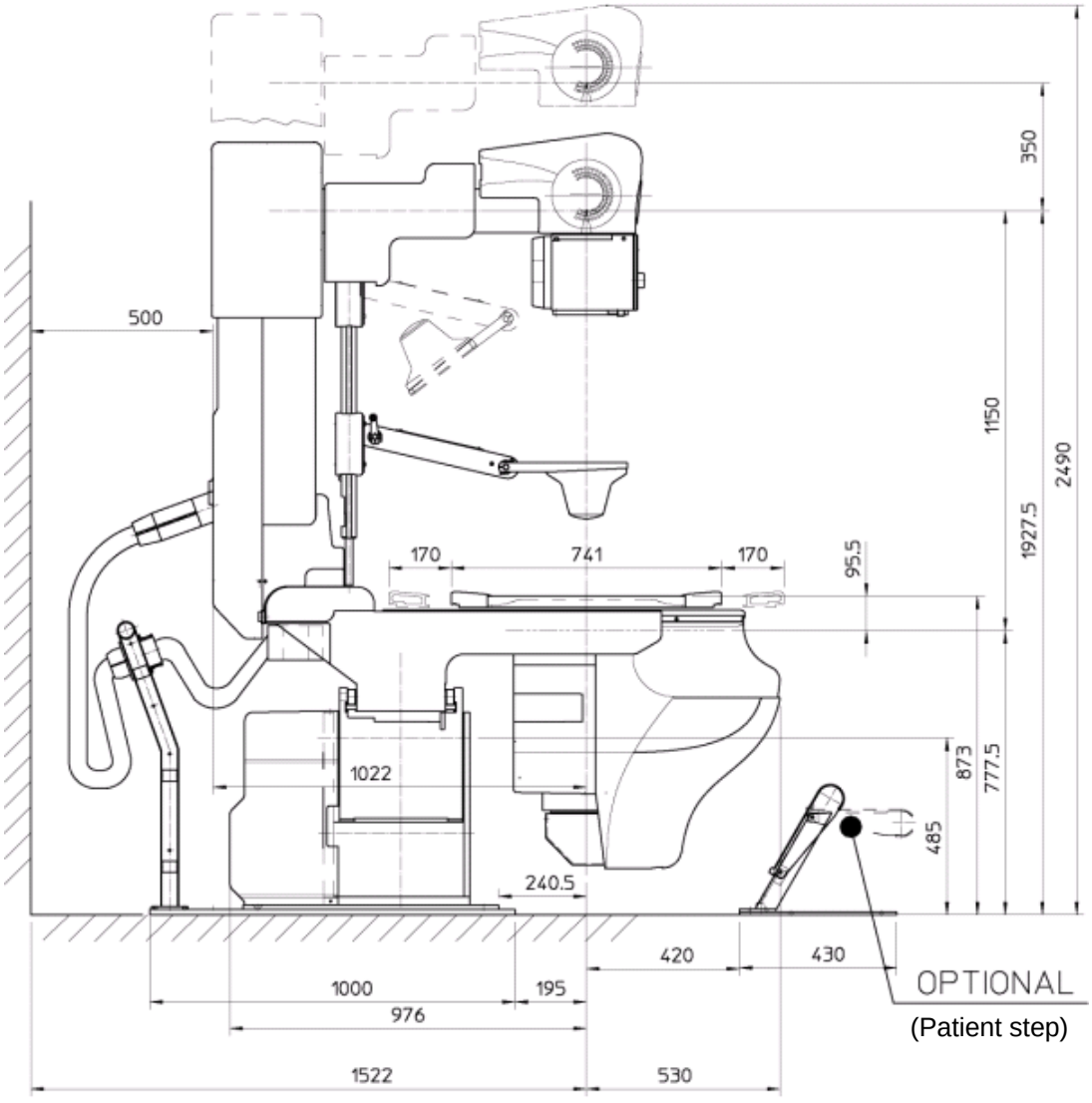
5.2.1.1. -30/+90 Non-Elevating Table

Table model with patient tabletop fixed height.

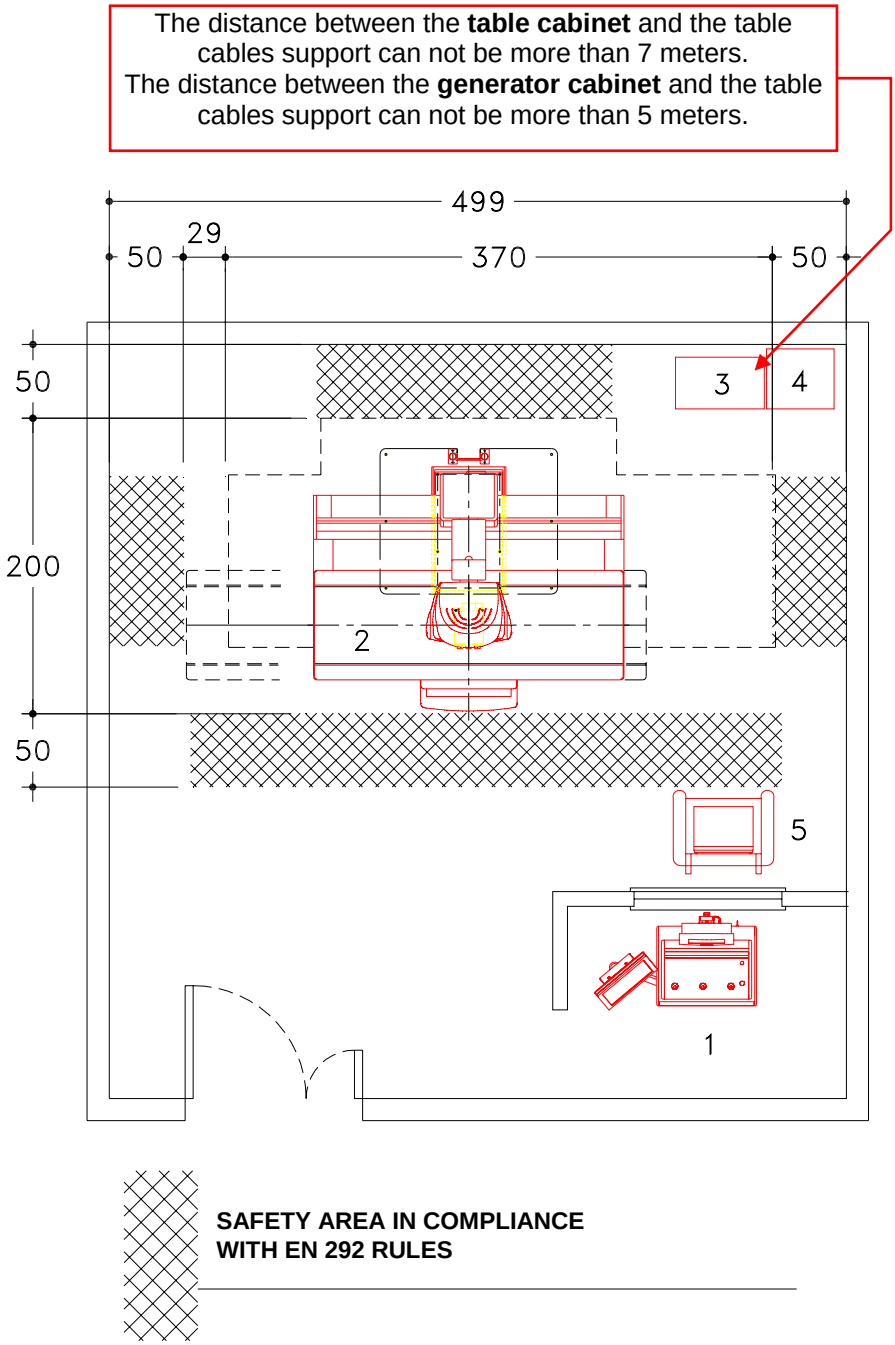




5.2.1.1.1. -30/+90 Non-Elevating Table cont.



5.2.1.1.2. -30/+90 Non-Elevating Table cont.



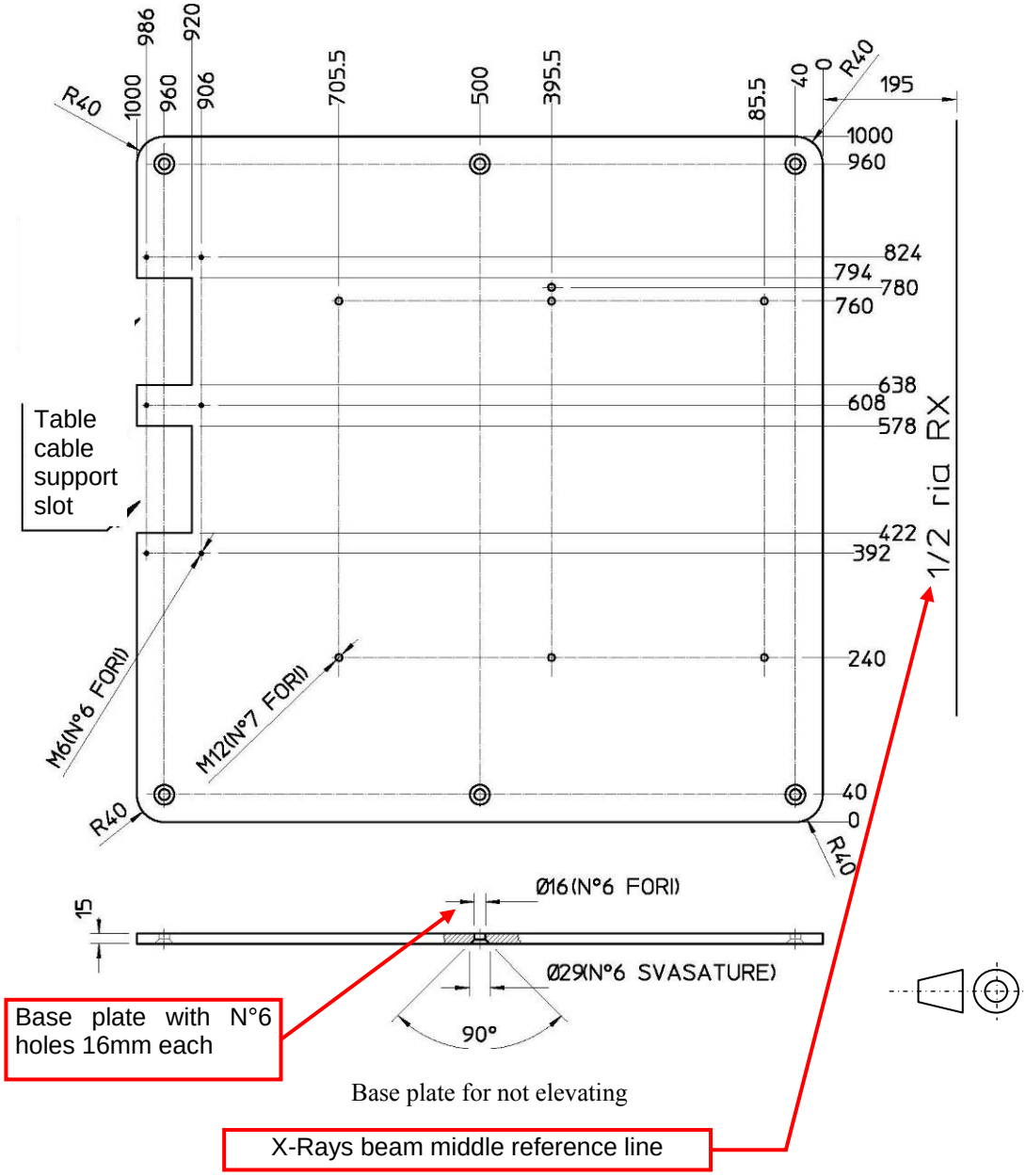
1) Integrated console
2) Remote-controlled table
3) Power cabinet for positioner
4) Power cabinet for generator
5) Exam room monitor

5.2.1.1.3. -30/+90 Non-Elevating Table cont.

Plate supplied as a serial standard accessory (screws and bolts are supplied with base plate)

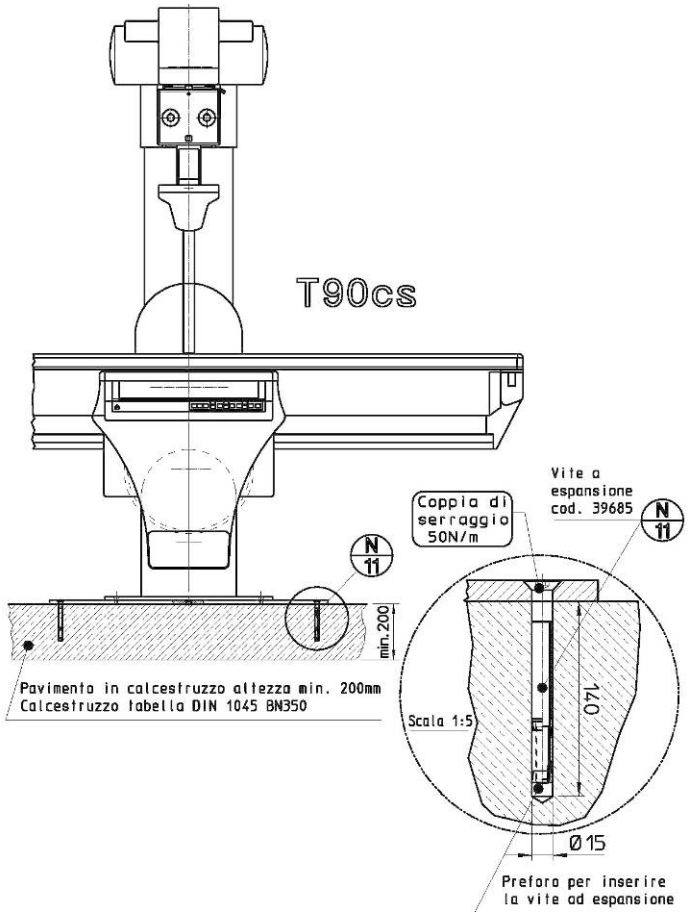
Fixation plate for non-elevating table (weight: 114 kg).
Concrete floor, min. height: 200mm (concrete as per Table "DIN 1045 BN350").
Small blocks of the LIEBIG SK15/95 type, length 145mm.

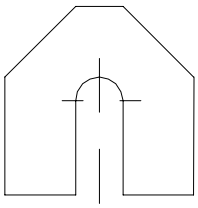
- Make six holes in the floor: the holes will be as follows: 15 mm diameter x 145mm.
- By means of the special shims supplied, you shall level the plate with a flatness of max. 1mm/m, (Fig. 1 page 30).
- Check the proper flatness by means of the special ruler.
- Tighten the screws by means of a 50N/m driving torque.



Base plate for not elevating

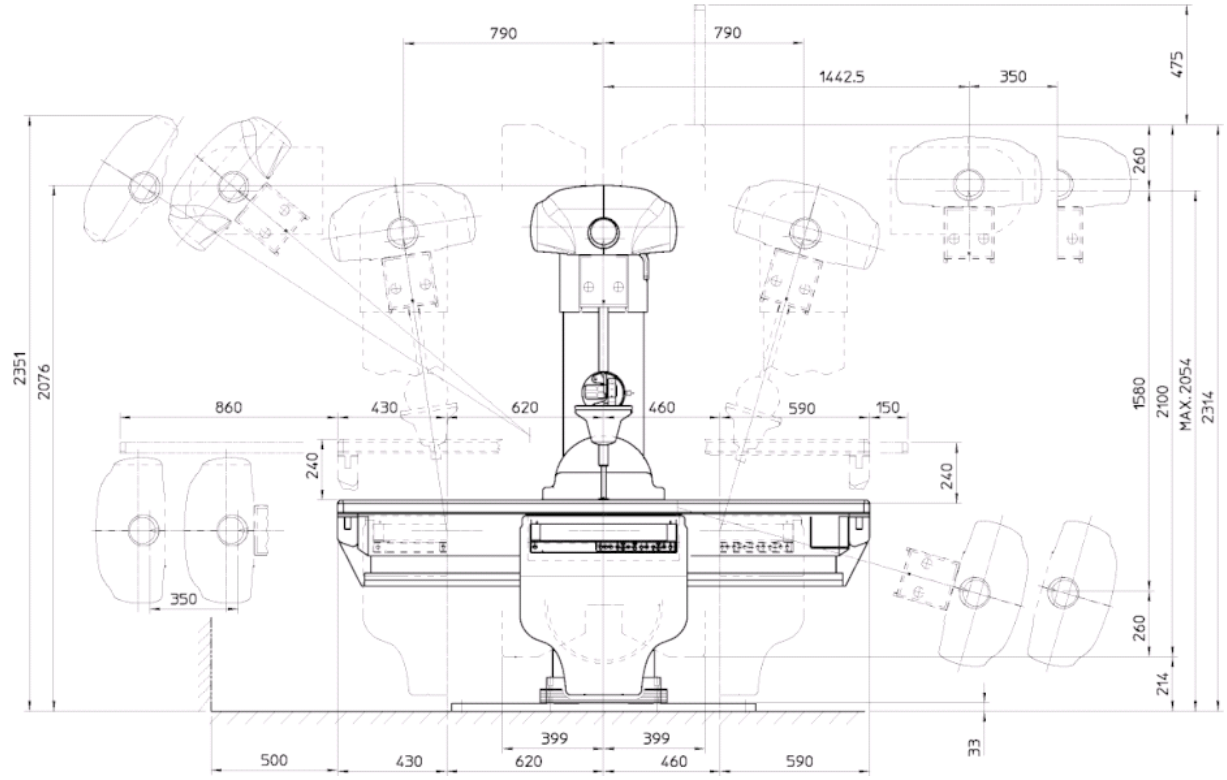
5.2.1.1.4. -30/+90 Non-Elevating Table cont.
Not elevating tables fixation by means of small blocks

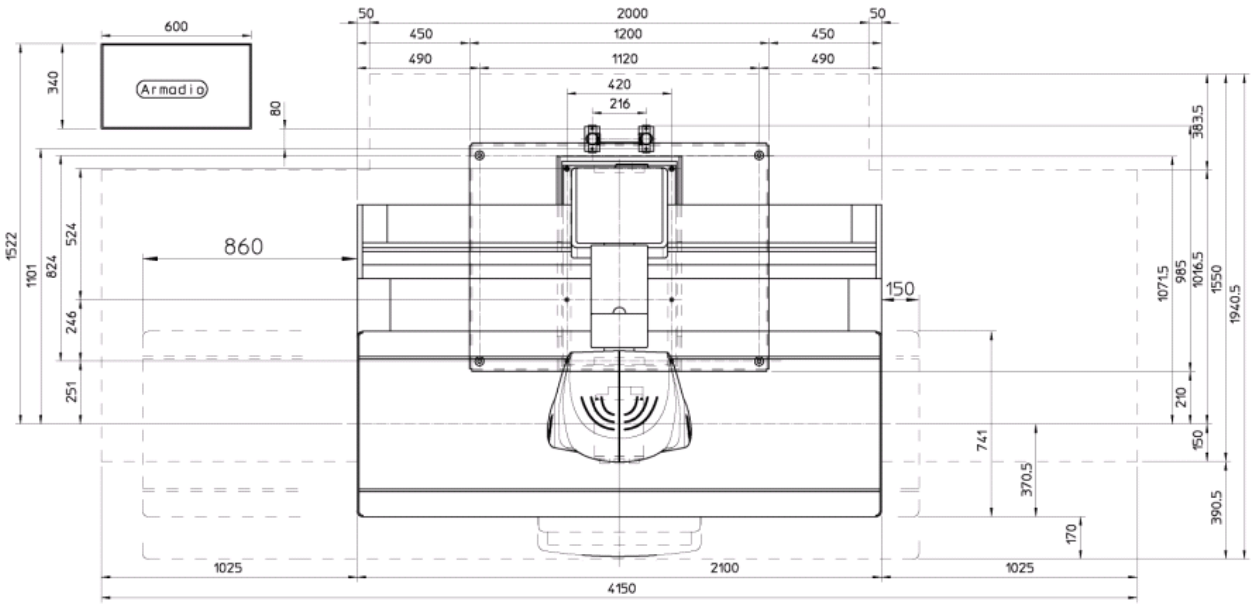


 Fig. 1: Shims provided as serial standard accessories	**Shim**	
	0.5 mm	
	1.0 mm	
	1.5 mm	
	6 shims are provided for each measure specified in the table. These are to be used for leveling next to the special screws.	

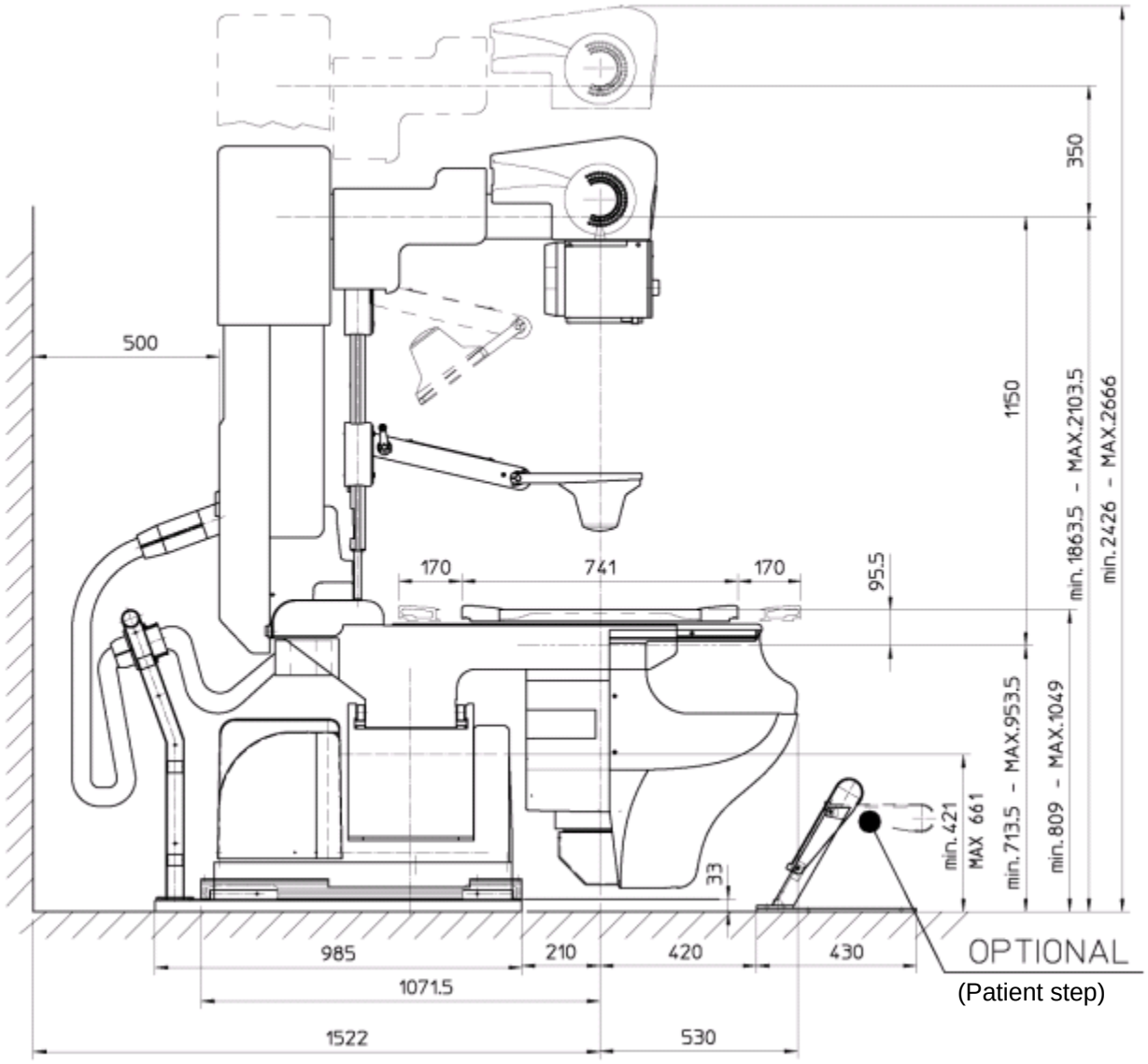
5.2.1.2. -90/+90 Elevating Table

Table model with patient tabletop elevating device.

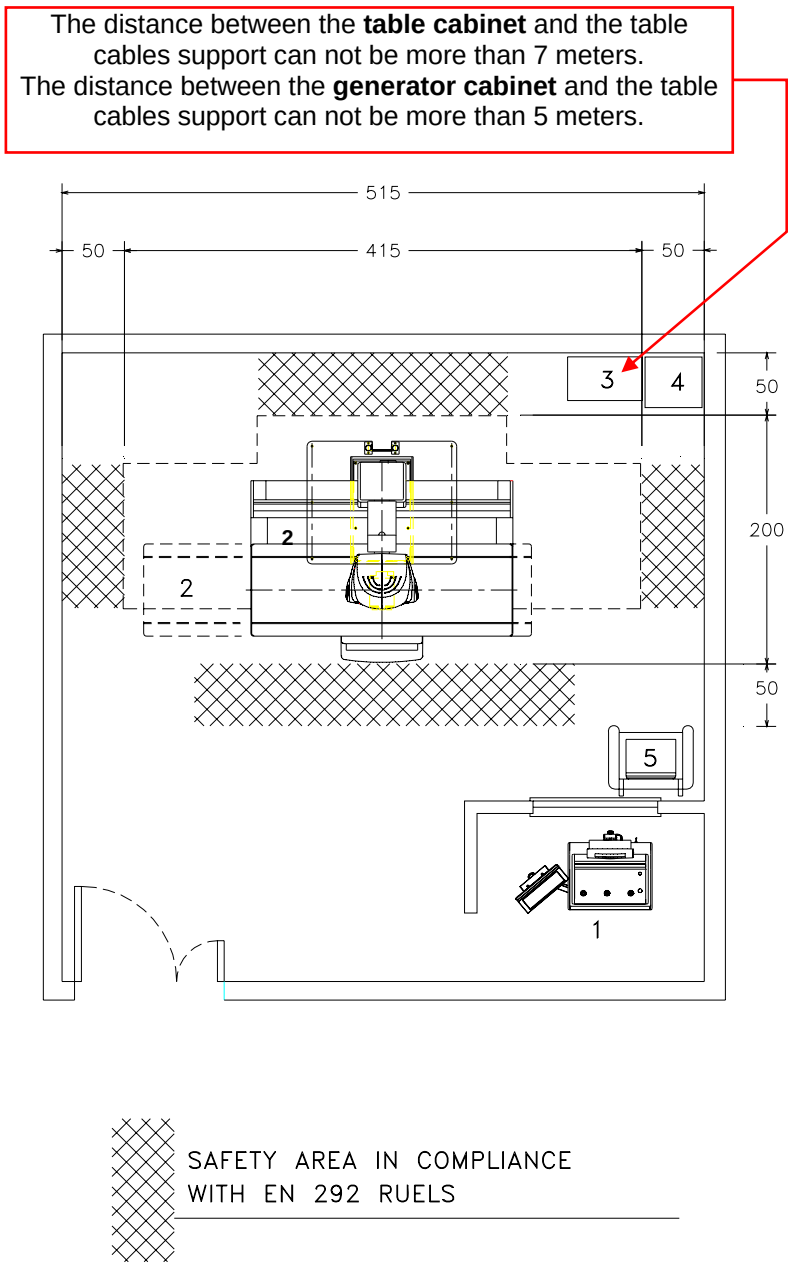




5.2.1.2.1. -90/+90 Elevating Table cont.



5.2.1.2.2. -90/+90 Elevating Table cont.

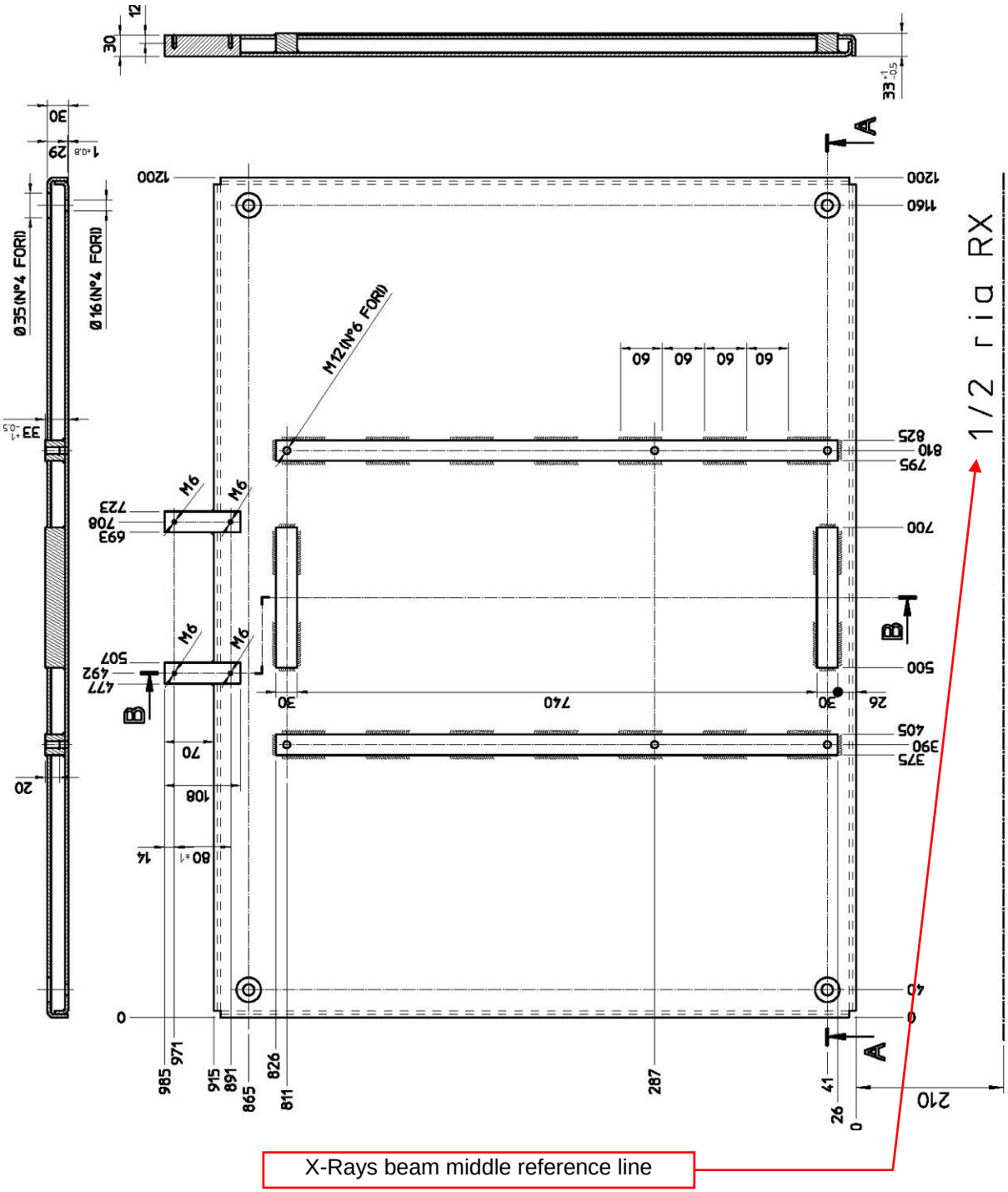


1) Integrated console
2) Remote-controlled table
3) Power cabinet for positioner
4) Power cabinet for generator
5) Exam room monitor

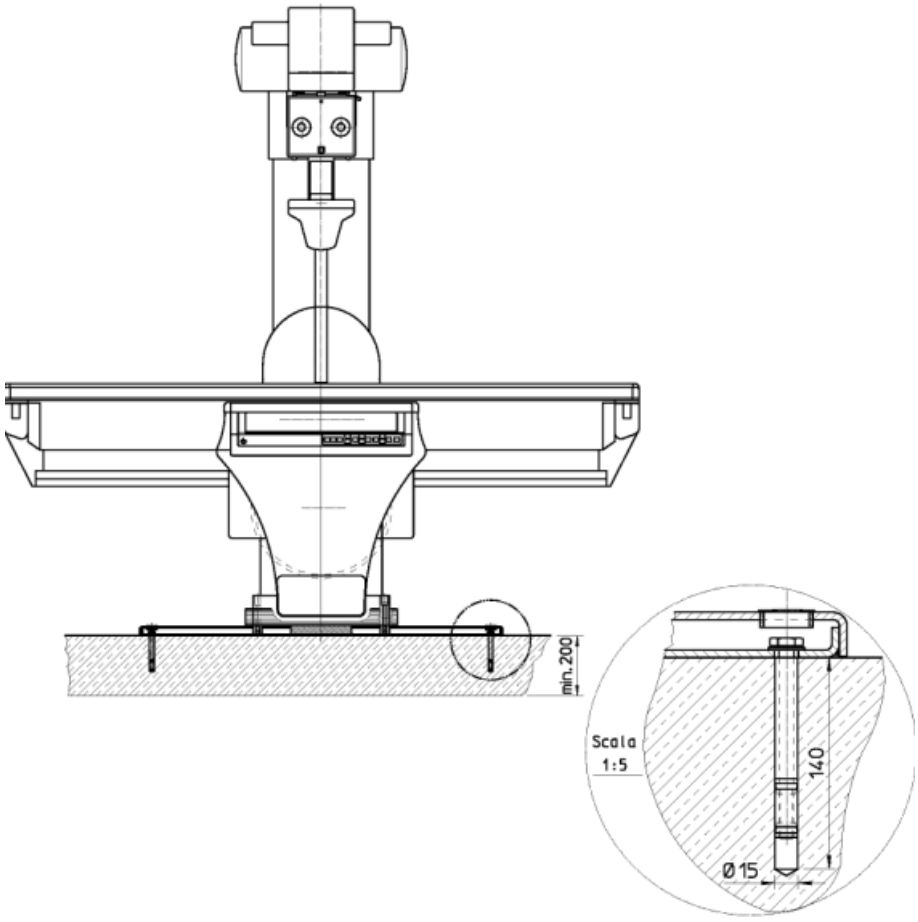
5.2.1.2.3. -90/+90 Elevating Table cont.

Fixation by means of small blocks. Fixation plate for elevating table (weight: 100 kg).
Concrete floor, min. height: 200mm (concrete as per the Table "IN 1045 BN350").
Small blocks of the LIEBIG M10 S15/70 type having a length of 145mm.

- Make 4 holes in the floor having a 15mm diameter x 145mm.
- By means of the special shims supplied, you shall level the plate with a flatness of max 0.7mm/m, (Fig. 2 page 35).
- Check the proper flatness by means of the special ruler supplie.
- Tighten the screws by means of a 50 N/m driving torque.



5.2.1.2.4. -90/+90 Elevating Table cont.
Elevating tables fixation by means of small blocks



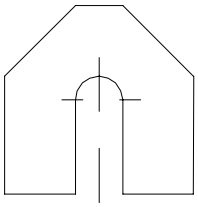
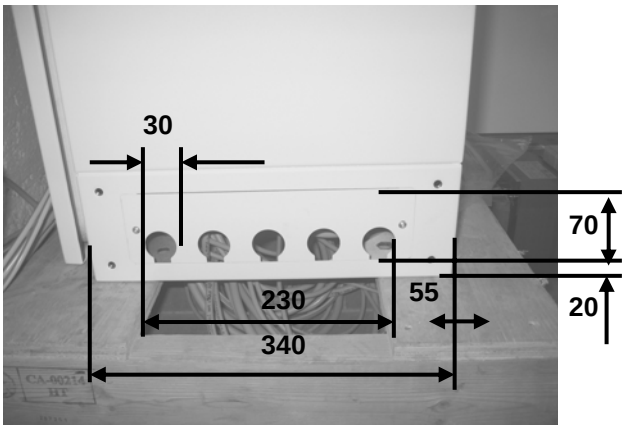
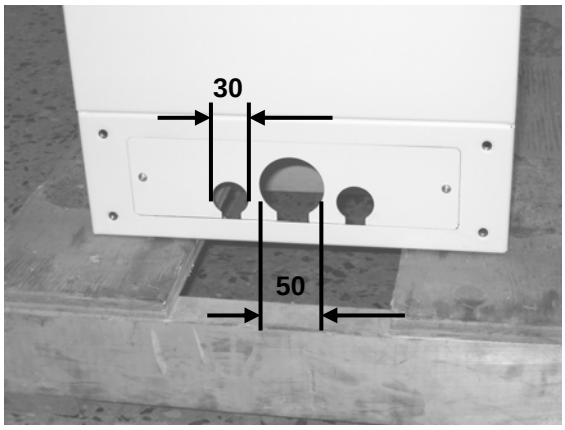


Fig. 2: Shims supplied as serial standard accessories

Shim	
0,5 mm	
1 mm	
1,5 mm	
6 shims are provided for each measure specified in the table. These are to be used for leveling next to the special screws.	

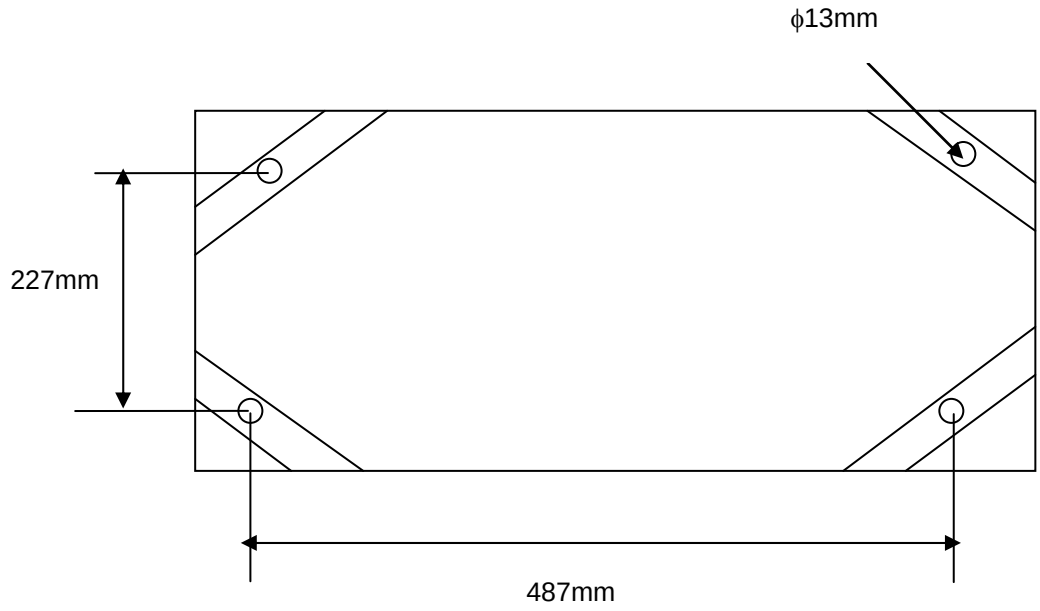
5.2.2. Positioner Cabinet



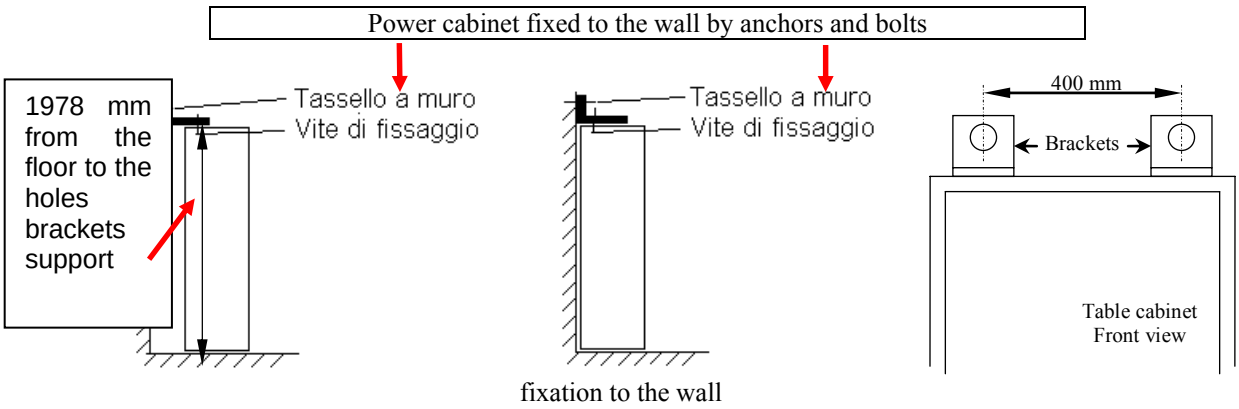


All dimensions in mm

Cables can be routed into the cabinet from either side, back or directly into the button of the cabinet. Both side openings and the back opening are the same size. A different panel – the two shown above as well as a third that is solid, covers each opening. This allows the installer to choose which panel they prefer to use on opening where the cables are routed.



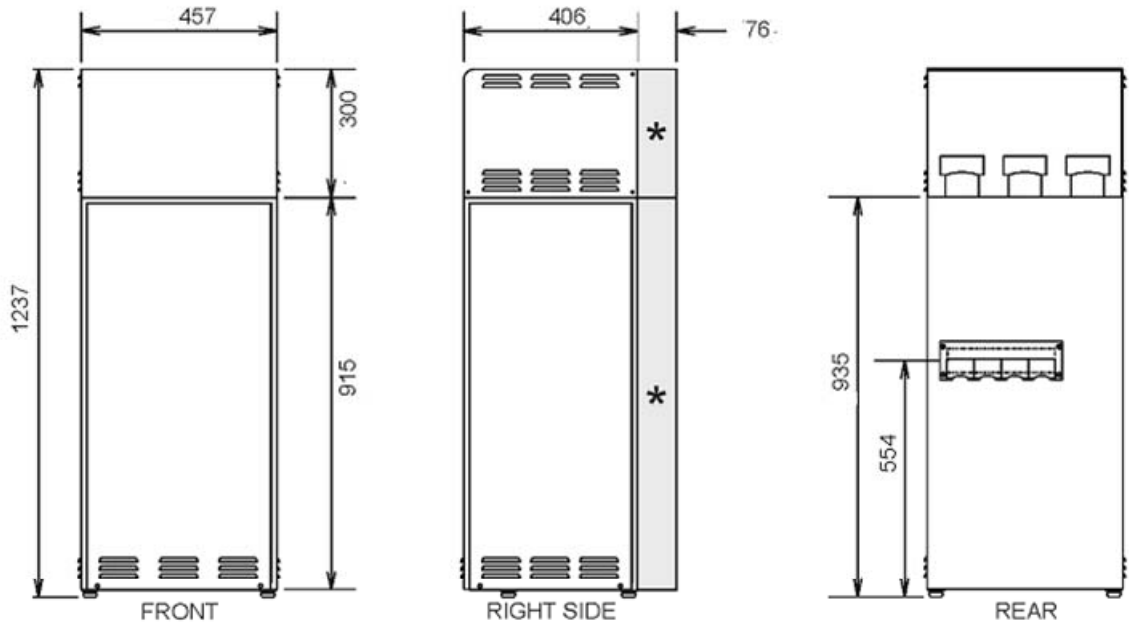
Cabinet Anchoring Dimensions



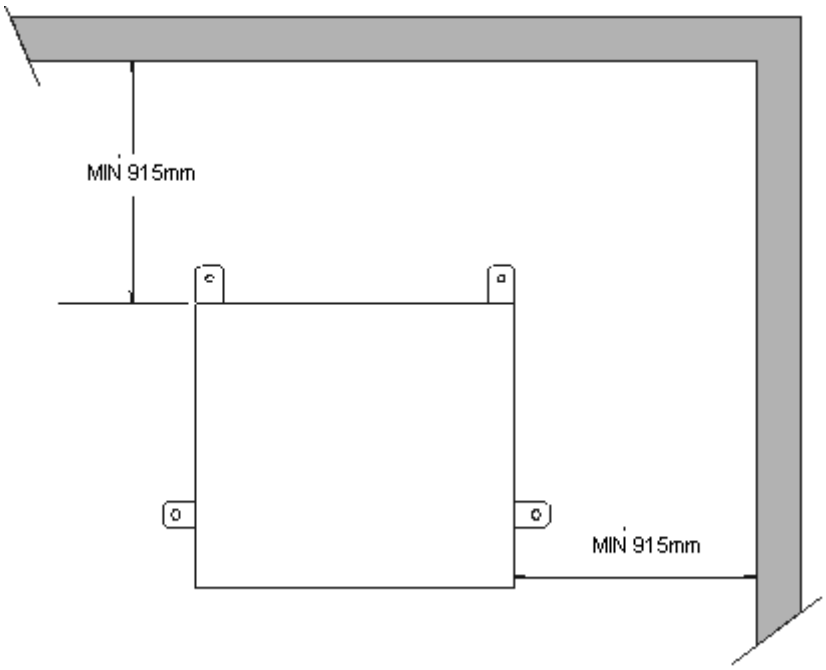
fixation to the wall

Required hardware for wall mounting (not provided)
Anchor diameter: 12mm
Anchor length: 50mm
Bolt diameter: 6mm
Wall loading requirement: 50kg per bolt

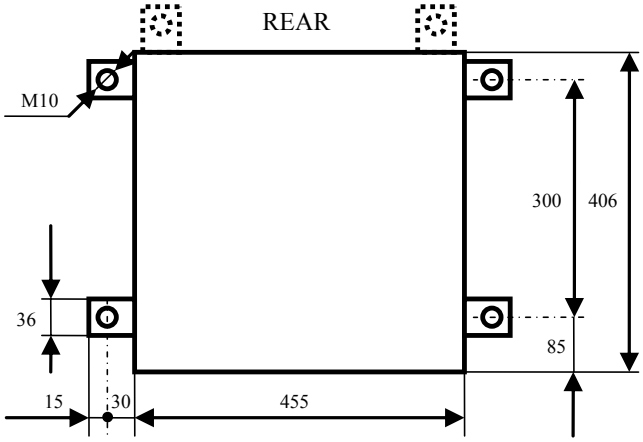
5.2.3. Generator Cabinet



Note: All dimensions in mm

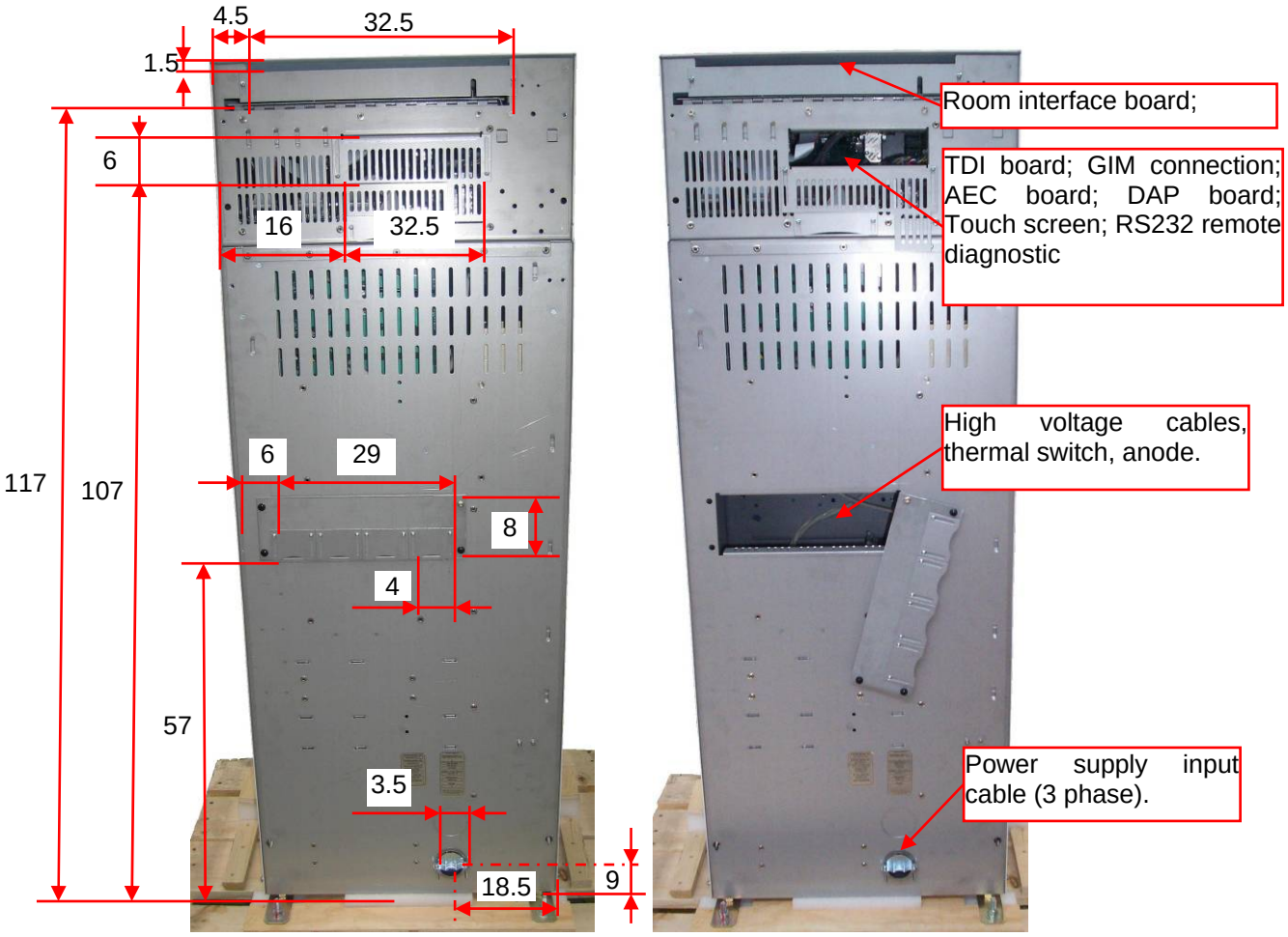


Generator Clearances



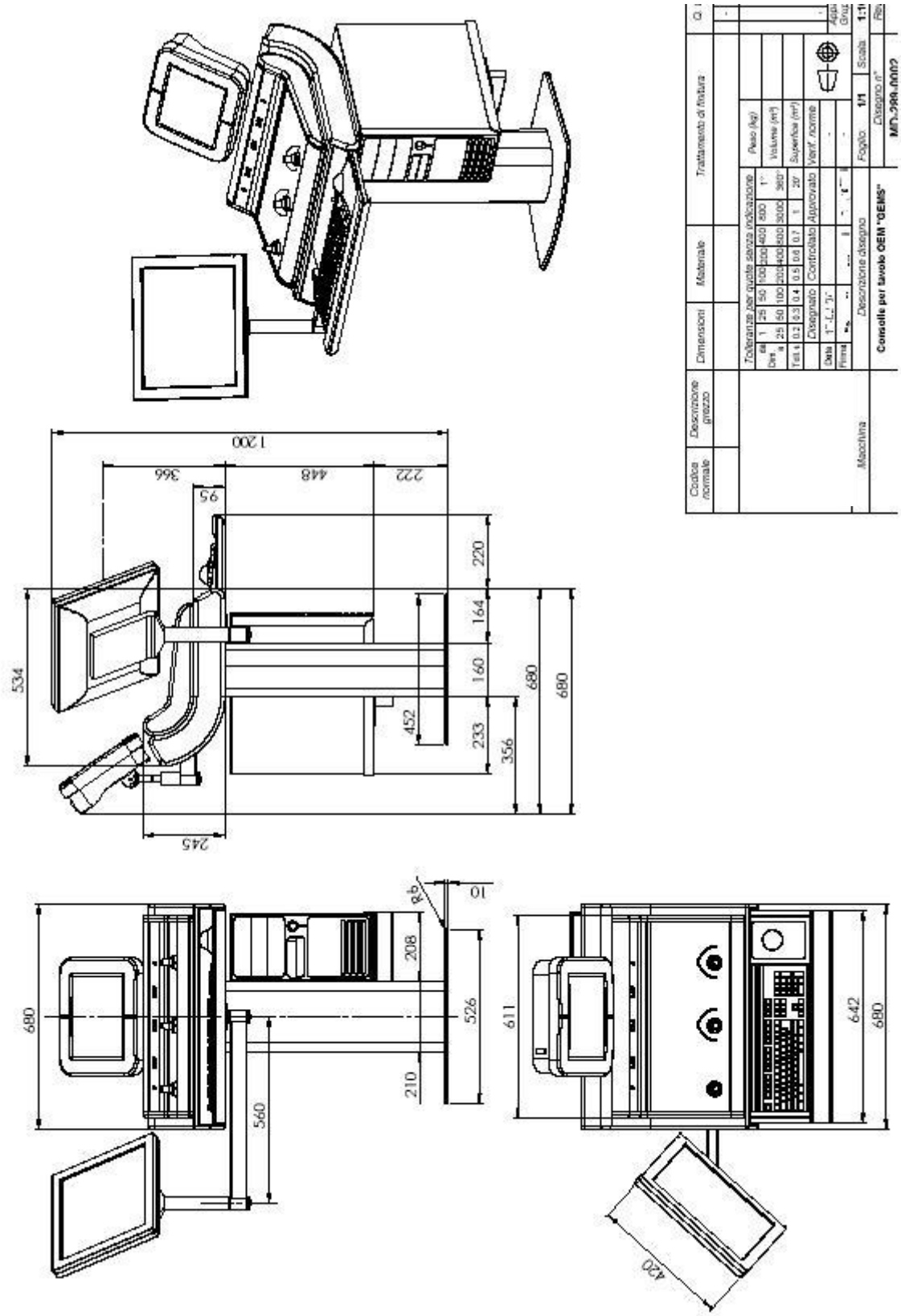
Generator Anchoring Locations.

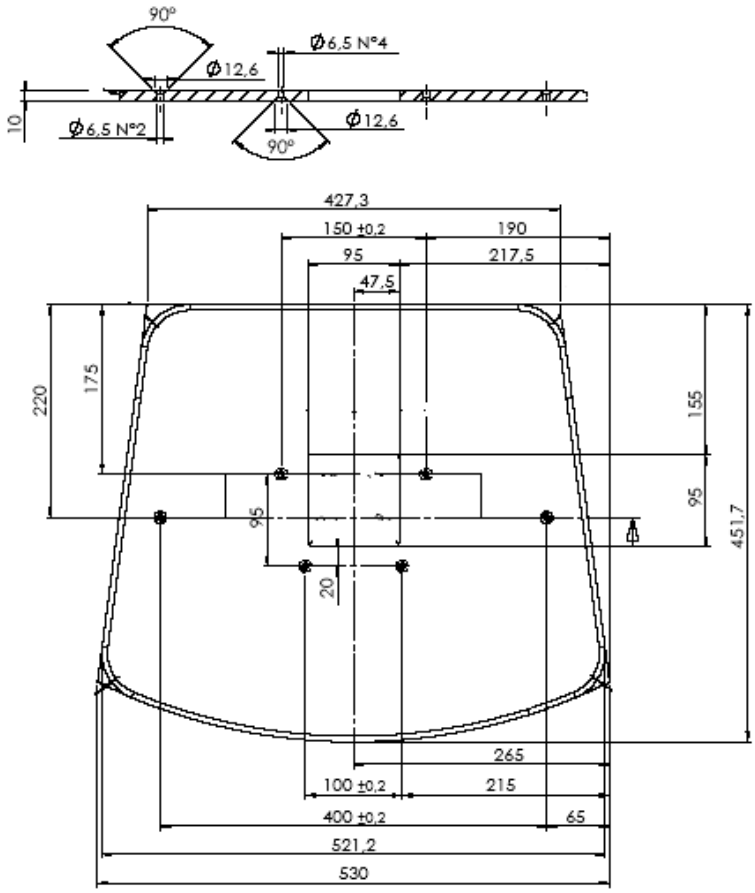
Note: The flanges indicated by dotted lines show optional positioning of the flanges at those corners



Note: All dimensions in mm

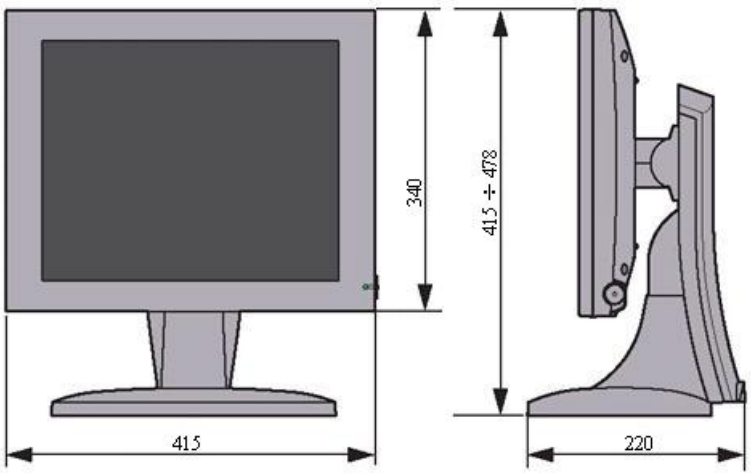
5.2.4. Integrated Console





5.2.5. LCD Monitor

Note: Monitor stand shown is only required when integrated console is not selected.

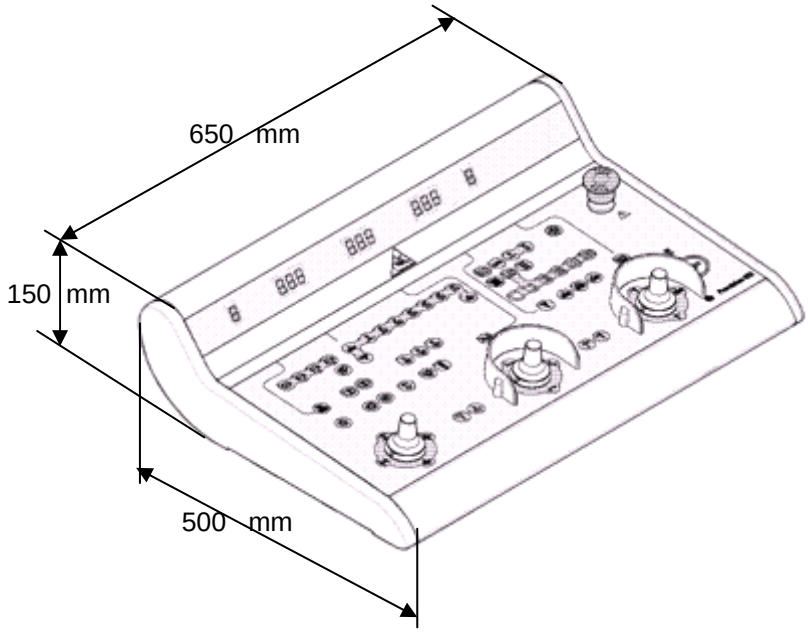


Note: All dimensions in mm

Weight 9.7 kg.

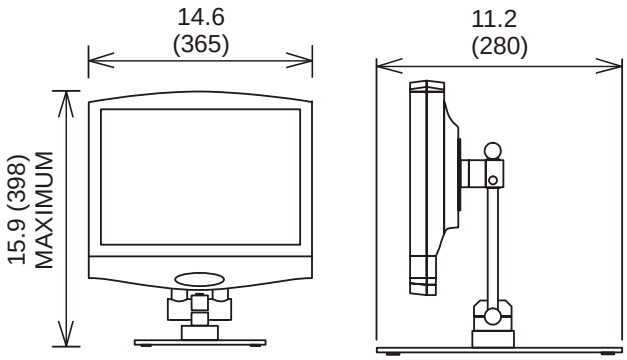
5.2.6. Positioner Console

Note: Positioner console must be positioned by the customer if the integrated console is not selected.



5.2.7. Generator Touch Screen

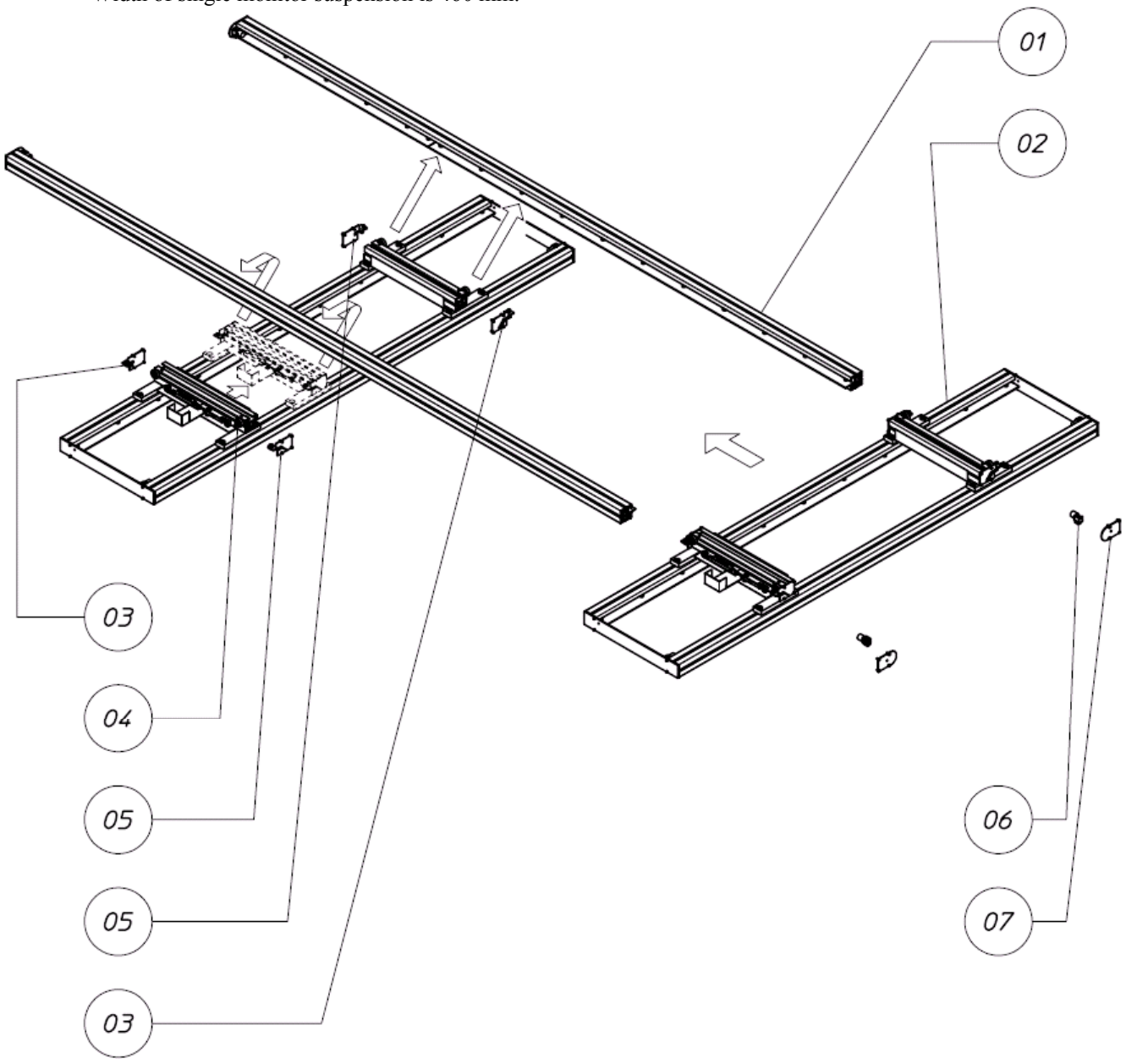
Note: Generator Touch Screen must be positioned by the customer if the integrated console is not selected.



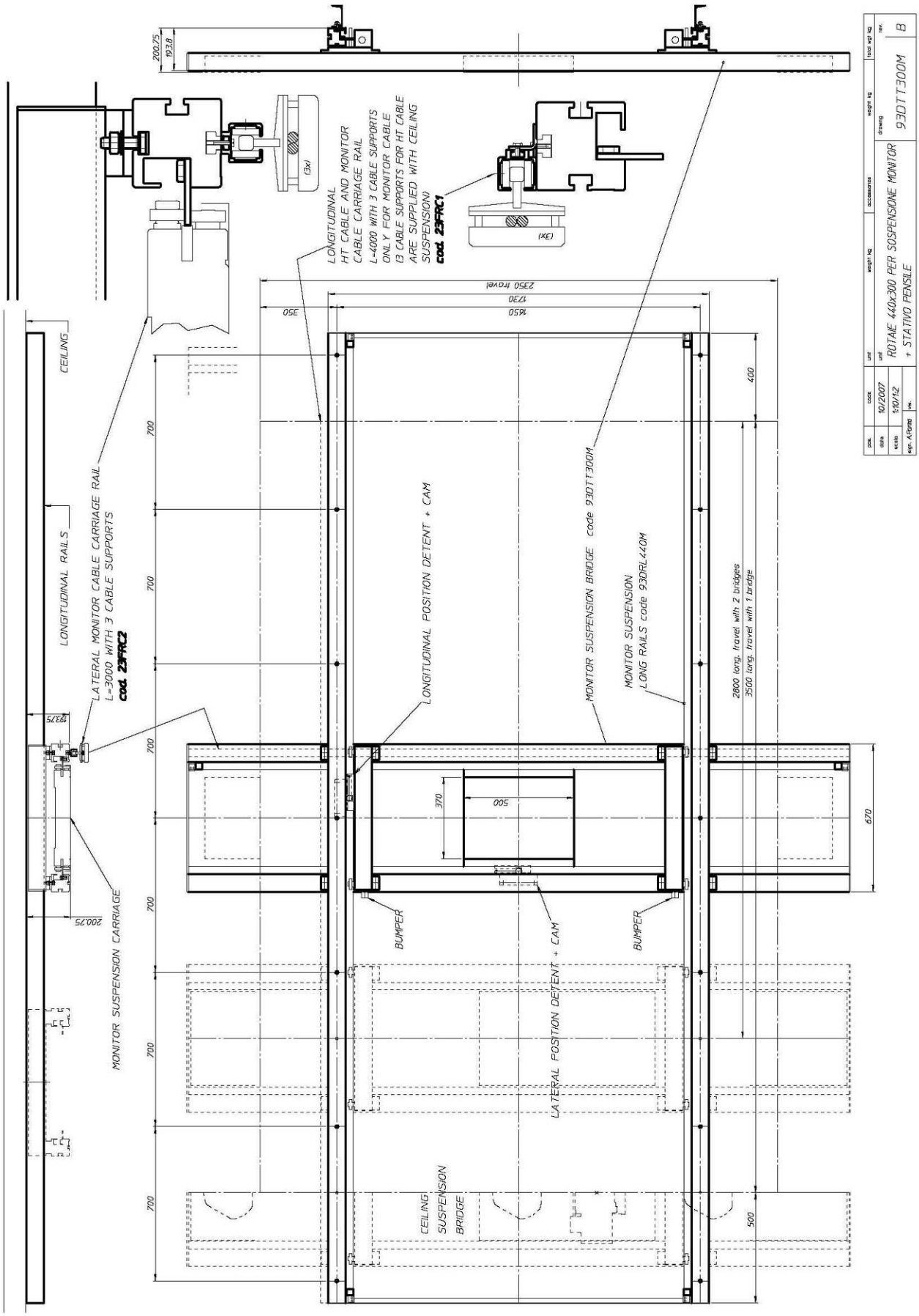
5.2.8. Monitor Suspension

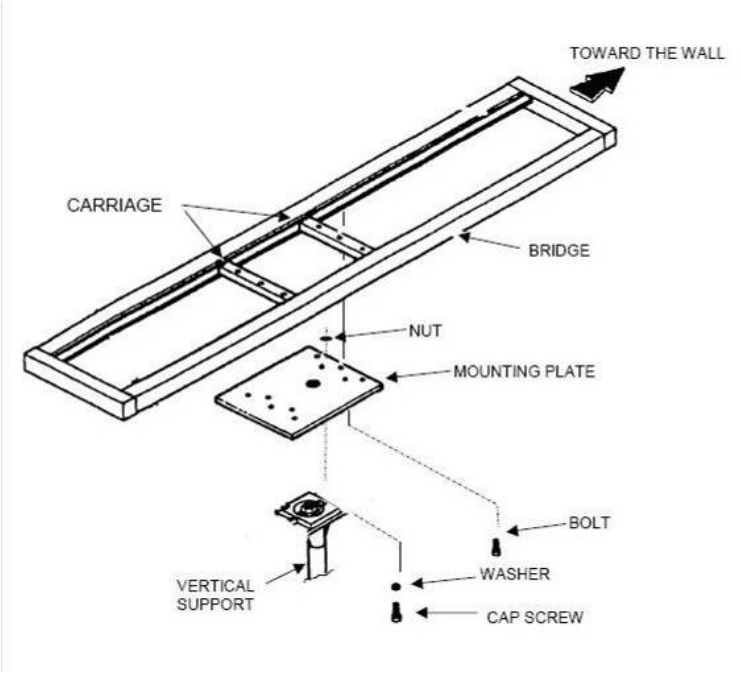
5.2.8.1. Ceiling suspension including bridge and carriage

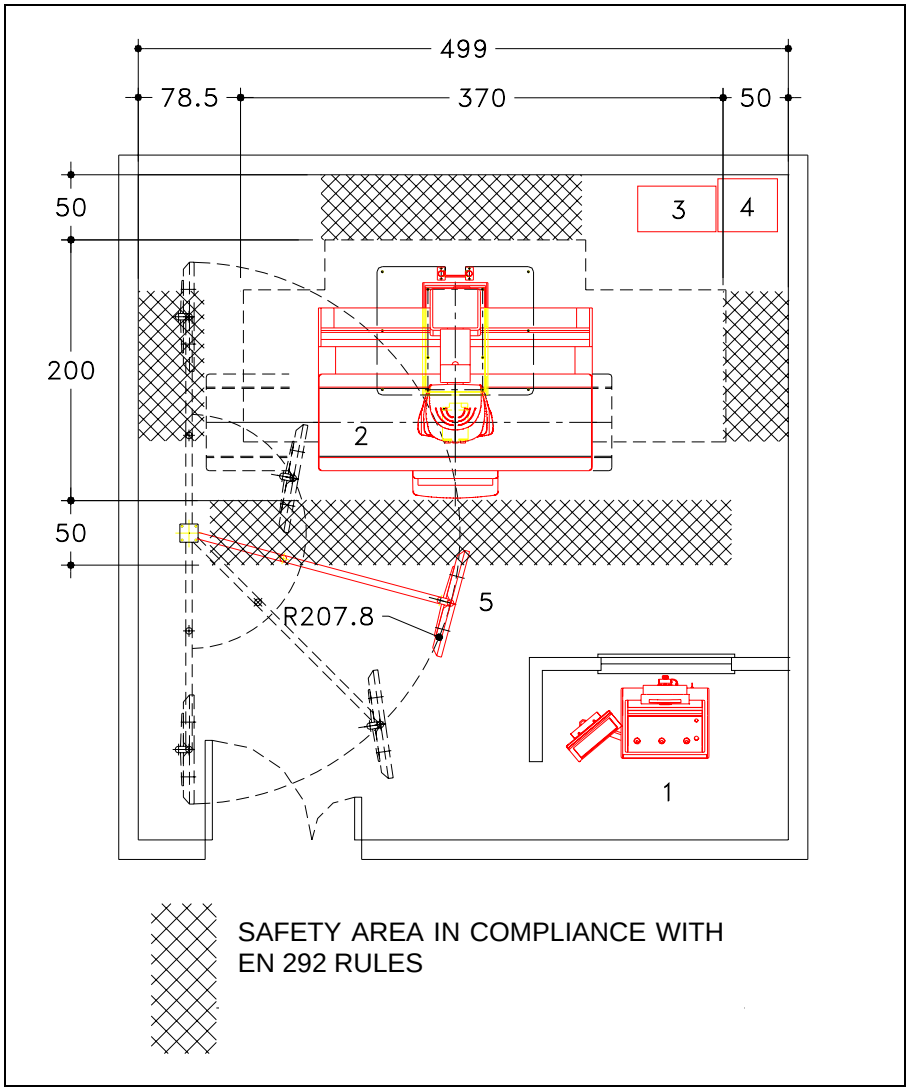
- Monitor suspension is mounted on the same bridge and carriage as used with the Overhead Tube Suspension (make reference to 5.2.11 page 52).
- Width of single monitor suspension is 460 mm.



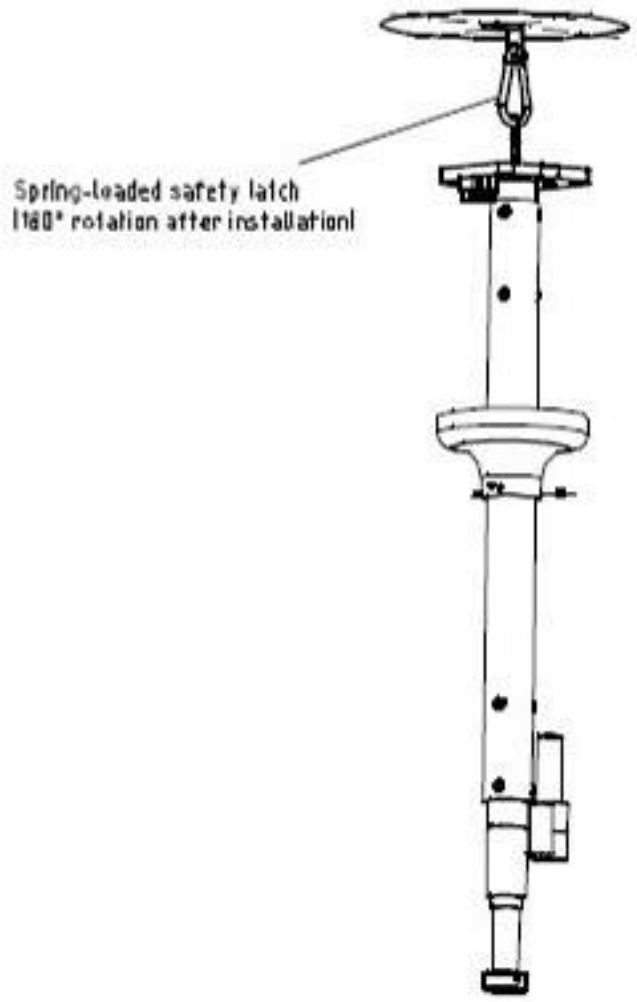
Pos.	Description
01	LONGITUDINAL RAILS
02	TRANSVERSAL BRIDGE
03	RIGHT BEARING SUPPORT
04	GUIDE BRIDGE TIE
05	LEFT BEARING SUPPORT
06	BUMPERS
07	RAIL HEAD

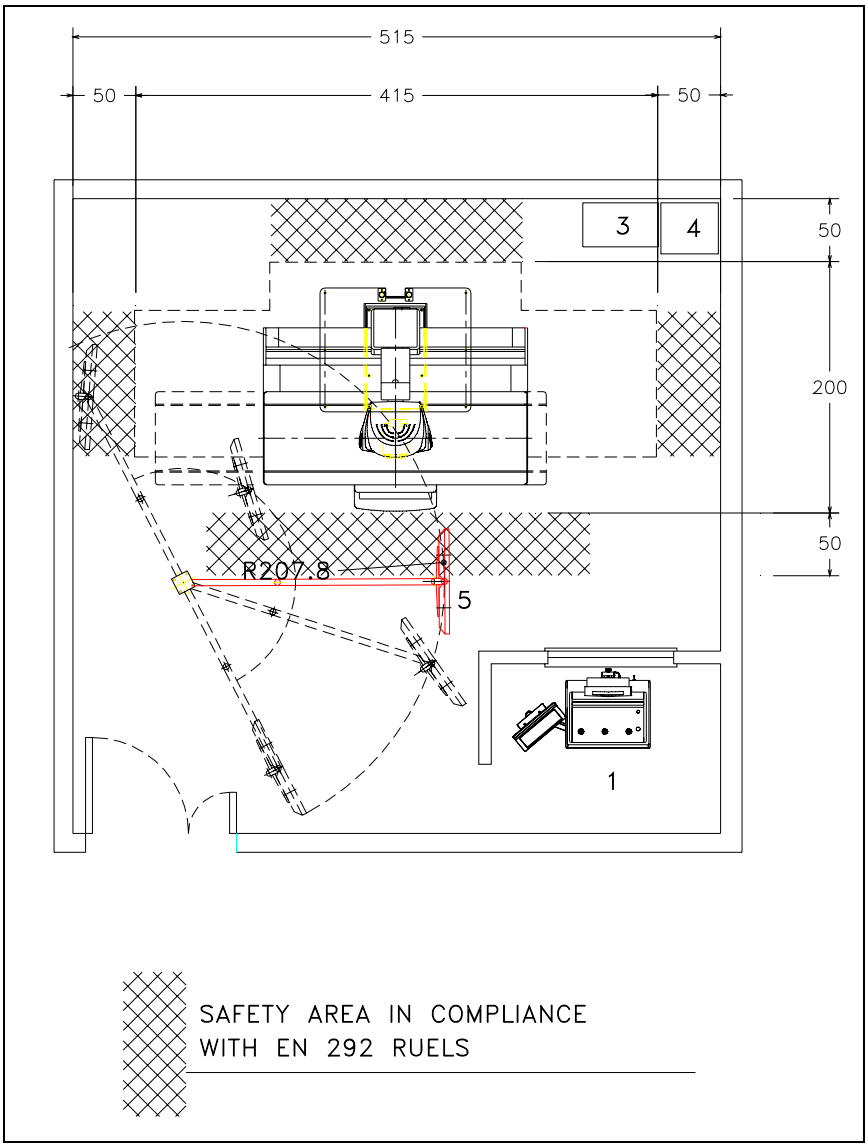

LONGITUDINAL RAILS
CEILING
LATERAL MONITOR CABLE CARRIAGE RAIL
L=3000 WITH 3 CABLE SUPPORTS
cod. 23FRC2
MONITOR SUSPENSION CARRIAGE
LONGITUDINAL POSITION DETENT + CAM
MONITOR SUSPENSION BRIDGE code 93DTT300M
MONITOR SUSPENSION
LONG RAILS code 93DRL440M
2800 long. travel with 2 bridges
3500 long. travel with 1 bridge
BUMPER
BUMPER
LATERAL POSITION DETENT + CAM
CEILING SUSPENSION BRIDGE
LONGITUDINAL HT CABLE AND MONITOR CABLE CARRIAGE RAIL L=4000 WITH 3 CABLE SUPPORTS ONLY FOR MONITOR CABLE (3 CABLE SUPPORTS FOR HT CABLE ARE SUPPLIED WITH CEILING SUSPENSION)
cod. 23FRC1
ROTAIE 440x300 PER SOSPENSIONE MONITOR + STATIVO PENSILE
93DTT300M
B


TOWARD THE WALL
CARRIAGE
BRIDGE
NUT
MOUNTING PLATE
BOLT
WASHER
CAP SCREW
VERTICAL SUPPORT


499
78.5
370
50
50
200
50
3
4
2
5
R207.8
1
SAFETY AREA IN COMPLIANCE WITH
EN 292 RULES

5.2.8.2. Suspension fixed on ceiling



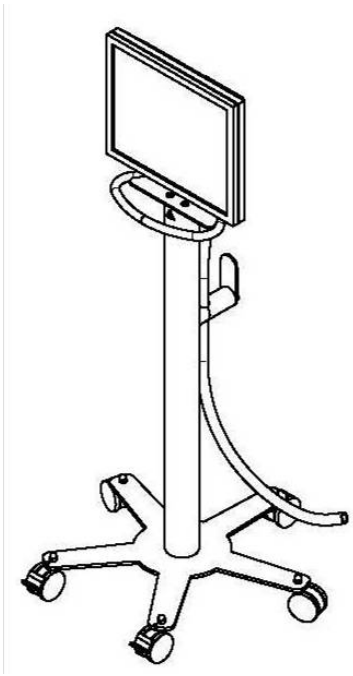


IMPORTANT
For details, please make reference to PORTEGRA2 Installation Manual PTZ15002E by MAVIG

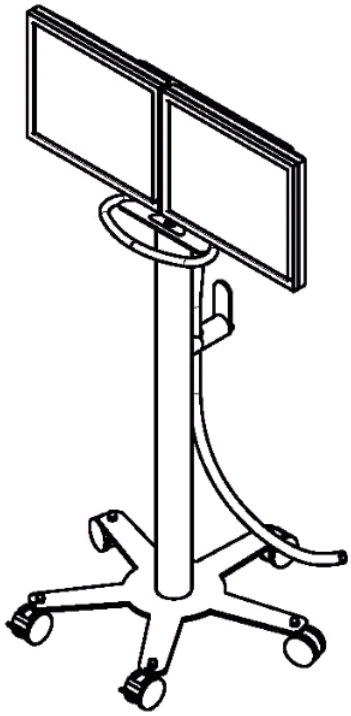
WARNING! PAY ATTENTION!
BEFORE COMMANDING ANY SYSTEM MOVEMENT, YOU SHALL CHECK THE POSITION OF THE MONITOR SUSPENSION.

Warning! Pay Attention!
Installing the system: MAVIG emphasize that prior to installation to a ceiling, a structural engineer must certify that the rough ceiling is sufficiently strong to provide proper support for the system.
Installation must be completed according to local building codes. Failure to follow these procedures will release MAVIG from responsibility for damages of any sort.
Determination of required installation hardware and torque values for installation of the ceiling column is sole responsibility of the structural engineer.

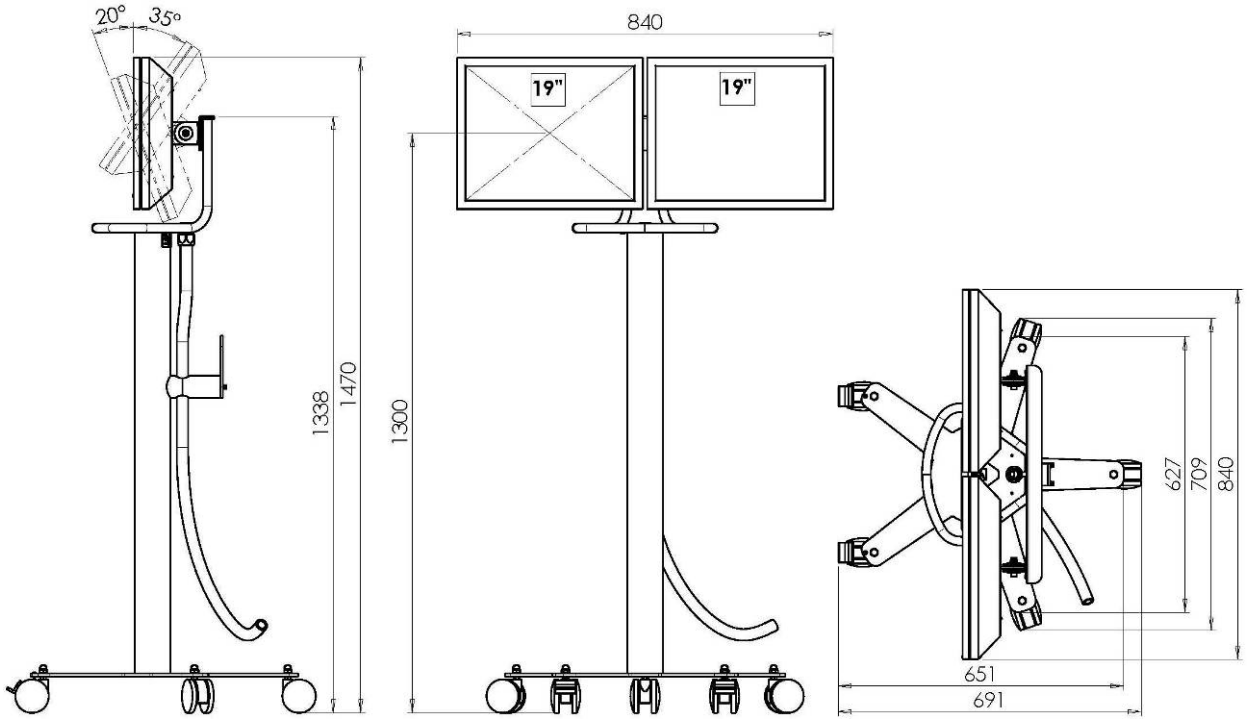
5.2.9. Monitor Cart



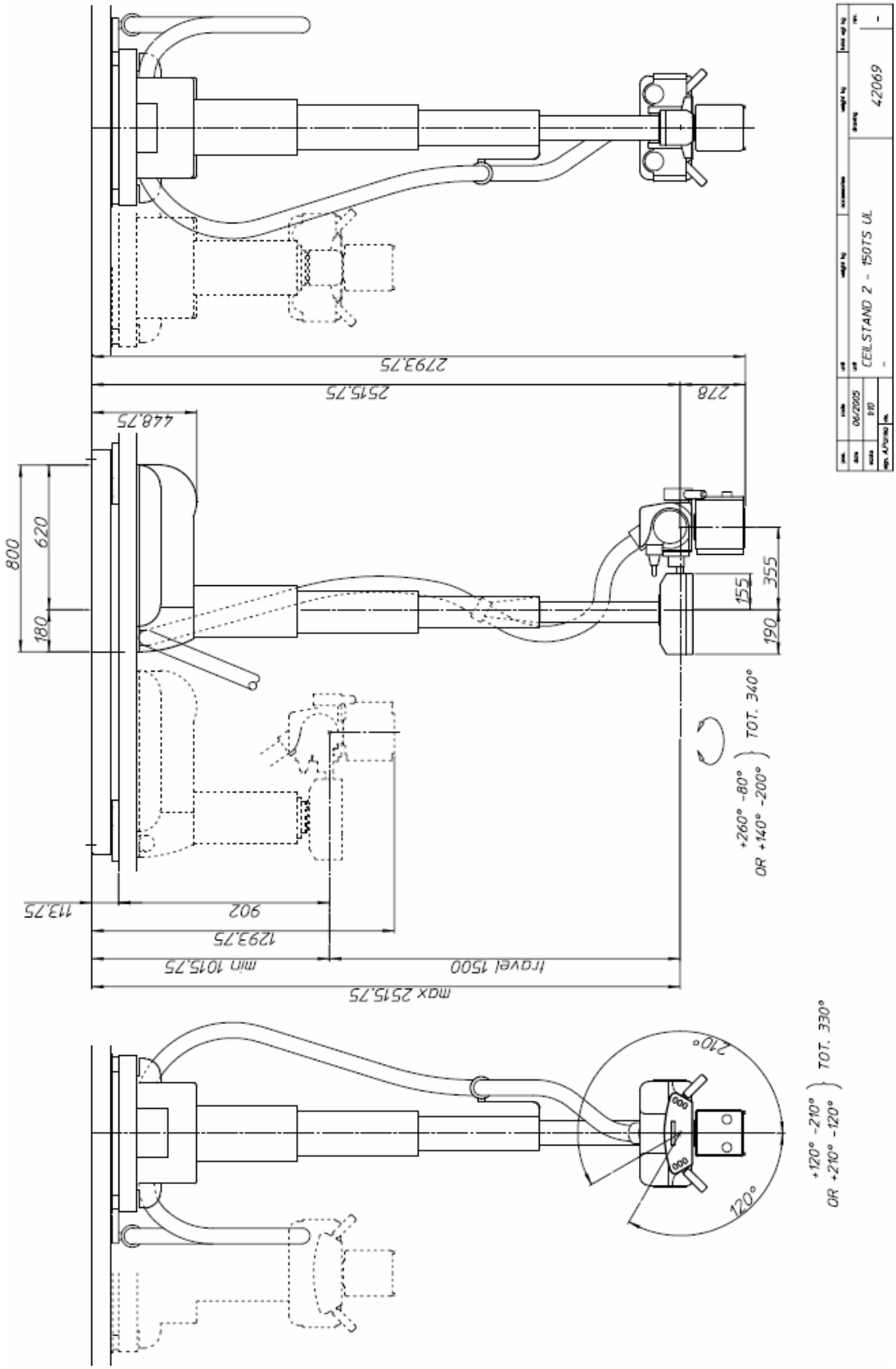
Single



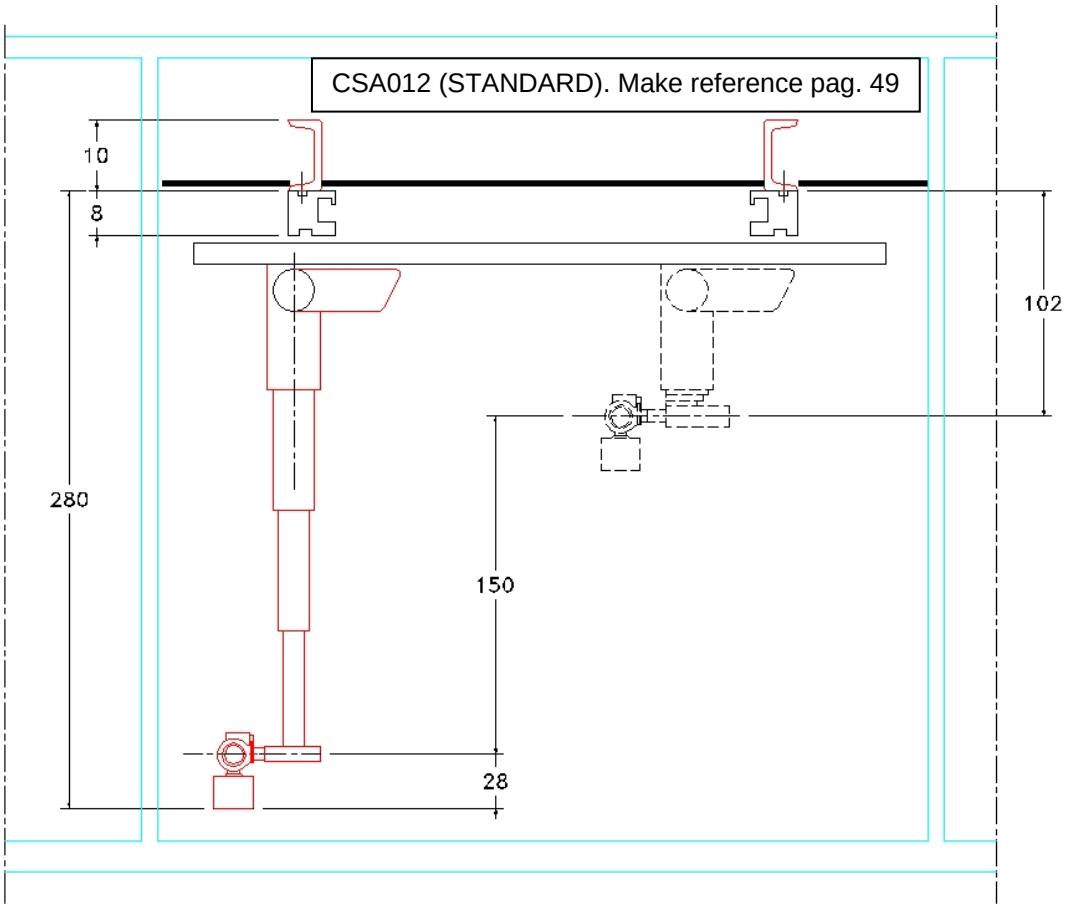
Double



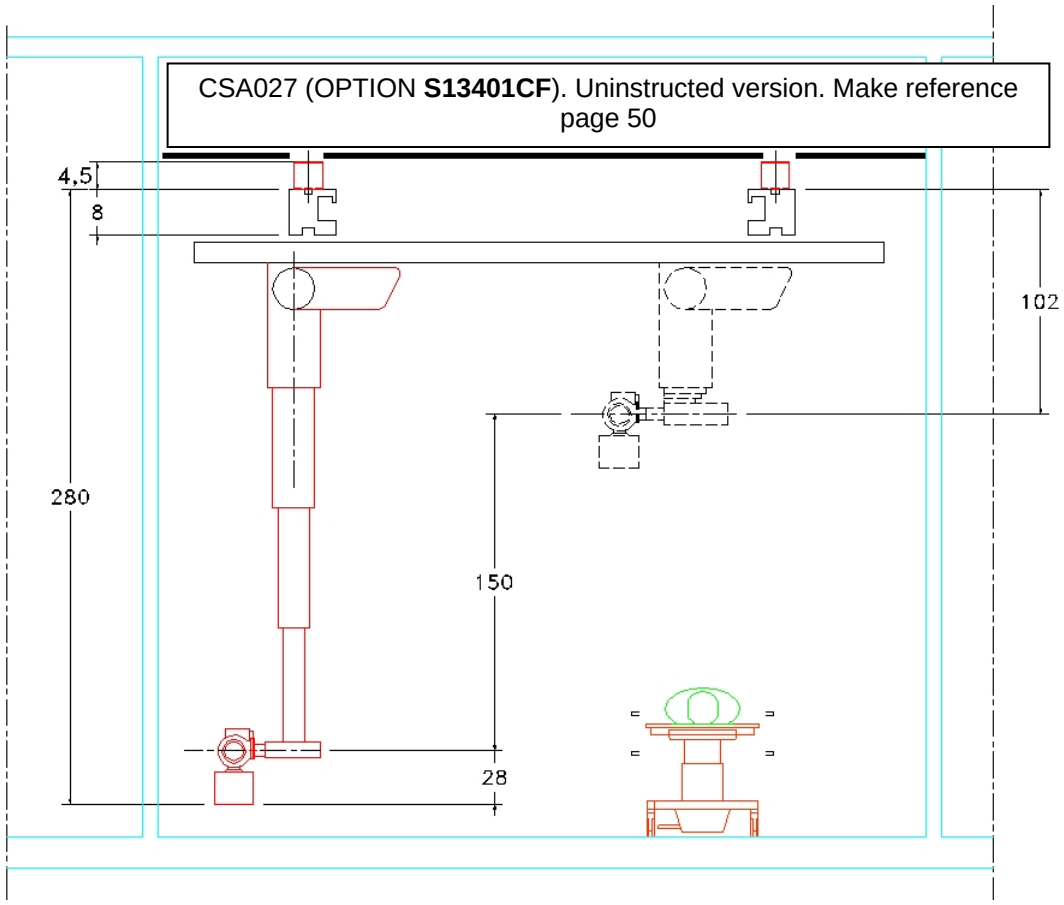
5.2.10. Overhead Tube Suspension



CSA012 (STANDARD). Make reference pag. 49



CSA027 (OPTION **S13401CF**). Uninstructed version. Make reference page 50



5.2.11. Bridge and Rails (for OTS and/or Monitor Suspension)

The stationary rails utilize extruded aluminum channels that are ceiling mounted and are 4400mm in length. The spacing between these stationary rails accommodates an overhead mounted bridge structure. The bridge length is 3000 mm and the bridge width is 670 mm.
Note: The standard distance of 1650mm between rails can be reduced to as little as 1300mm or increased to as much as 2000mm.

Maximum flexion between 2 anchoring points

During worst working equipment conditions it is necessary to find out the working stress on each equipment support

The stress force of each equipment part is split into the following items:

P1 = 900 N Rails (14 points anchoring)
P2 = 850 N Bridge (it slides on 4 support bearings)
P3 = 1750 N Carriage (stand with tube, collimator, mechanical and electrical parts)

In order to find out rail flexures, the study must be related to a close rectangular shape that reproduces the rails core dimensions.

If you work in this way, you will always be able to simplify job calculation and in addition we will always be in a Safety situation
As a matter of fact rails are more complex, ribs and cores (that in this study are not taken into consideration) really add large stiffness to the rails
At the same way for the below calculation, the rail steel plate is not taken into consideration that it is the guide for sliding bearings and as a matter of fact it does add stiffness to the rails too.

If you make reference to the attached drawing you can calculate rails flexure by taking into consideration the main involved sizes.

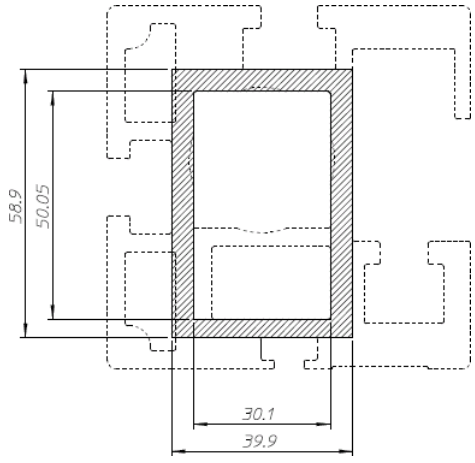
P = 1500 N	Half suspension weight and transversal carriage weight
L = 700 mm	distance between rail anchoring points
E = 60000 MPa	aluminum modulus of elasticity
I = 365000 mm^4	inertia module related to the rail section (make reference to the following drawings)

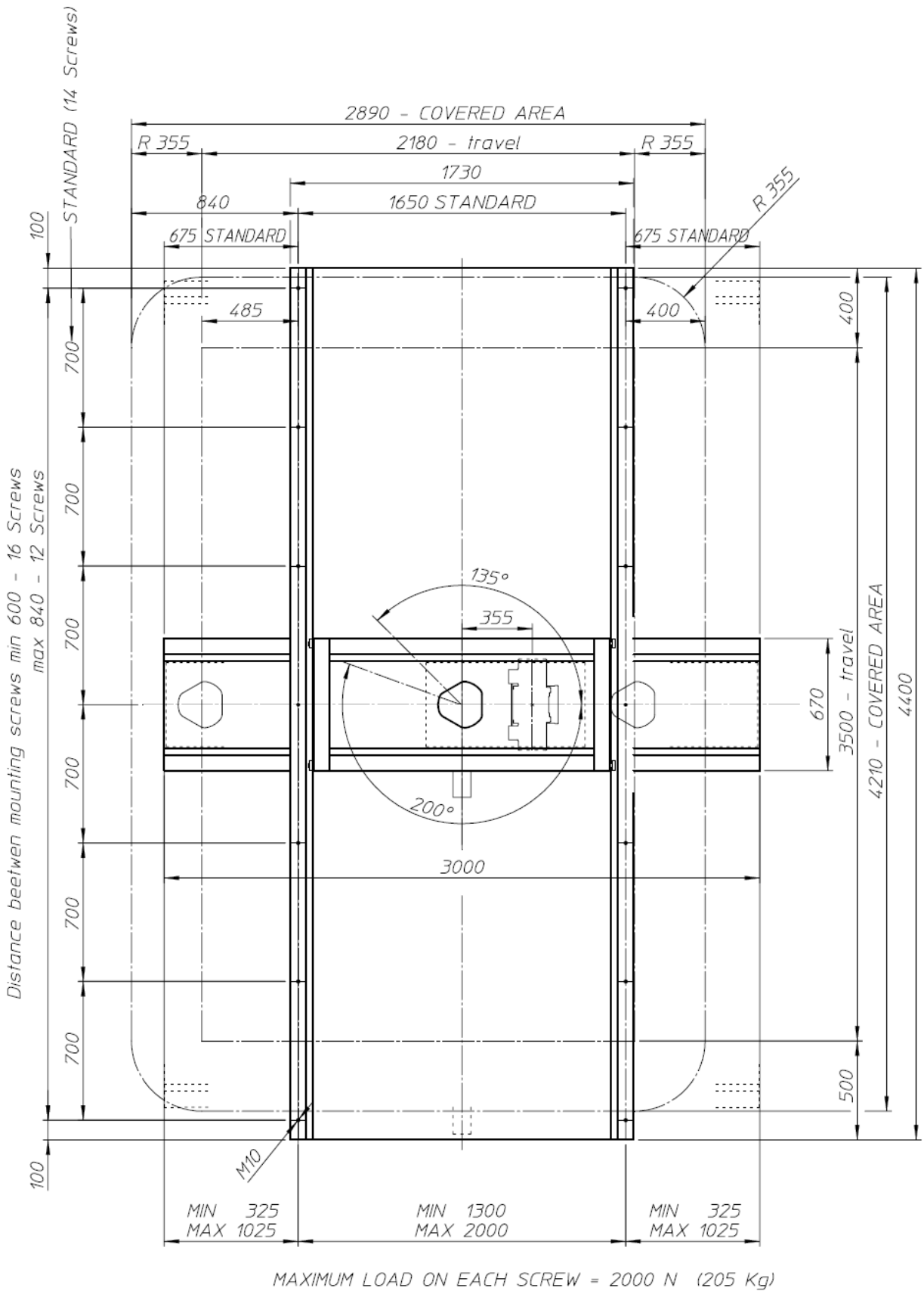
As a result the flexibility of beam rested between extreme sides is calculated by the following formula:

$$f = \frac{p \cdot l^3}{192 \cdot E \cdot I}$$

By replacing the value written above, you will be able to find the searched result

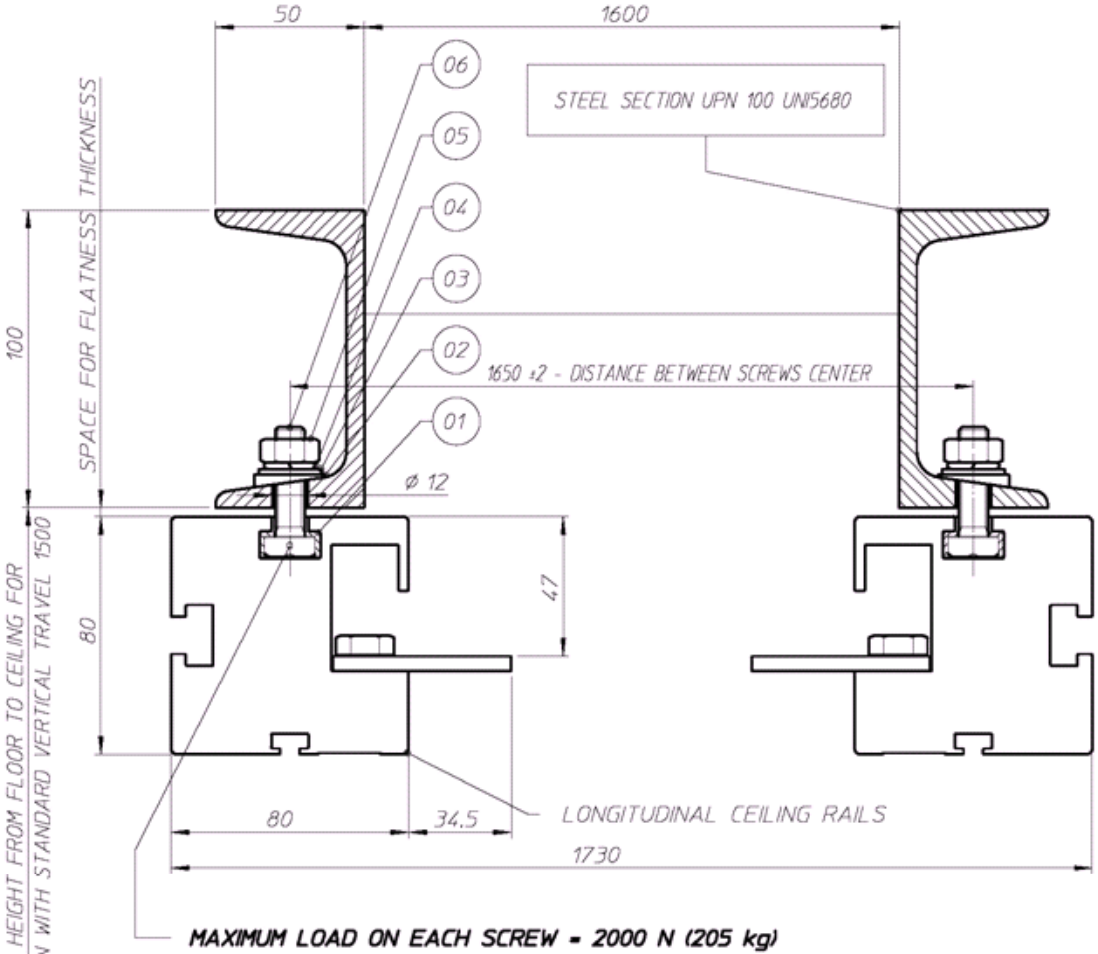
$$f = 0.12mm$$




2890 - COVERED AREA
R 355
2180 - travel
R 355
1730
840
1650 STANDARD
R 355
675 STANDARD
675 STANDARD
100
STANDARD (14 Screws)
485
400
400
700
700
700
700
700
700
700
135°
355
670
3500 - travel
4210 - COVERED AREA
4400
200°
3000
Distance beetwen mounting screws min 600 - 16 Screws
max 840 - 12 Screws
500
100
M10
MIN 325
MAX 1025
MIN 1300
MAX 2000
MIN 325
MAX 1025
MAXIMUM LOAD ON EACH SCREW = 2000 N (205 Kg)

5.2.11.1. Rail Mounting

Cod. CSA012 (standard)



MAXIMUM LOAD ON EACH SCREW = 2000 N (205 kg)

Il dimensionamento delle strutture di supporto dello stativo pensile
e' d'esclusiva competenza del progettista responsabile della preparazione dei locali.
Il tipo e la dimensione delle putrelle riportate nei nostri disegni hanno solo valore indicativo.

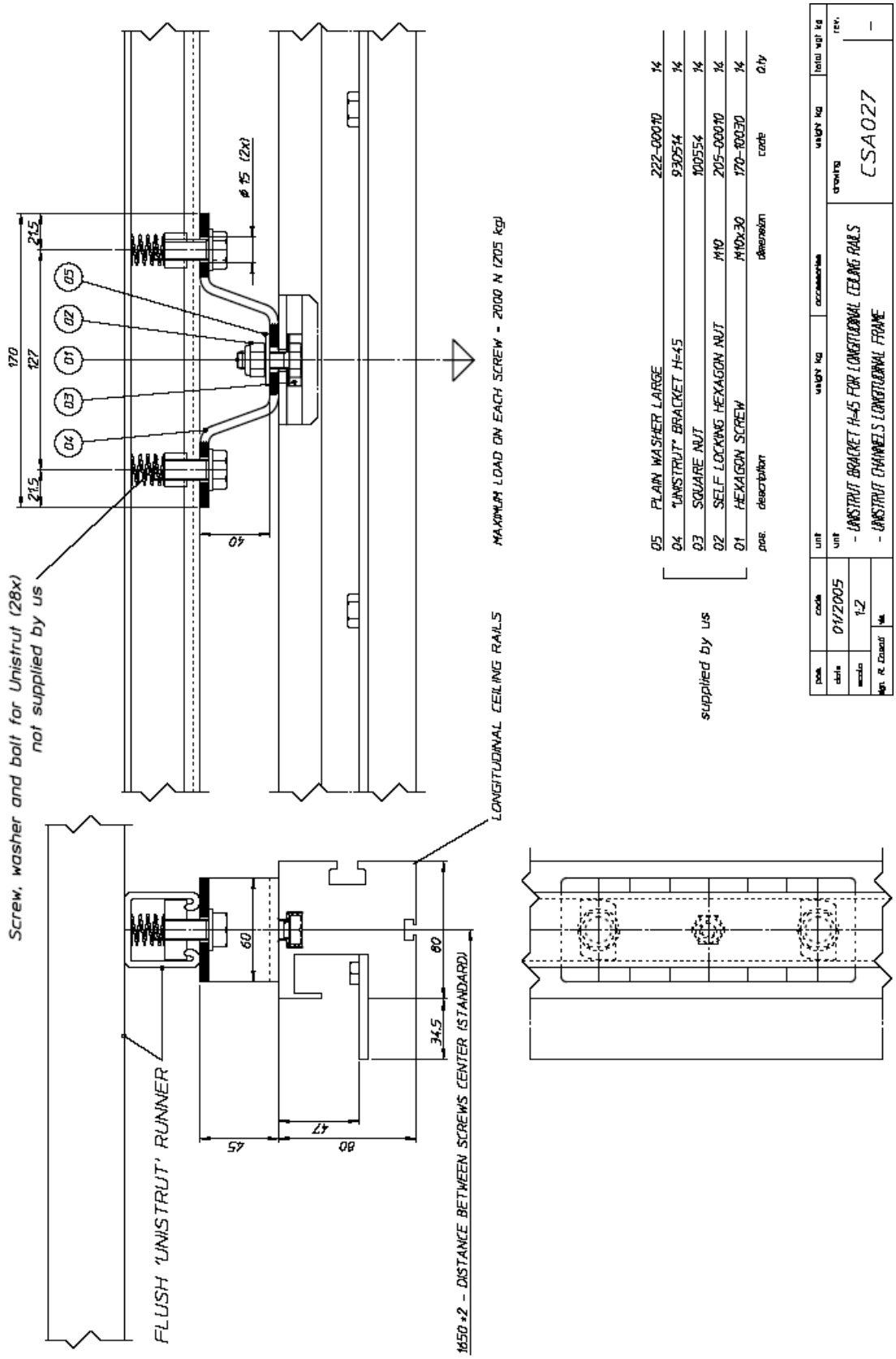
The calculation of the support structure of the ceiling stand depends exclusively from the designer, who is responsible of the rooms preparation. Type and dimension of the T-irons, shown in our drawings, are just as an indication.

pos.	description	dimension	our code	Q.ty	on our supplying
06	HEXAGON SCREW	M10x35	170-10035	14	✓
05	HEXAGON NUT	D10	200-00010	14	✓
04	SPRING WASHER	D10	223-00010	14	✓
03	PLAIN WASHER	D10	220-00010	14	✓
02	SQUARE WASHER	D10	225-00010	14	✓
01	SQUARE NUT		100554	14	✓

mi930002-C

DESCRIPTION	CODE	POS.
LONGITUDINAL CEILING RAILS FASTENING (suggested solution)	mi930002-C	--

5.2.11.1.1. Rail Mounting cont.



Cod. CSA027 (optional)

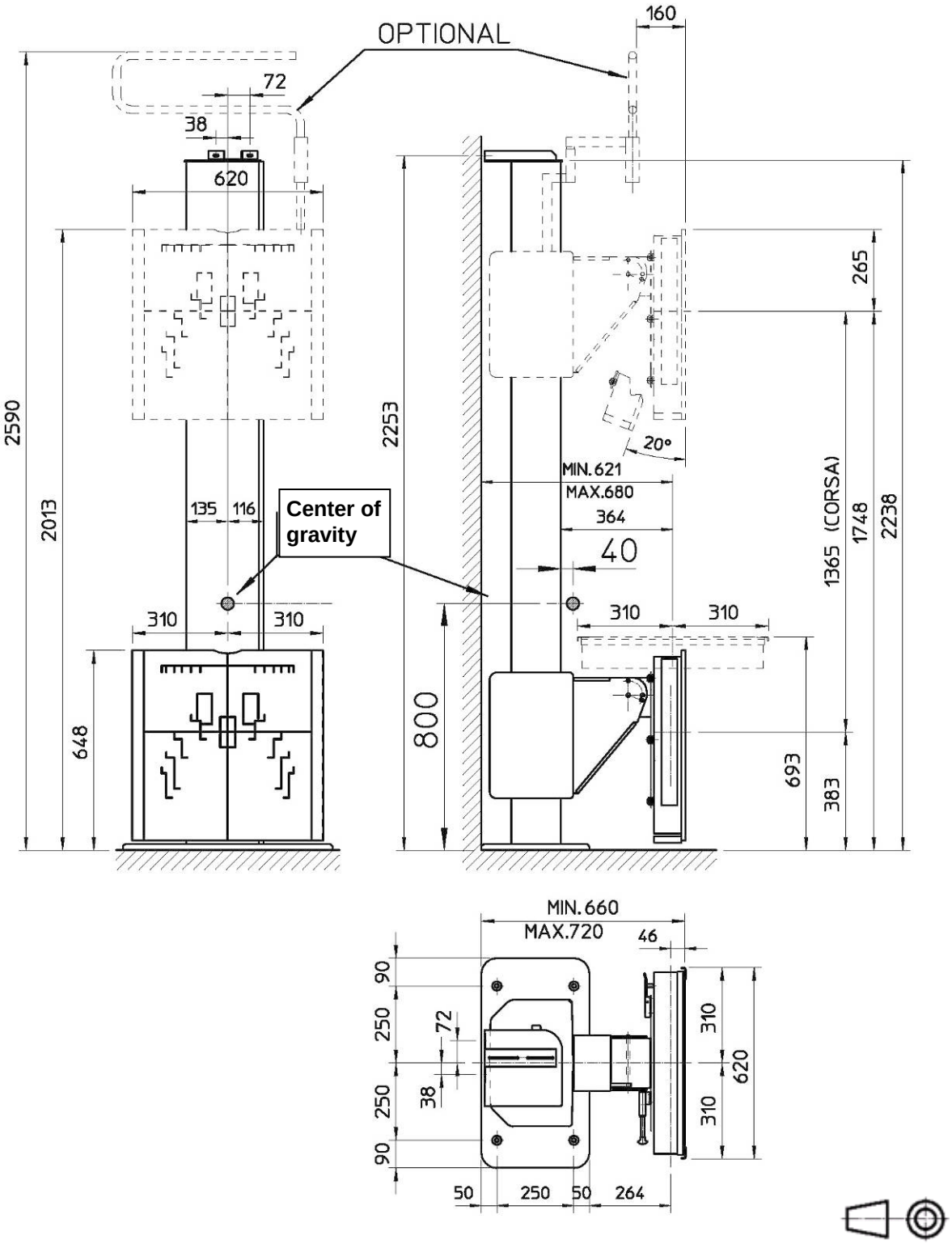
5.2.11.1.2. Rail Mounting cont.

Note: The distance between bolts can vary from 600mm to 840mm as shown in the layout due to the slot design of the rail support positions.

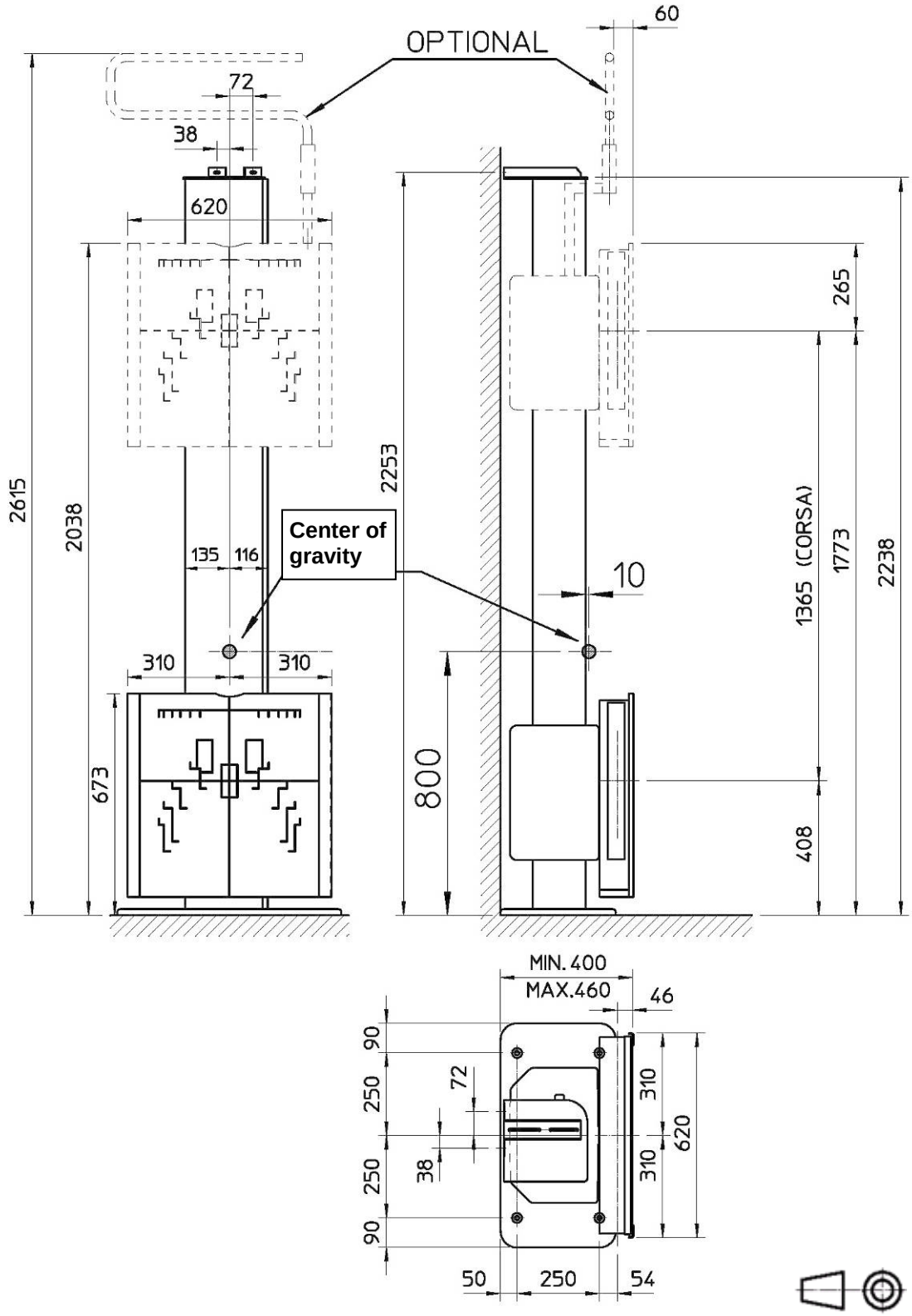
All dimensions are in mm
Maximum load on each support = 205kg
The calculation of the support structure of the OTS must be determined by the site planner, who is responsible for the preparation.

Hardware included with the suspension:
1 – M10x30 hex screw, qty 14
2 – Self-locking hex nut, qty 14
3 – Square nut, qty 14
4 – Unistrut bracket, qty 14
5 – Plain washer, qty 14

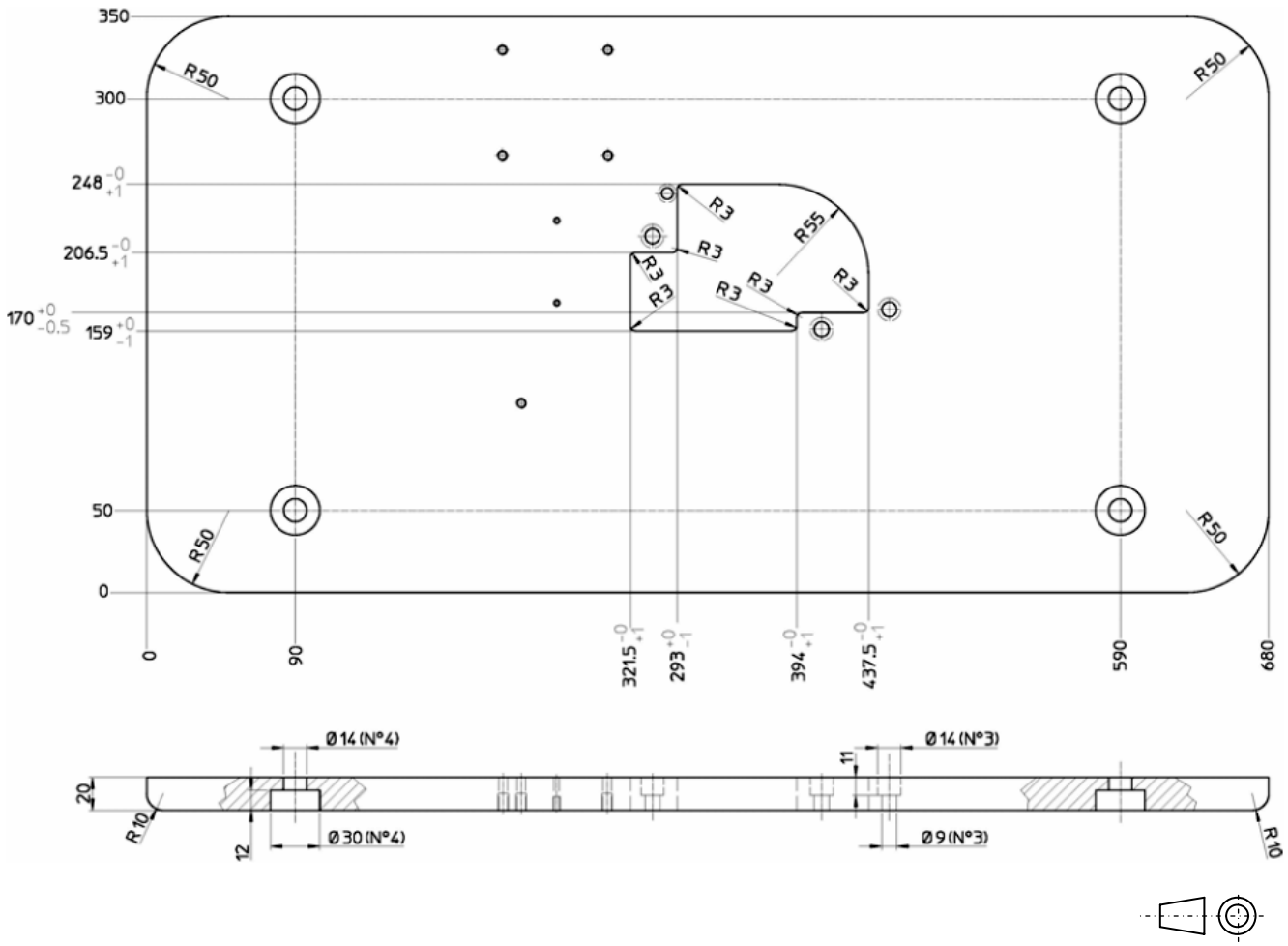
5.2.12. Tilting Wallstand

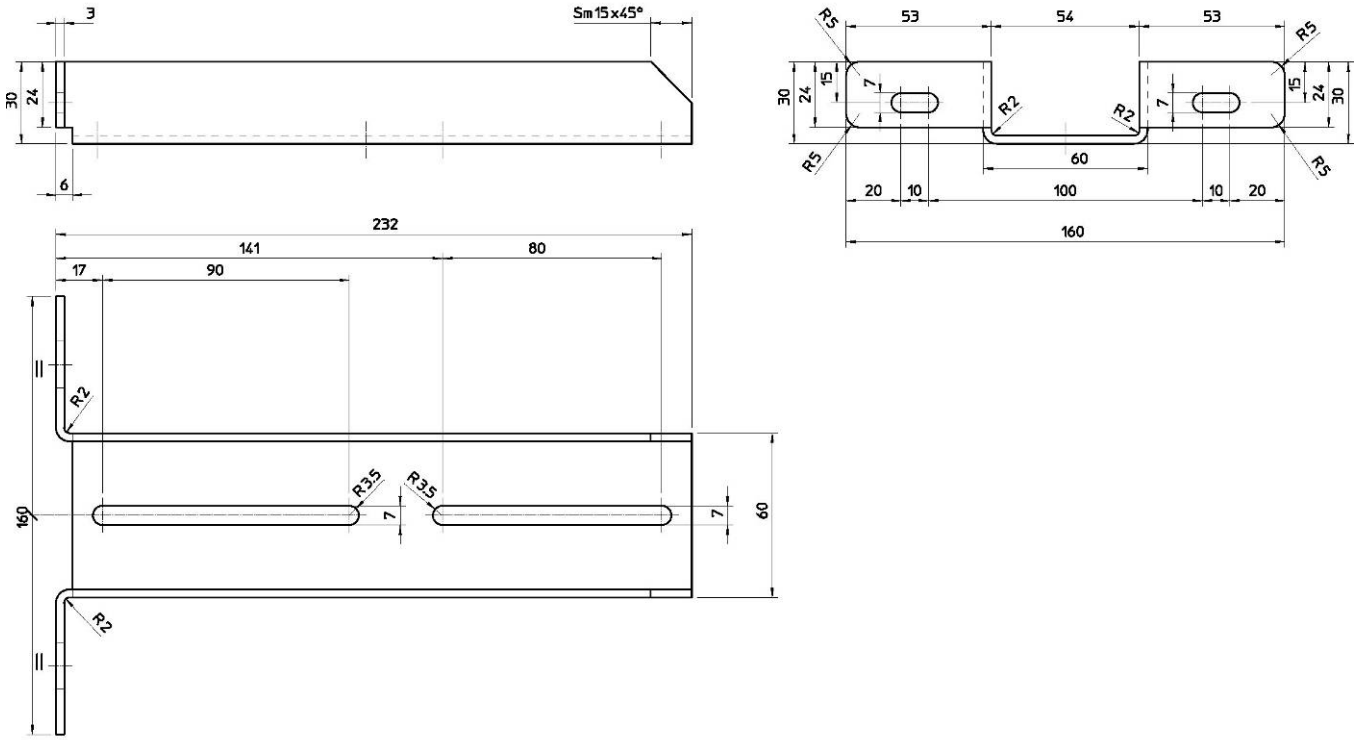


5.2.13. Non-Tilting Wallstand



5.2.14. Wallstand Base Plate and Wall Bracket




3
Sm15x45°
30
24
6
232
141
80
17
90
R2
R35
7
160
60
R5
53
54
15
20
10
100
M5x16
M6

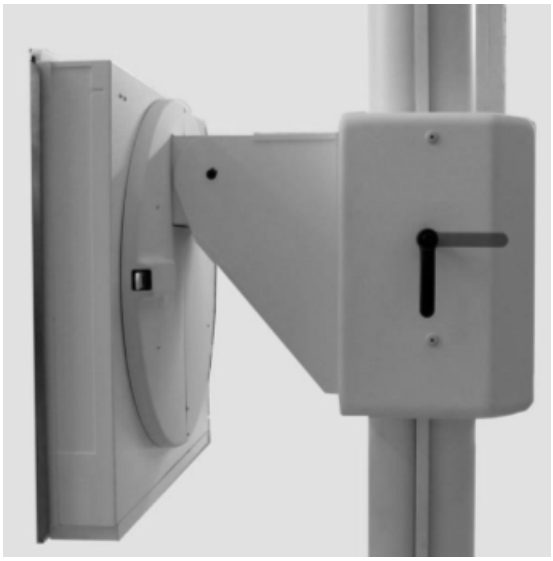
5.2.14.1. Wallstand Mounting

The wallstand is mounted to the floor using four M10 bolts. Holes for anchors must be 16mm in diameter and 80mm deep.
If required, the wallstand can be additionally fixed in place with the wall bracket. The location of the wall bracket on the wall is determined by positioning the wallstand as desired, then mounting the bracket to the wallstand and marking the hole locations on the wall. The wallstand can then be moved and the holes (D12 x 70mm) drilled. M6X12mm metallic anchor fishers are required to fix the bracket to the wall.

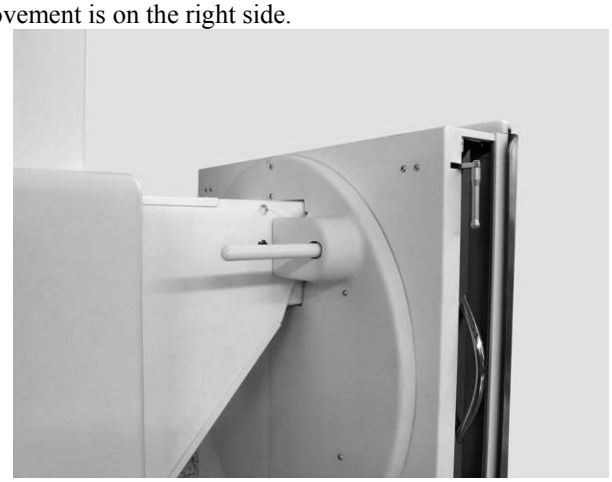
5.2.14.2. Moving the Bucky

The handle for the vertical Bucky movement is on the right side of the column.


model WS

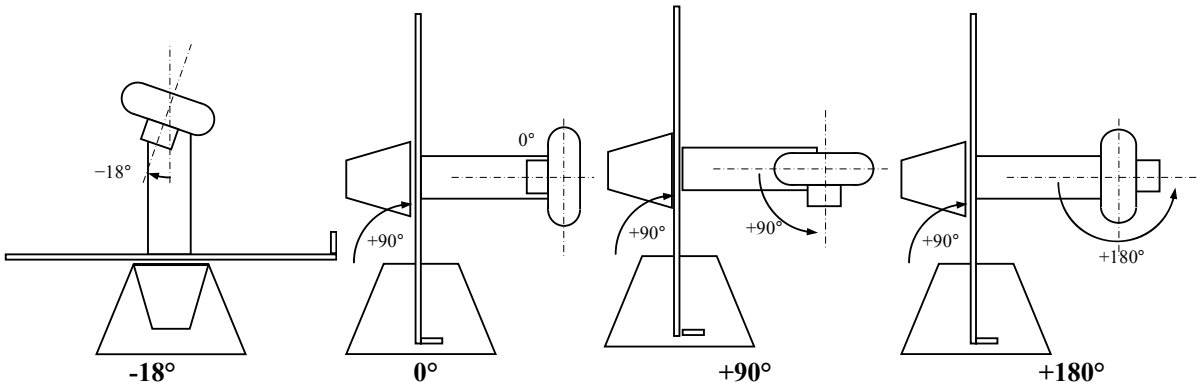

model WS-T

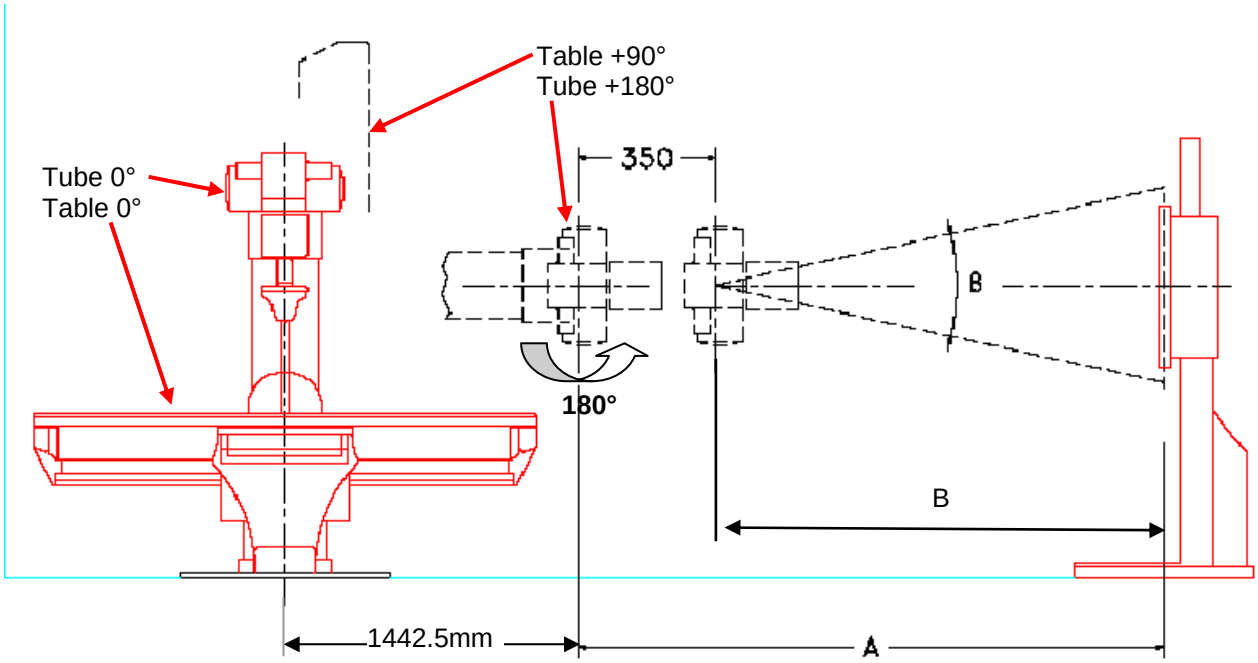
For model WS-T only: the handle for the tilting movement is on the left side and the handle for the rotating movement is on the right side.



5.2.15. Wallstand and Table Layout

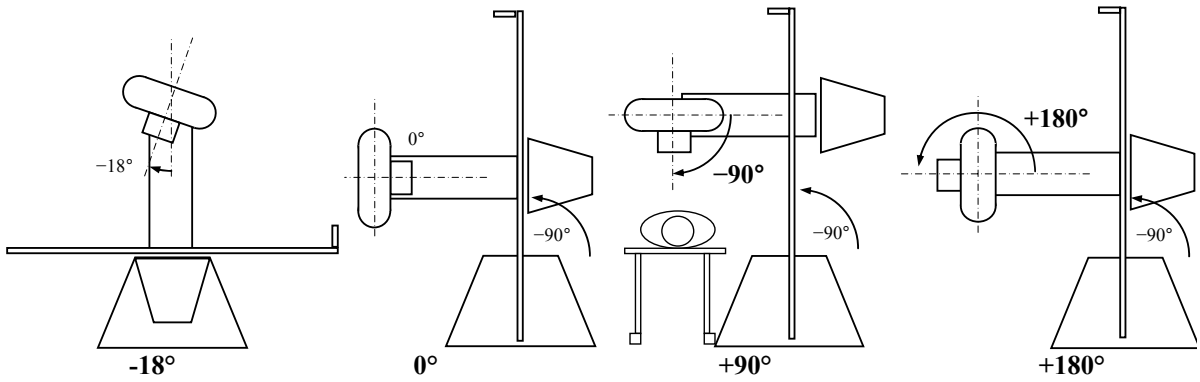
It is possible to manually rotate the tube to −90° / −72° / −18° / +18° / + 72° / +90° / +180° position.





For table collimator without iris, β = 27°
For table collimator with iris, β = 24.3°
The customer preference for available SID range should be used to determine the actual value for A.

WARNING: reverse installation (for elevating table only)



6. Planning Electrical Connections

6.1. Routing Cables

6.1.1. General

Whenever possible, keep high-voltage and power cables away from any other cables. Use separate trough in duct system. 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**.

6.1.2. Conduit

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's 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.

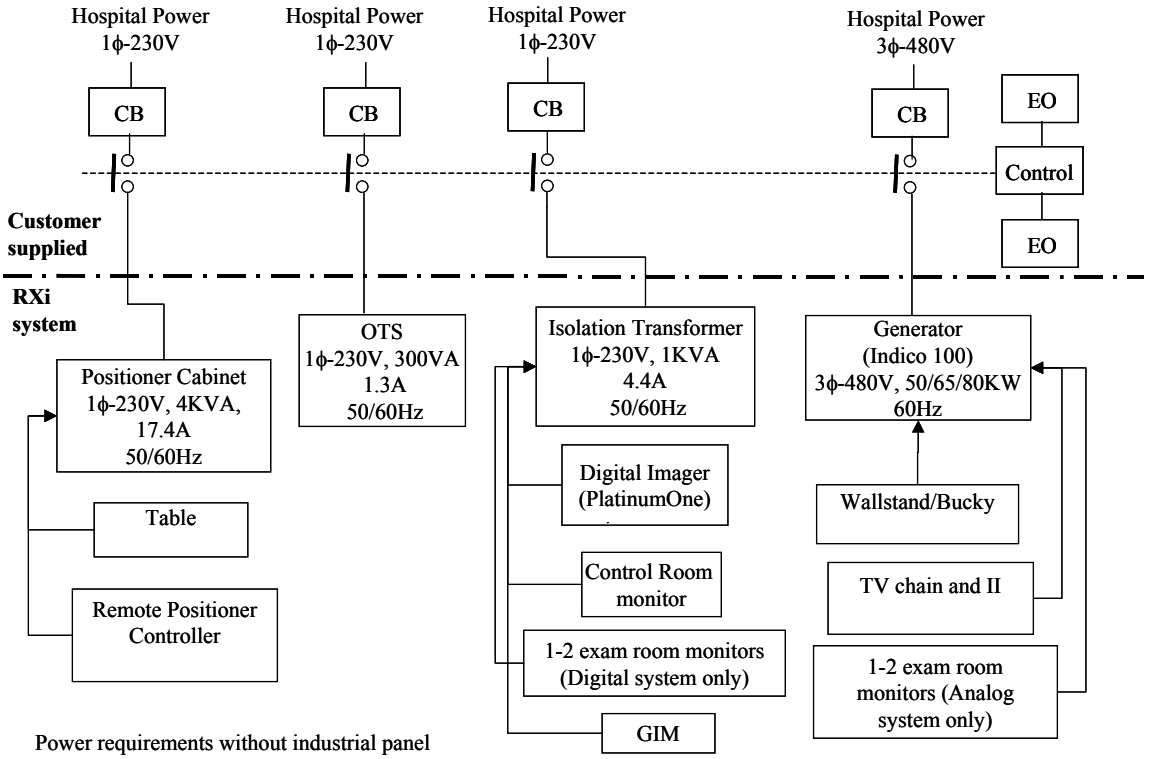
6.1.3. Floor Ducts

Floor ducts have advantages when used with a single room or two adjacent rooms. Floor duct combines cabling in a neat, functional appearance with accessibility and room for expansion. The disadvantage is the amount of work required to install it, which is generally prohibitive in existing installations. For the same reason, it is impractical to attempt to add on to existing floor duct systems.

6.1.4. Power Distribution

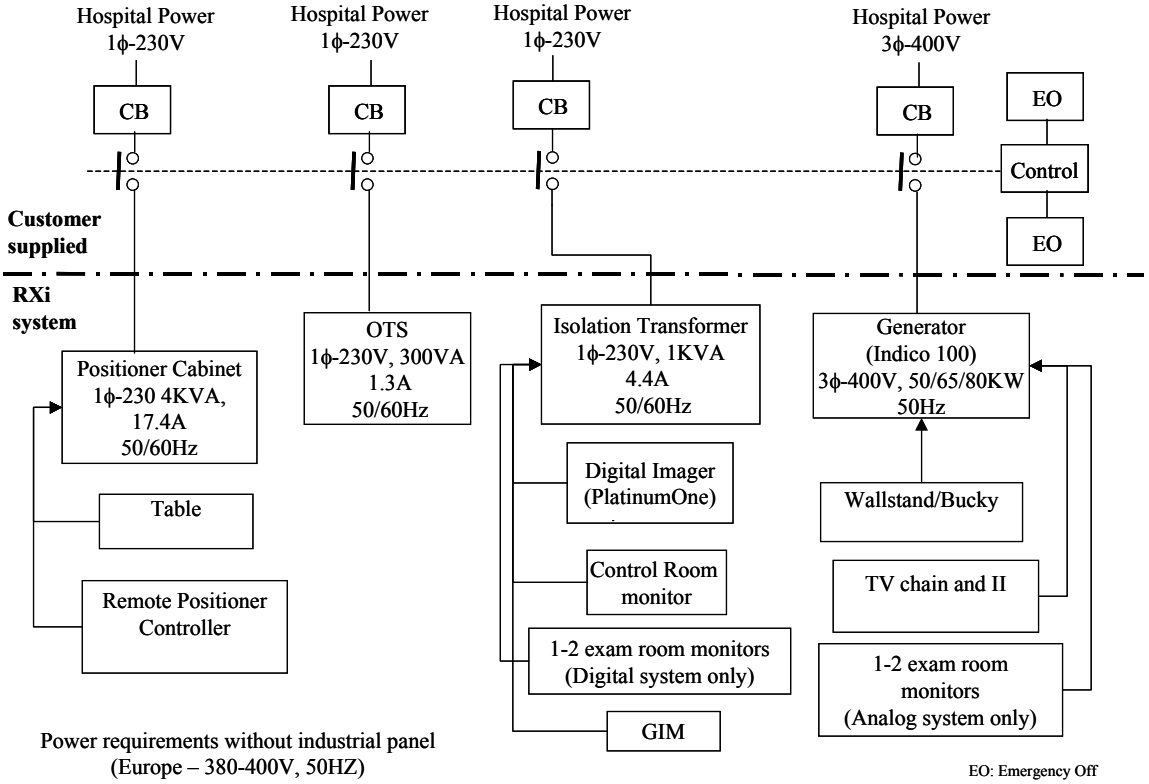
The following diagrams illustrate the options for providing system power.

Without GE Industrial Panel



Power requirements without industrial panel
(North America – 480V, 60HZ)

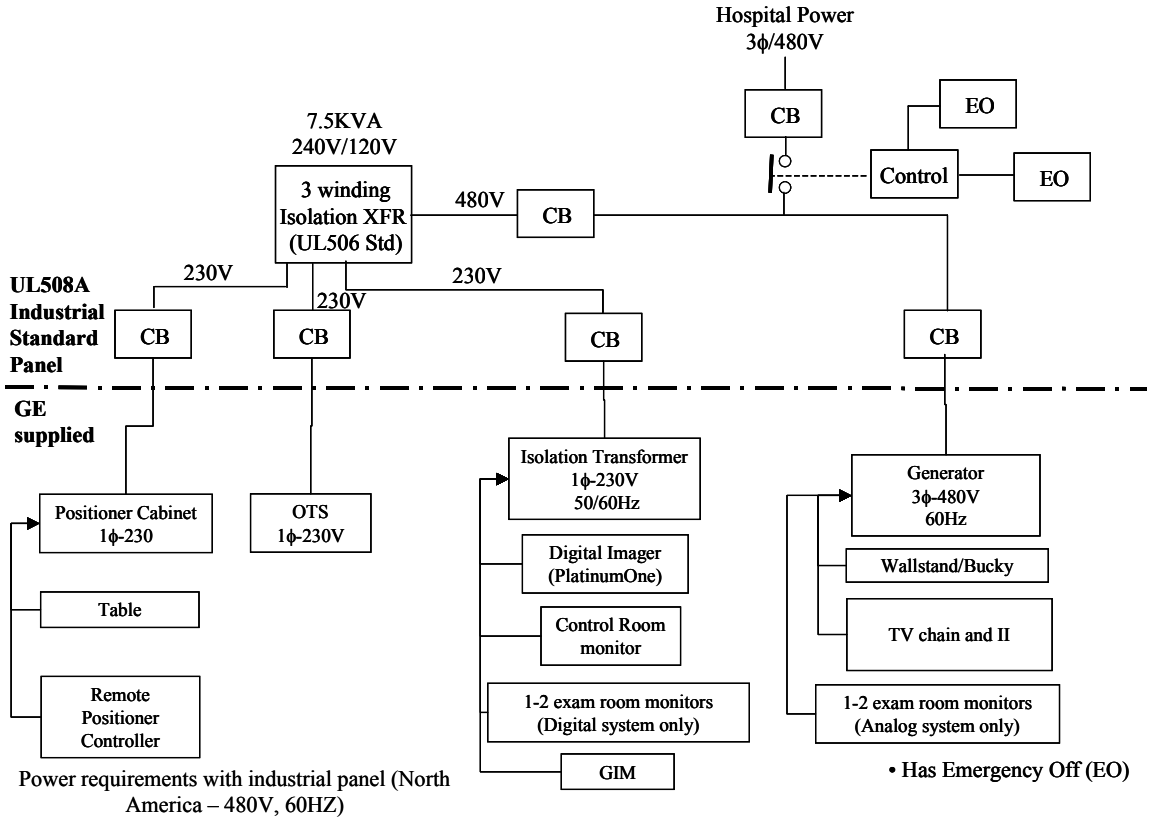
EO: Emergency Off

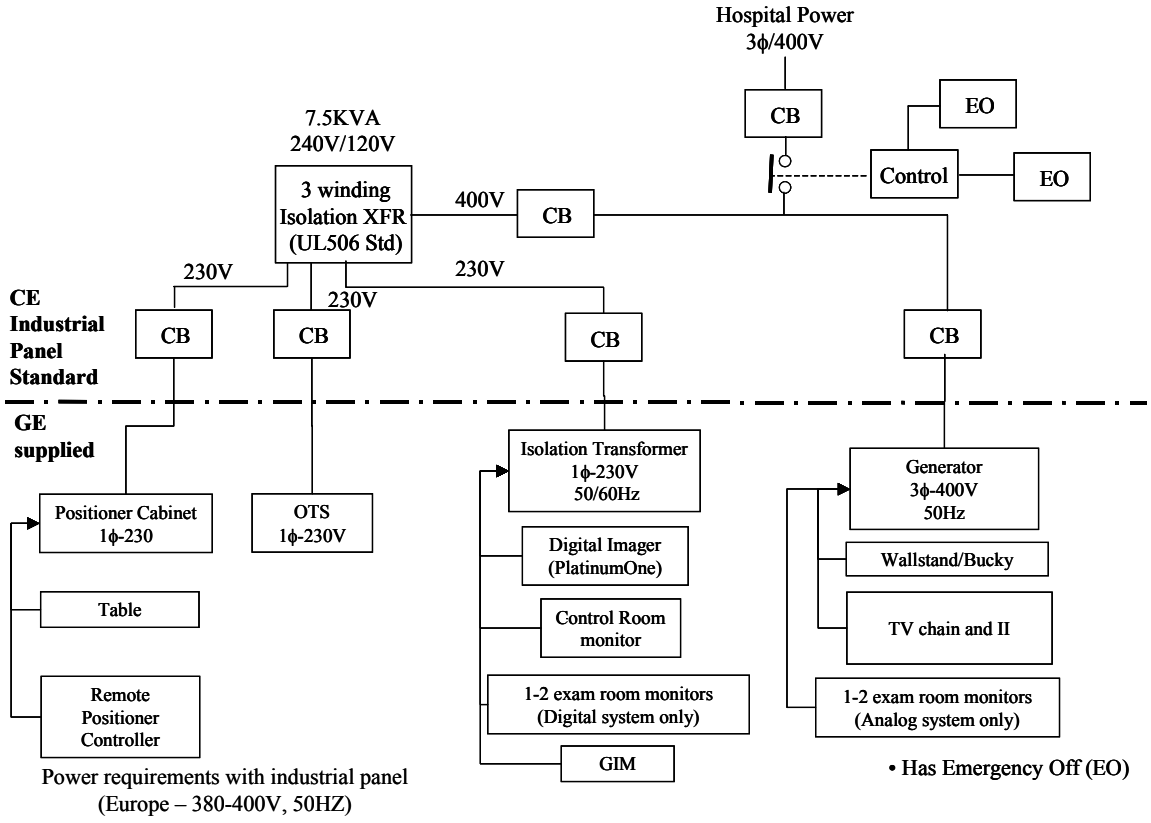


Power requirements without industrial panel
(Europe – 380-400V, 50HZ)

EO: Emergency Off

With GE Industrial Panel





6.1.5. Emergency Power

R&F rooms may be used as critical care areas. Primary power to the patient table auxiliary outlets should be distributed from the customer's emergency power branch. The auxiliary outlets may have life-support devices plugged in that must remain on during a power failure in the main branch. This will require a separate, independent circuit breaker so service personnel can remove all power from the table during installation and servicing without removing power from the room outlets. Always check local codes for emergency power requirements.

6.2. 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: For specific Precision RXi system interconnect maps and connection details please refer to the following Service Manual:
•Direction 5121726-100, *Precision RXi System Service Manual*

6.3. Hospital Network Connections

All Precision RXi Digital systems are equipped with Broadband fast Ethernet hardware and modem for Service Diagnostics. R&F systems equipped with Digital Imaging are capable of placing electronic images on the Hospital image Ethernet Network.

The Digital PC (part of the Digital subsystem) is the connectivity point between the system and the hospital.

For a Broadband connection, it is the purchaser's responsibility to provide the connection to the Precision RXi system at the Ethernet port on the Digital PC via a Cat 5 Ethernet cable and the hospital Ethernet connection.

For a modem connection, it is the purchaser's responsibility to provide a dedicated phone line and phone cable.

Note: System hardware is rated at 100Mbs transfer rate. Hospital connections must be rated for 100Mbs for optimal performance.

6.3.1. Remote services broadband pre installation requirements for Europe

To enable an easier installation and to benefit from remote support (service and engineering teams), equipments 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.

GEMS offers a wide range of connectivity solutions: From full GE package (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.**

Connectivity Process and pre-installations checklists are available in the **Broadband Connectivity PIM.**

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.

7. Laying Out the Room

7.1. Considerations

7.1.1. Radiation Protection

Because X-ray equipment produces radiation, you may need to take special precautions or make special site modifications. GE Medical Systems 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. Remember to locate the User Interface per local codes and regulations. The IUI must not be located anywhere there's a possibility of exposing the operator to radiation during use. This includes operation of the system using the handswitch. The handswitch is on the right side of the unit, and cannot be relocated to the left side.

7.1.2. Service Access

Allow appropriate space for service access of equipment. Consult component pre-installation directions for clearance information.

7.1.3. Clinical Access

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

- Provide easy access to the patient table. Stretchers and other mobile hospital equipment must reach the table quickly.
- Clinicians at the patient table must be able to communicate with assistants in the control area monitoring equipment from the R&F table.
- Operators in the control area must have easy access to the control console. However, position the controls (including hand switches) so the operator cannot take exposures while looking around or standing outside the control booth's lead glass window.
- Operators in the control area must have easy access to video recorders and injector programmers, film and video storage cabinets, and service and operating manuals.
- Consult customer on the number and location of non-electrical lines (air, oxygen, vacuum, water, etc.) in the R&F room.

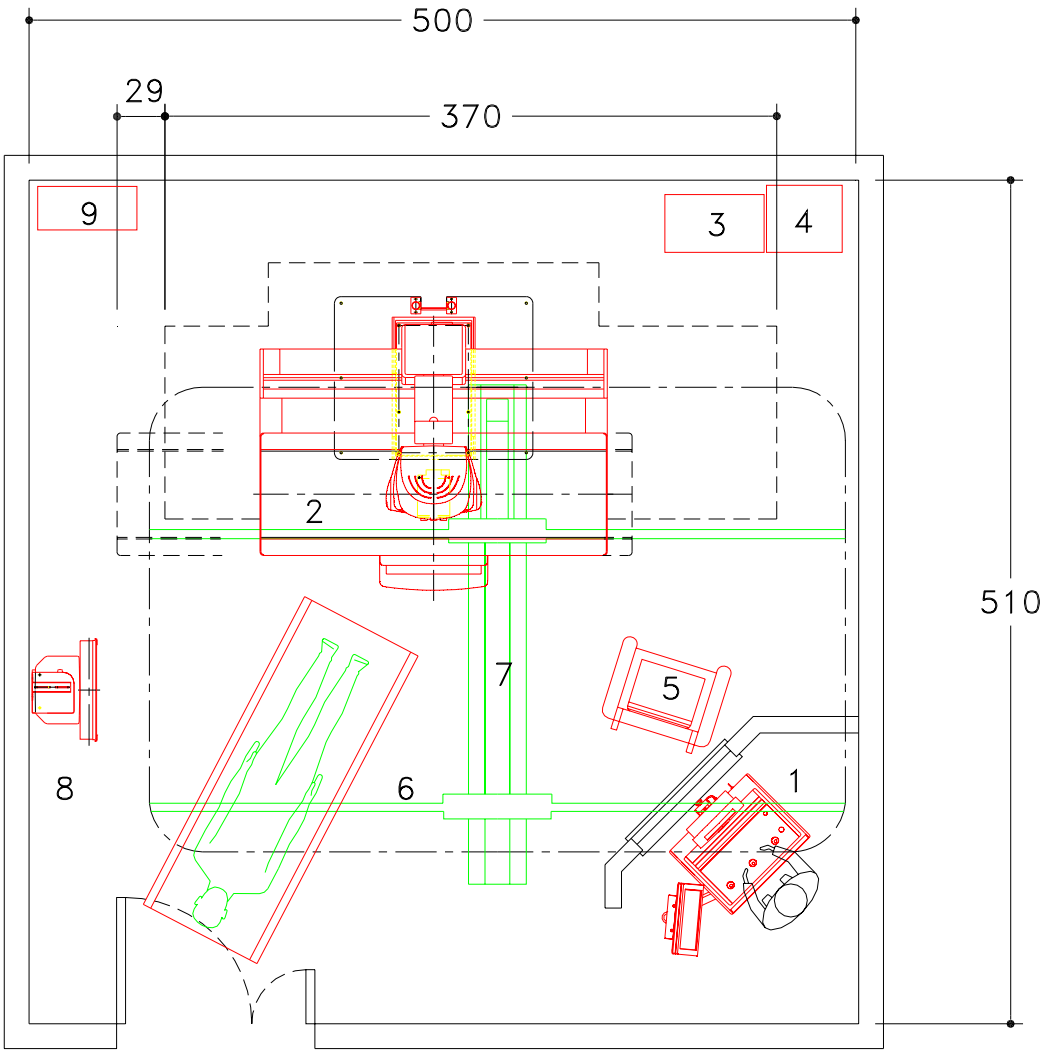
7.1.4. Peripheral Equipment

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

- storage cabinets
- sinks
- oxygen stations
- IV apparatus

7.2. Typical Room Layout

The following example is referred to a room with small dimensions.

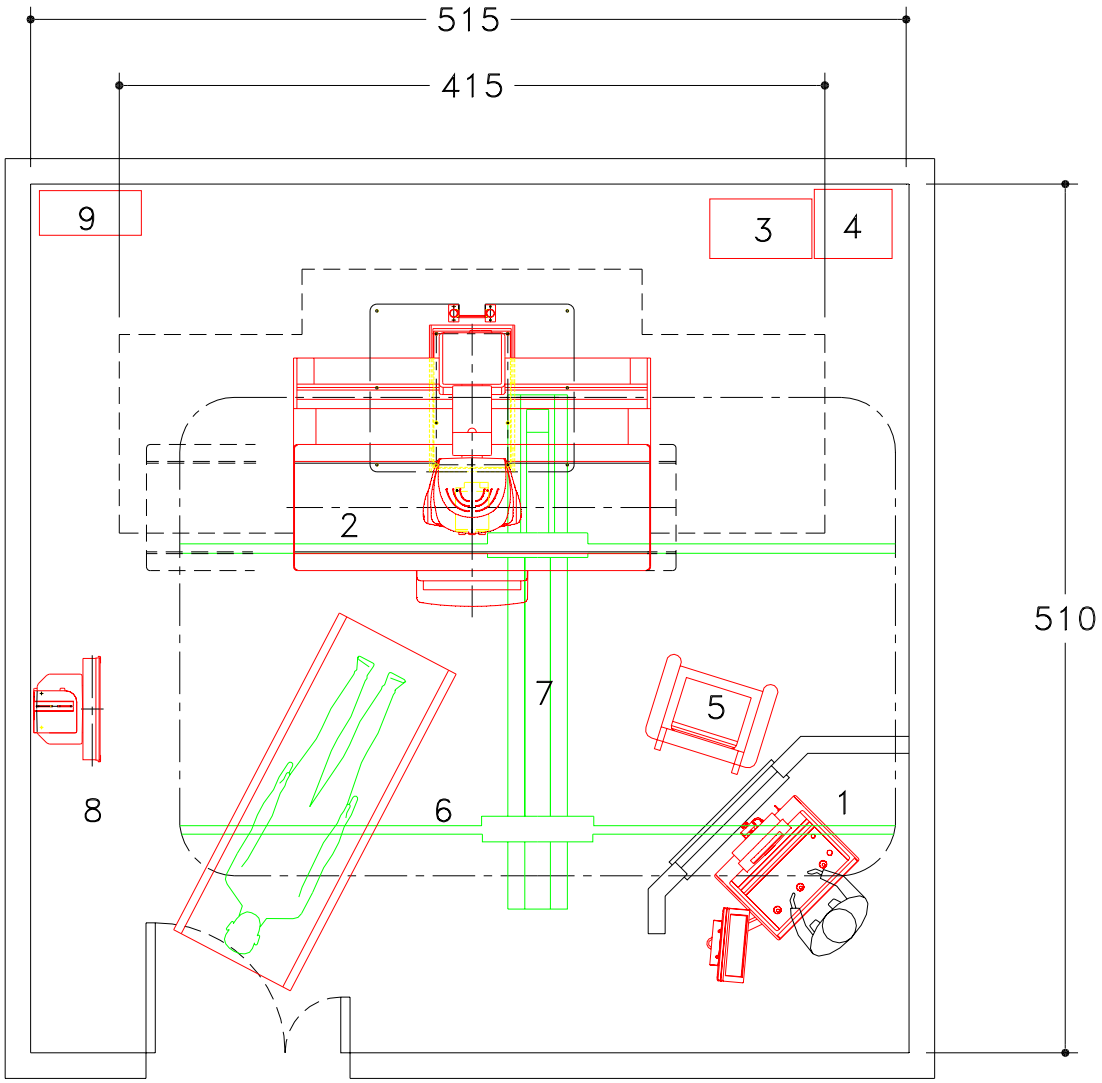


room dimensions (in cm)

This dimension is referred to the non elevating table version.

1 Integrated Console
2 Table
3 Positioner Cabinet
4 Generator
5 Monitor Cart
6 Suspension Rails
7 Suspension Bridge
8 Wallstand
9 Power Distribution Unit

The following example is referred to a room with small dimensions.



room dimensions (in cm)

This dimension is referred to the elevating table version.

1 Integrated Console
2 Table
3 Positioner Cabinet
4 Generator
5 Monitor Cart
6 Suspension Rails
7 Suspension Bridge
8 Wallstand
9 Power Distribution Unit

8. System Facility Power and Grounds

8.1. Introduction

The purpose of this section 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 Medical Systems.
This section 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 result of non-conformity, as stated in this section may result in additional cost charged back to the institution and/or their contractor.

8.2. Electrical Power and Disconnects

Note: in P.R.C. China, all power and ground cables attached to the primary supply source must be CCC certified.

8.3. 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 given within the parameters. Sizing for feeder is usually calculated for a maximum of 2% voltage drop at the minimum voltage range. The actual feeder size 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 feeding a system, ensure 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)

$$\mathrm{Re}\,gulation = \frac{NoLoadVoltage - FullLoadVoltage}{FullLoadVoltage} \times 100$$

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 is performed.

8.3.1. Optional System Main Disconnect

An optional system main disconnect has been designed specifically for the Precision RXi system and may be purchased by the customer. E4502KP is available for 480V input and E4502KR is available for 400V input.

8.4. Electrical Requirements

8.4.1. Generator Electrical Requirements

Note: Shunt trip circuit breaker required.
The main circuit breaker supplied by the customer must be sized in accordance with local regulations and have remote (shunt) trip.

8.4.1.1. System Power Specifications

VOLTAGE AND FREQUENCY REQUIREMENTS – US Systems

Precision RXi COMPONENT	**VOLTAGE**			**FREQUENCY**			**POWER FACTOR**	**INPUT IMPEDANCE**	**% REG**
	NOM	MIN	MAX	NOM.	MIN	MAX			
Generator	480 VAC, 3 phase	-10%	+10%	60 Hz	N/A	N/A	N/A	0.19 Ohm (65KW) 0.15 Ohm (80KW)	x % 2A
Positioner	230 VAC, single phase	-10%	+10%	50/60 Hz	N/A	N/A	N/A	N/A	N/A
Digital Transformer	230 VAC, single phase	-10%	+10%	50/60 Hz	49.5 Hz	60.5 Hz	N/A	N/A	N/A
OTS	230VAC, single phase	-10%	+10%	50/60 Hz	N/A	N/A	N/A	N/A	N/A

VOLTAGE AND FREQUENCY REQUIREMENTS – European Systems

Precision RXi COMPONENT	**VOLTAGE**			**FREQUENCY**			**POWER FACTOR**	**INPUT IMPEDANCE**	**% REG**
	NOM	MIN	MAX	NOM.	MIN	MAX			
Generator	400 VAC, 3- phase	-10%	+10%	50 Hz	N/A	N/A	N/A	0.13 Ohm (65KW) 0.11 Ohm (80KW)	
Positioner	230 VAC, single phase	-10%	+10%	50 Hz	N/A	N/A	N/A	N/A	N/A
Digital Transformer	230 VAC, single phase	-10%	+10%	50 Hz	49.5 Hz	50.5Hz	N/A	N/A	N/A
OTS	230VAC, single phase	-10%	+10%	50/60 Hz	N/A	N/A	N/A	N/A	N/A

CURRENT REQUIREMENT – US System

Precision RXi COMPONENT	**CURRENT**	
	MOMENTARY	**CONTINUOUS**
Generator – 65kW	105A	5A(standby current)
Generator – 80kW	130A	5A(standby current)
Positioner	N/A	17.4A
Digital Transformer	N/A	4.4 A
OTS	N/A	1.3A

CURRENT REQUIREMENT – European System

Precision RXi COMPONENT	**CURRENT**	
	MOMENTARY	**CONTINUOUS**
Generator – 65kW	125A	5A(standby current)
Generator – 80kW	155A	5A(standby current)
Positioner	N/A	17.4 A
Digital Transformer	N/A	4.4 A

65 kW GENERATOR POWER DEMAND – US Systems

Continuous power demand	2.4 kVA at 480V, 50/60 Hz
Minimum recommended distribution transformer rating	85 kVA at 480V, 50/60 Hz
Maximum momentary mA	800mA at 480V, 50/60 Hz
Maximum momentary kVp	120kVp at 480V, 50/60 Hz

65 kW GENERATOR POWER DEMAND – European Systems

Continuous power demand	2.0 kVA at 400V, 50/60 Hz
Minimum recommended distribution transformer rating	85 kVA at 400V, 50/60 Hz
Maximum momentary mA	800mA at 400V, 50/60 Hz
Maximum momentary kVp	120kVp at 400V, 50/60 Hz

80 kW GENERATOR POWER DEMAND – US Systems

Continuous power demand	2.4 kVA at 480V, 50/60 Hz
Minimum recommended distribution transformer rating	105 kVA at 480V, 50/60 Hz
Maximum momentary mA	1000mA at 480V, 50/60 Hz
Maximum momentary kVp	120kVp at 480V, 50/60 Hz

80 kW GENERATOR POWER DEMAND – European Systems

Continuous power demand	2.0 kVA at 400V, 50/60 Hz
Minimum recommended distribution transformer rating	105 kVA at 400V, 50/60 Hz
Maximum momentary mA	1000mA at 400V, 50/60 Hz
Maximum momentary kVp	120kVp at 400V, 50/60 Hz

8.5. Electrical Grounds

8.5.1. 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" if a "Wye" transformer is used, or typical grounding points of a separately derived system. 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 splice using "High Compression Fittings" but must be properly terminated at each distribution panel it passes through. When it's 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 he panel, frames or other materials in a cabinet or distribution panel.

8.5.2. Recommended Ground Wire Sizes

The ground wire must be copper and never smaller than 1/0 AWG.
The ground wire impedance from the system disconnect (including the ground rod) measured to earth, must not exceed 2 ohms (as measured by one of the applicable techniques described in Section 4 of ANSI/IEEE Standard 142-1982).

8.5.3. Grounding the Invasive Procedure Room

Invasive procedure room shall have all exposed metal parts that are likely to become energized, grounded to an approved grounding bus located near the patient ground point (room ground point). Parts that are likely to become energized include such things as high intensity lights or injectors, but would not include doorframes or monitor booms. All room outlets and emergency power sources in the room shall have isolated ground receptacles with the primary grounding coming from the power source and a secondary ground bonded to the room ground point. For the receptacle or the electrical box which powers the injector power module there must be one ground wire back to the room ground point even if the power module is in a separate room. The ground wire between the room ground point and the patient ground point shall be copper wire of AWG #2 and not more than 10 feet long.
Where a ground fault circuit is used for room outlets, the ground wire to the room ground point shall be connected on the primary ground of the ground fault detector to prevent tripping the detector. All ground wire impedances shall be less than 0.1 ohms, when measured to the room ground point.

8.5.4. Grounding Critical Care Areas

Typically, R&F rooms are used as a critical care area and require a special grounding system for patient safety. An equipotential grounding system is recommended for meeting patient safety requirements.

For some general system grounding requirements and information on establishing an equi-potential grounding system, refer to:
Direction 46-104505, Electrical Safety – Equipment Grounding
Direction 46-014546, Electrical Safety – Leakage Currents

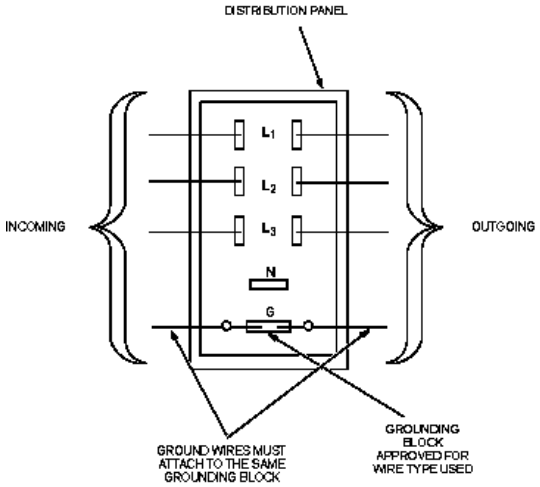
8.5.5. Final Checks, Before System Installation Can Begin

The customer must provide GE Medical Systems or its representative (Project Manager Installations) evidence that grounds and electrical power meet GE Medical Systems' specifications.
Prior to product installation, a local service or Project Manager Installations, to be determined by GEMS, will do a physical walk-through of the exam suite to ensure the following.

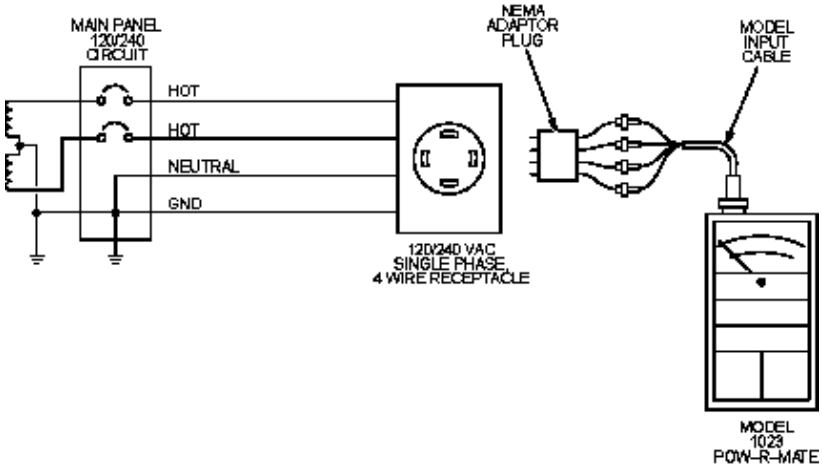
- Ground wires are of the same size as the power feeder or AWG 1/0, whichever is larger.
- Grounds at junction points are connected properly and securely to an approved ground bus
- Grounds within an enclosure are tied together by copper wire or to an appropriate buss bar (i.e., separate buss bars within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

You may use the following form to record the results of that inspection.

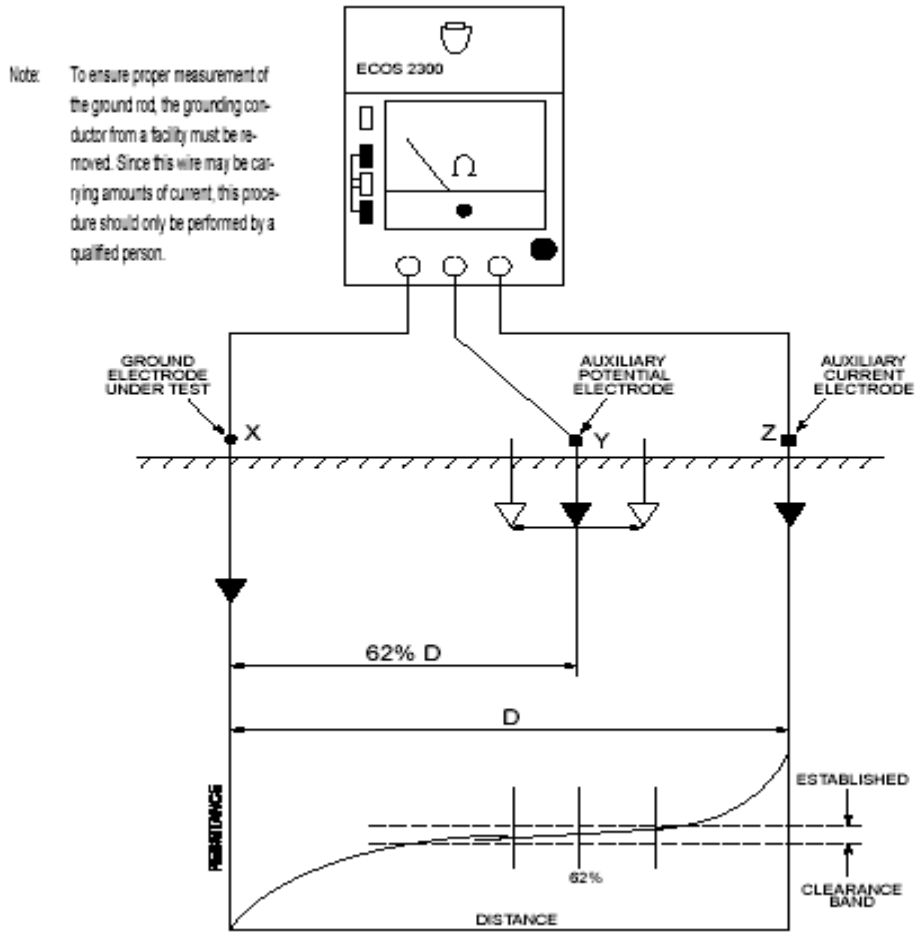
GROUND IMPEDANCE MEASURED TO BE _____ OHMS
Inspector's Name and Date: _____
Customer's Name and Date: _____



Ground Connection at Distribution Panel



Wire Impedance Test

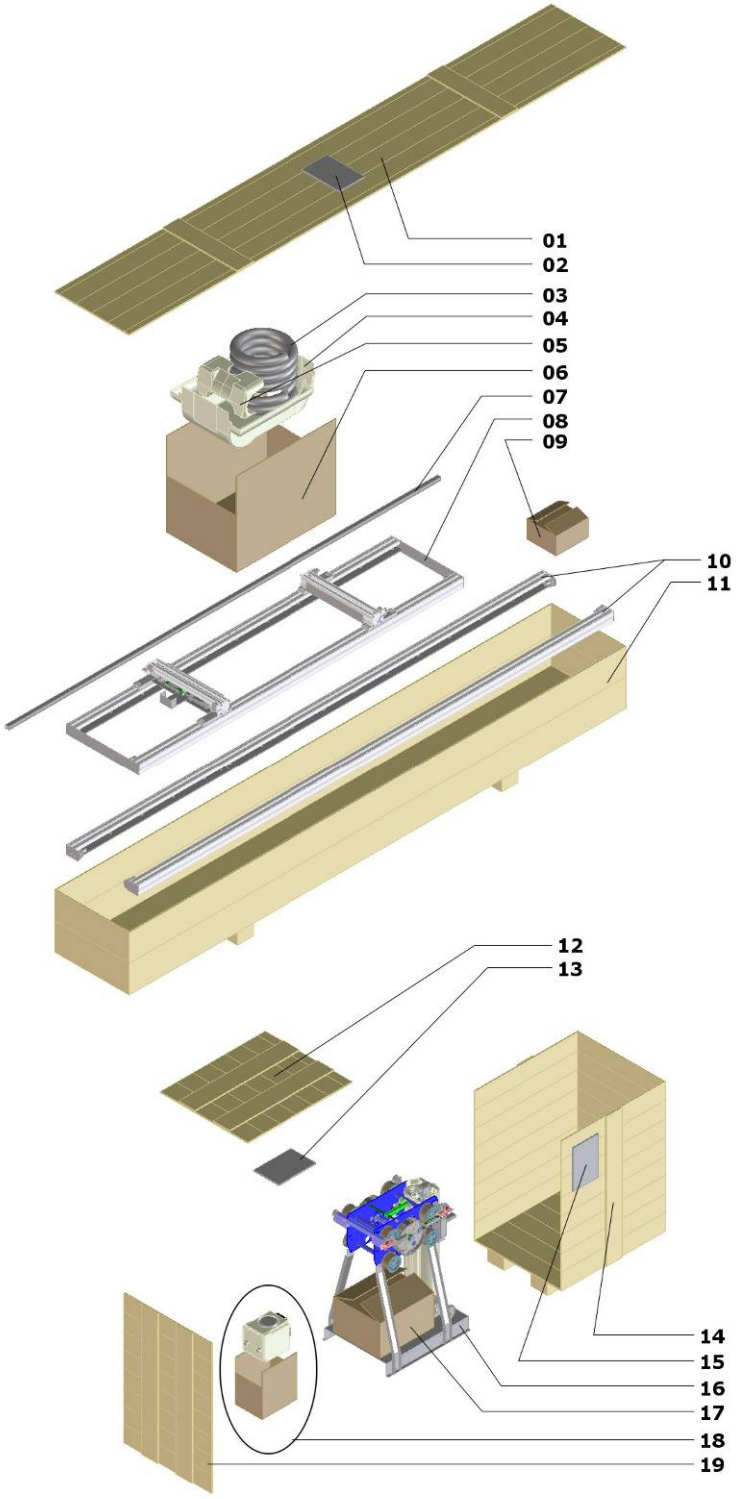


Ground Rod Impedance Test

9. Planning Aids

9.1. Packaging Information

9.1.1. Overhead Tube Suspension



Box #1
Dimensions: 460x95x55 cm
181x37x21 inch

Item #	Description
1	Case no. 1 cover
2	Packing list
3	Hose from the carriage to the rack l=6900 Hose from the x-ray tube to the carriage l=3100
4	Carriage cover (2 halves)
5	X-ray tube cover
6	Cover and cables box
7	Cable rail
8	Transversal bridge
9	Rail screws
10	Longitudinal Rails
11	Case n.1

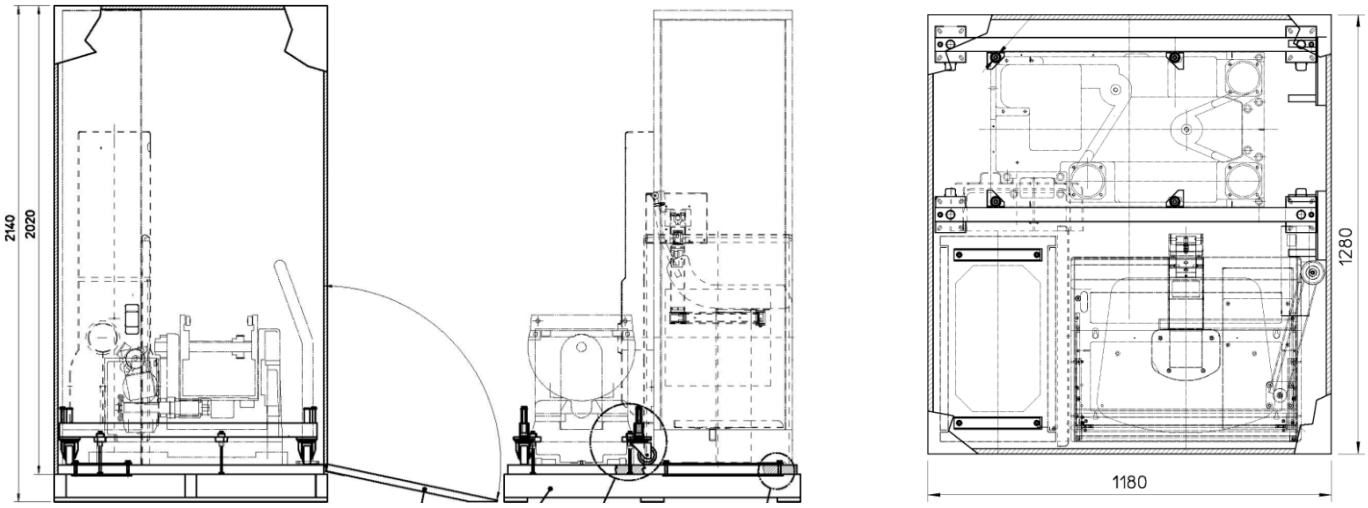
Box #2
Dimensions: 100x75x140 cm
39x29x55 inch

Pos.	Description
12	Case no. 2 cover
13	Manuals and documents
14	Case no. 2
15	Case no. 2 packing list
16	Stand on the pallet
17	Accessories box
18	Collimator (option)
19	case no. 2 lateral wall

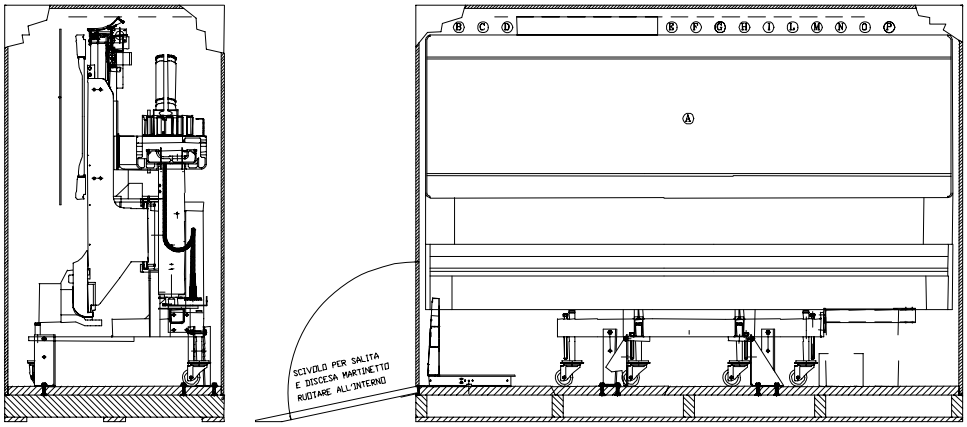
9.1.2. Table

Box	L x W x H	Gross weight	Contents:
#1 (elevating table)	1180x1280x2240 mm 47x51x88 inch	kg 770 ± 10%	Table cabinet, tilting group, control console, covers
#1 (non-elevating table)	1180x1280x2240 mm 47x51x88 inch	kg 555 ± 10%	Table cabinet, tilting group, control console, covers
#2	2340x1000x1900 mm 98x39x75 inch	kg 750 ± 5%	Table on dolly
#3 (non-elevating table)	1060x1060x170 mm 42x42x67x7 inch	kg. 136 ± 5kg	Base plate
#3 (elevating table with bolt down base plate)	1090x1305x230 mm 43x51x9 inch	kg. 137 ± 5kg	Base plate

Table cabinet, tilting group, control console and covers are expressed with their approximate gross weights. As matter of fact, equipments gross weight depending also from the optional accessories inside the packing box.
Warning! In order to find out equipments effective weights make reference to the shipment packing list.



Item 1



Item 2

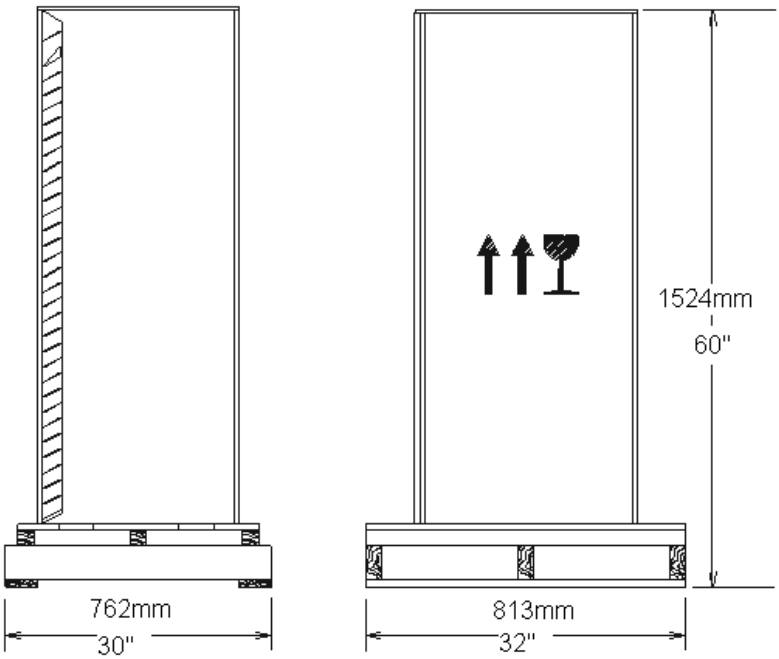
Item 1 disassembly details:

- Power cabinet removed from main palette by removing retaining bolts in base.
- Control panel removed by hand, no fixation present.
- Covers removed by hand, no fixation present.
- Tilting group packaged on dolly - remove from main palette by removing retaining bolts, extending ramp and rolling off palette.

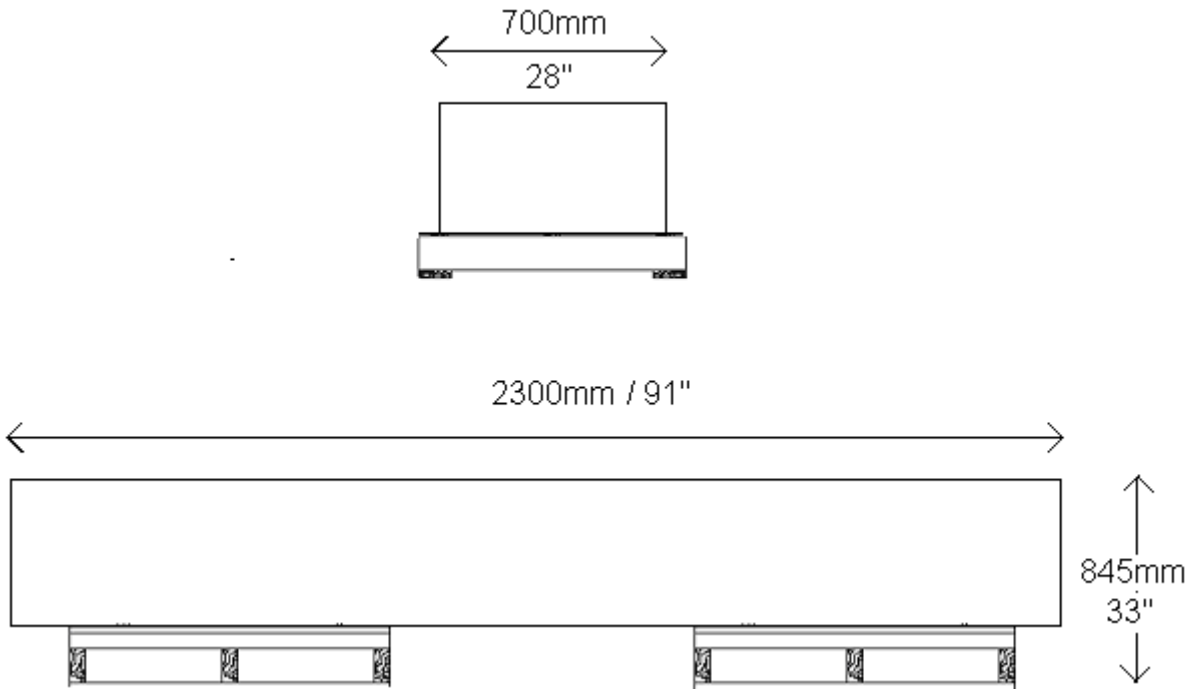
Item 2 disassembly details:

- Table packaged on dolly – remove from main palette by removing retaining bolts, extending ramp and rolling off palette.

9.1.3. Generator



9.1.4. Wallstand



9.2. Materials and Tools

9.2.1. Tools and Materials Needed But Not Shipped With The Product

The following tools and material are needed to install the product:

- Assorted hardware for termination of electrical connections (solder-less ring lug terminals and butt splices, AWG 2-18)
- Tie wraps, electrical tape and wire markers
- Tags for labeling incomplete work in accordance to OSHA and regulatory requirements
- Tag and lockout equipment
- Assorted sockets (SAE and metric), drives, wrenches and torque wrench (Nm and ft-lbs)
- Assorted sizes of tongue and grove pliers, hammers, hex wrenches (metric and SEA), screw drivers and metal files
- Assorted sizes of wire cutters and strippers, ratchet and standard crimpers (AWG 0 and upwards), and a 75 watt soldering iron
- Heat and electrical tape
- Chalk line, plumb bob and assorted alignment tools (including squares, torpedo and 6-foot levels)
- Mover's dollies, ladders, shop vacuum and push broom

9.2.2. Materials Provided with Product

The following items are provided with the product*:*

• Transformer oil and high voltage insulating grease
• Touch-up paint

9.3. Preparing the Delivery Route

1.) Step One – Sketch out the Route
Begin preparing Route Survey by sketching the area of the hospital or clinic that will receive the equipment. Include all areas on the delivery route from outside of building to destination. See sample sketch below.

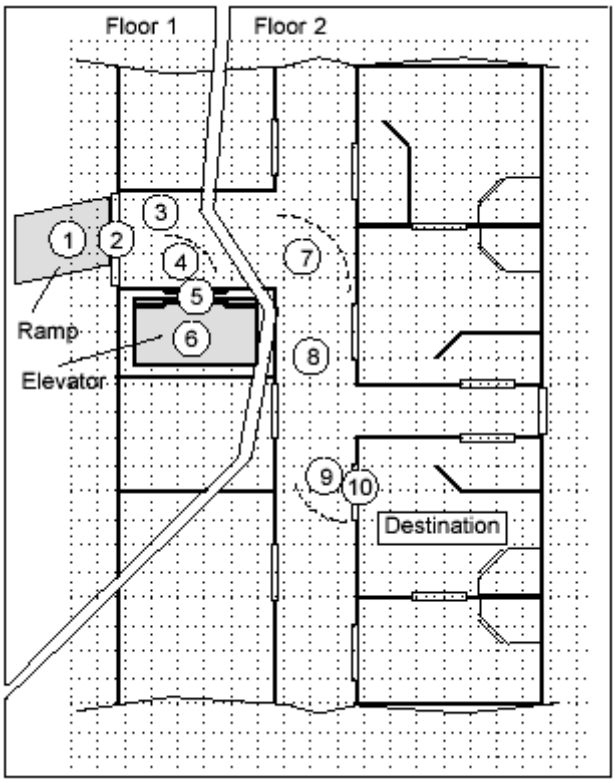
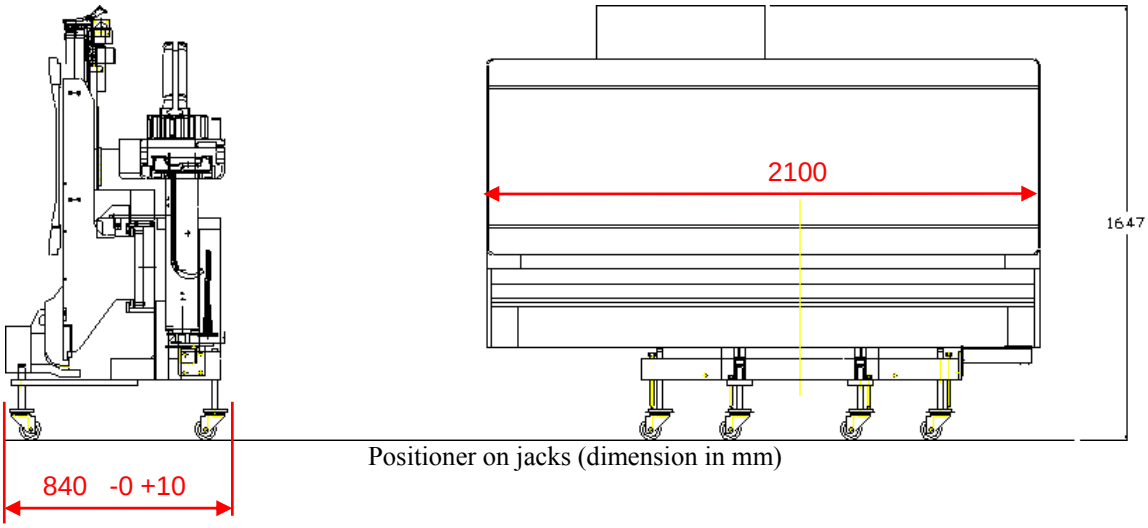


Figure 7-2 Sample Route

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.

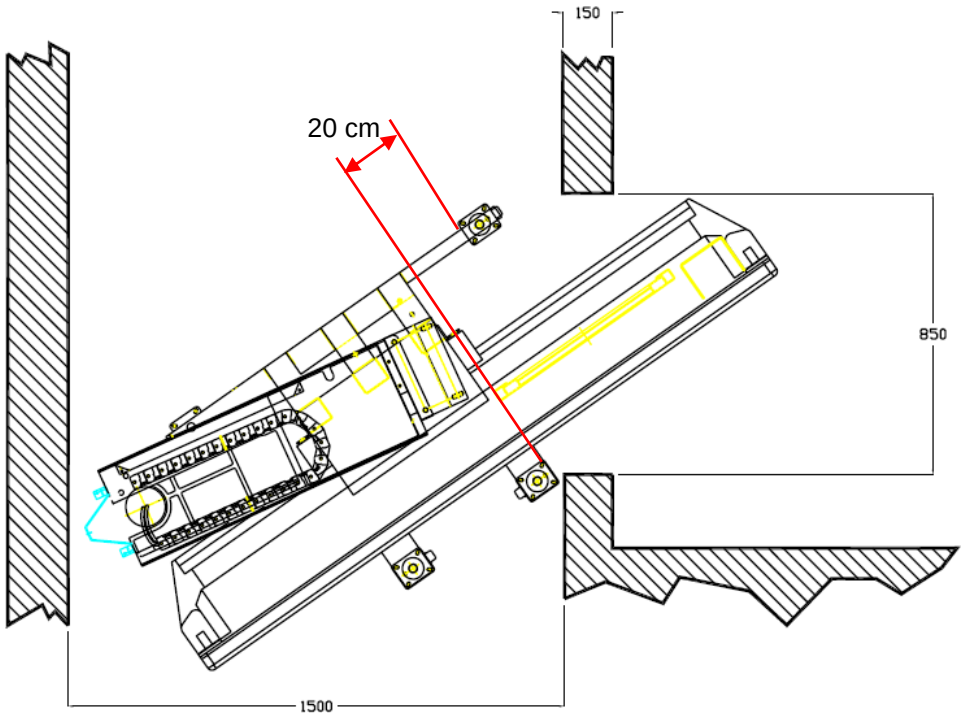
9.3.1. Table Delivery Route Specifics

Below is shown the path required to pass the table through an 80cm/32inch doorway.



Positioner on jacks (dimension in mm)

Getting the table package in its lowest position by using the threated rods. We can reduce the height to approx. **1,54 m.** But if the wheels are in lowest position we cannot rotate the wheels, means we cannot change the direction.
By removing the Wheels we can again reduce by 10 cm: so height will be **1,45 m**.

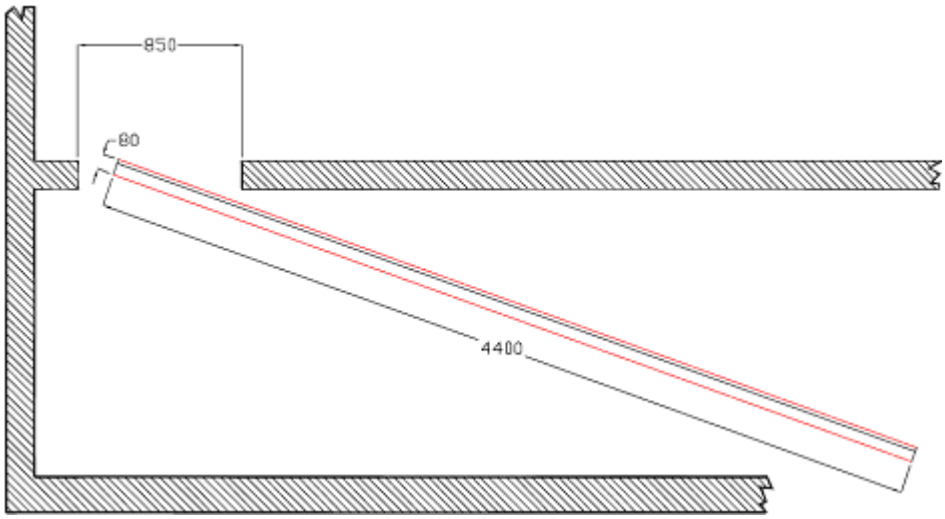


minimum corridor and door recommended dimensions (mm)

With a 200 cm corridor and with a 15 cm maximum wall thickness, a 80 cm minimum door can be crossed.

9.3.2. Rail Delivery Route Specifics

The rails are 440cm/173inch long, and therefore door and hallway layout is critical. See example below for considerations that must be taken.



Pre-Installation Checklist/Worksheet

Print Form

Delivery Date: _____ Sales Person: _____

Customer: _____ FDO No.: _____ Room # _____

Equipment: _____

Physical Requirements of Site	Completed
1.) Room size adequate for intended equipment configuration?	☐
2.) Floor and ceiling is strong enough for intended equipment and mounting methods approved – seismic regulatory codes considered?	☐
3.) Delivery route accommodates all intended equipment?	☐
4.) Radiation physicist consulted?	☐
5.) Necessary alterations made to circumvent obstructions?	☐
6.) Modifications to room finished?	☐
7.) Supports, platforms, suspensions, ceiling materials been provided?	☐
8.) Support structures installed for floor, ceiling, and wall mounted equipment?	☐
9.) Ceiling supports leveled?	☐
10.) Has floor been modified for cable ducts?	☐
11.) If drop-in ceiling is not used, is access panel provided (3 x 2 ft. minimum)?	☐
12.) Electrical service in place – at the ratings specified in pre-installation documentation?	☐
13.) Power available to operate power tools?	☐
14.) All non-electrical lines (air, water, oxygen, vacuum) installed?	☐

Interconnections	Completed
1.) Signal cable, power and grounding plans produced?	☐
2.) Necessary interconnection hardware, such as junction boxes, conduit or raceways, and fittings provided?	☐
3.) Interconnection hardware installed?	☐
4.) Flexible, stranded wire provided for System input power connection?	☐
5.) System "feeder" power cables pulled and sufficient length available at disconnect box for connections?	☐
6.) Interconnecting cables continuity checked, and labeled?	☐

Interconnections	Completed
7.) All high voltage cable lengths verified?	☐
8.) Interface information available for equipment?	☐

General	Completed
1.) Ceiling, walls, and floor clear of all obstructions?	☐
2.) Walls finished?	☐
3.) Finished floor installed?	☐
4.) Room lights installed?	☐
5.) Dust-creating work completed?	☐
6.) Old equipment within room removed?	☐
7.) Component positions clearly marked on floor?	☐
8.) Space available to store equipment?	☐
9.) Lock on door, or locked room available?	☐
10.) Room IP Addresses for DICOM and Broadband identified?	☐
11.) Dedicated inbound "dialup" phone line provided for InSite connection?	☐
12.) Optional media converter power supplies obtained (for UK or continental Europe)? *Media Converter - The power adaptor currently supplied with the Allied Telesyn media converter (AT-FS202) is rated for 120VAC operation only. For UK and continental European sites requiring 240 VAC input, the adaptor must be customer supplied. Contact Allied Telesyn ((see contact information supplied in Allied Telesyn installation guide, or find equivalent 240VAC to 12VDC/0.5A adapter.*	☐

Comments: _____

_____

_____

_____

_____

Inspection Date(s): _____

10. System Cable Information

The following table contains all interconnect cables for the Precision RXi system.

rf: cable reference number in the connection diagrams
code: cable part number
cable description: cable description
m: usable cable length in meters
ft: usable cable length in feet
Source: the cable source connection
Destination: the cable destination connection
Mm: cable diameter in millimeters (not including connector)
Inch: cable diameter in inches (not including connector)

All the cables are UL with exercise temperature equal or superior to 80°C and nominal tension not inferior to 30V for the Video cables and not inferior to 300V for all the others cables.

Cable length summary

To/From	Usable Length
Pos Cab to In Room Monitor (power and video for analog, power only for digital)	15.5m (51 ft)
Console to In Room Monitor (video for digital)	18m (59 ft)
Gen Cab to Console	14.5 m (47.5 ft)
Pos Cab to Console	14.5 m (47.5 ft)
Table to Console (digital only)	22 m (72 ft)
Gen Cab to Power	10m (32.8 ft)
Pos Cab to Power	10m (32.8 ft)
Gen Cab to Pos Cab	4 m (13.1 ft)
Gen Cab to OTS Susp (3m bridge)	14.5 m (47.5 ft)
Pos Cab to OTS Susp (3m bridge)	17.5 m (57.4 ft)
OTS Susp to Power	20m (65.6 ft)
Table to Gen Cab	5m (16.4 ft)
Table to Pos Cab	7m (23 ft)
Wall Bucky to Pos Cab	17.5 m (57.4 ft)
Wall Bucky to Generator	17.5 m (57.4 ft)

Make reference to service manual direction “5142538-100 Precision RXi Drawings” (MIS chart and MIS Maps). The meaningful MIS Chart pages are attached to this manual.

Cables colour codes

COMPONENT	COLOUR
Generator cabinet	Red
Positioner cabinet	Yellow
Table	Black
Integrated User Interface (console)	Green
Wall Stand	n.a
Overhead Tube Suspension (OTS)	Blue
Monitor Suspension/cart	Green
Modem	Green
Network/Ethernet	Green
Power mains board - generator	Red
PDU – Positioner/Digital system	Yellow
Injector	Black

11. Seismic Calculations

11.1. 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 Project Manager Installations with any related questions.
Seismic calculations included in this chapter are per California Building Code.

11.2. Calculations

Calculations are included for the following:

- 9.2.1 Elevating Table
  - 9.2.1.1 Slab on Grade
  - 9.2.1.2 Upper Floor
- 9.2.2 Non-Elevating Table
  - 9.2.2.1 Slab on Grade
  - 9.2.2.2 Upper Floor
- 9.2.3 Generator Cabinet
  - 9.2.3.1 Slab on Grade
  - 9.2.3.2 Upper Floor
- 9.2.4 Integrated Console
  - 9.2.4.1 Slab on Grade
  - 9.2.4.2 Upper Floor
- 9.2.5 Table Cabinet
  - 9.2.5.1 Slab on Grade
  - 9.2.5.2 Upper Floor
- 9.2.6 Monitor Suspension
- 9.2.7 Non-tilting Wallstand
  - 9.2.7.1 Slab on Grade
  - 9.2.7.2 Upper Floor
- 9.2.8 Tilting Wallstand
  - 9.2.8.1 Slab on Grade
  - 9.2.8.2 Upper Floor
- 9.2.9 Overhead Tube Suspension

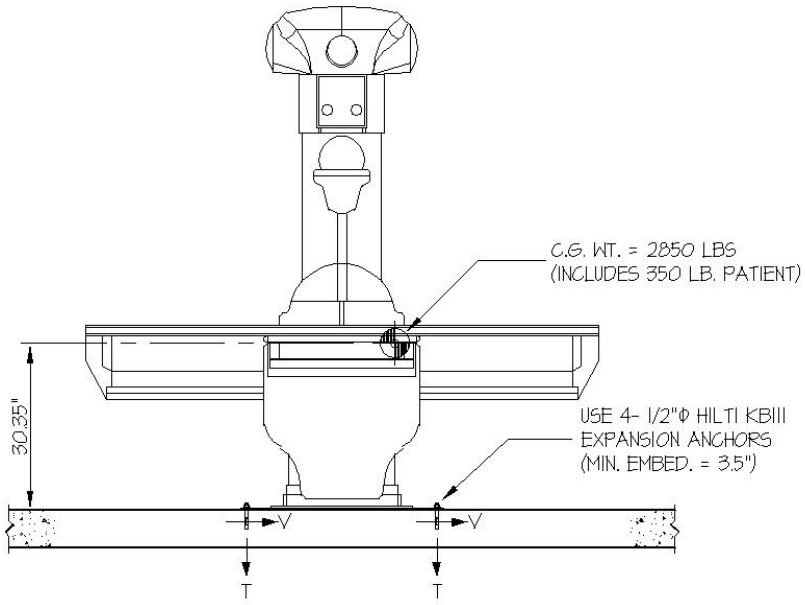
11.2.1. Elevating Table

11.2.1.1. Slab on Grade

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Elevating Table (RXi)	DATE 8/4/05	OF 2 SHEETS

SEISMIC ANCHORAGE CALCULATION — SLAB ON GRADE

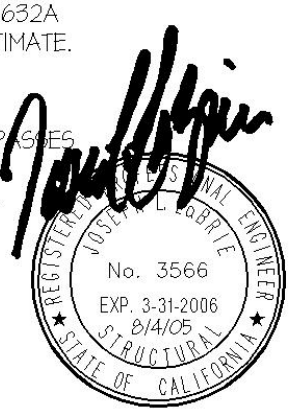


T_{MAX} = 930 LBS/BOLT
V_{MAX} = 562 LBS/BOLT

ELEVATION

NOTES:

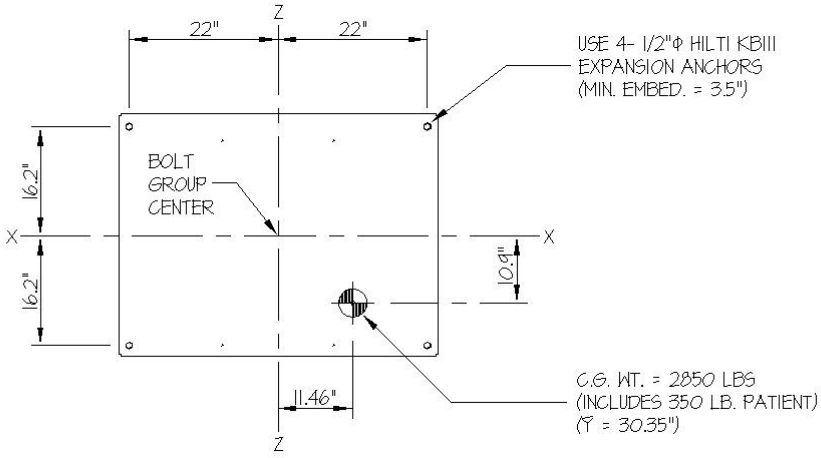
1. FORCES ARE DETERMINED PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A AND HAVE BEEN FACTORED TO REPRESENT WORKING DESIGN LOADS, NOT ULTIMATE.
   HORIZONTAL FORCE (V_H) = 0.50W (C_a = .66, a_p = 1.0, I_p = 1.5, R_p = 1.5)
   VERTICAL FORCE (V_V) = 0.33(V_H)
2. CENTER OF GRAVITY (C.G.) WEIGHT IS A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



EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 2
	JOB NO. 12-0510	
Precision RXi Elevating Table (RXi)	DATE 8/4/05	OF 2 SHEETS

SEISMIC ANCHORAGE CALCULATION

SLAB ON GRADE



PLAN AT BASE

LOADS:

WEIGHT = 2850 LBS (INCLUDES 350# PATIENT)
HORIZONTAL FORCE (V_H) = 1425 LBS
VERTICAL FORCE (V_V) = 475 LBS

MOMENTS: (FROM VERTICAL LOADS)

M_{XX} = (2850# - 475#)10.9" = 25,888"#
M_{ZZ} = (2850# - 475#)11.46" = 27,218"#

BOLT GROUP PROPERTIES:

I_{X-X} = 1050 in.^{4}
I_{Z-Z} = 1936 in.^{4}
I_{Y-Y} = 2986 in.^{4}

MOMENTS: (FROM LATERAL LOADS)

M_{XX} = 1425#(30.35") = 43,249"#
M_{ZZ} = 1425#(30.35") = 43,249"#
M_{YY} = 1425#(15.8") = 22,515"#

BOLT FORCES:

TENSION (T)

$$T = \left[\frac{43249"\#(16.2")}{1050}\right] + \left[\frac{43249"\#(22")}{1936} \times (0.3)\right] + \left[\frac{25888"\#(16.2")}{1050}\right] + \left[\frac{27218"\#(22")}{1936}\right] - \left[\frac{2850\# - 475\#}{4 \text{ BOLTS}}\right] = 930 \text{ LBS/BOLT (MAX)}$$

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

SHEAR (V)

$$V = \frac{1425\#}{4 \text{ BOLTS}} + \frac{22515"\# \sqrt{16.2^2 + 22^2}}{2986} = 562 \text{ LBS/BOLT (MAX)}$$

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

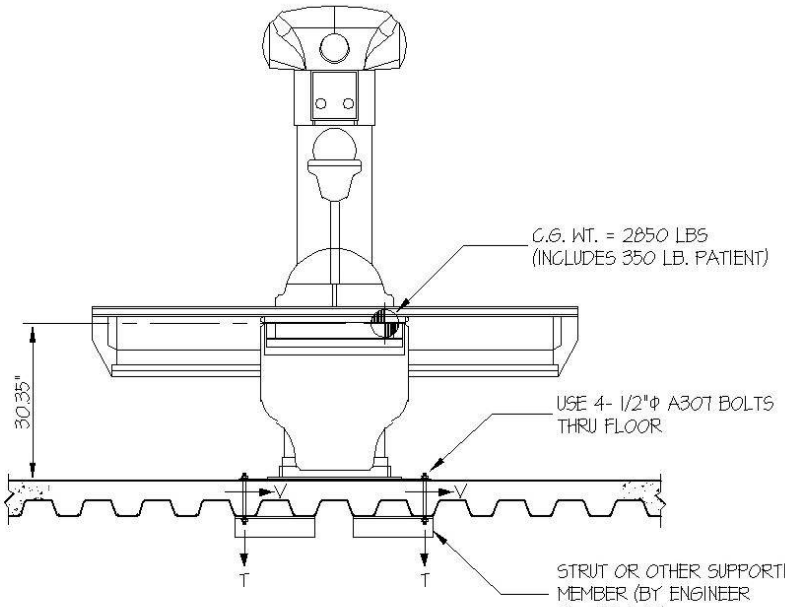
11.2.1.2. Upper Floor

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Elevating Table (RXi)	DATE 8/4/05	OF 2 SHEETS

SEISMIC ANCHORAGE CALCULATION

UPPER FLOOR



T_{MAX} = 1717 LBS/BOLT
V_{MAX} = 1057 LBS/BOLT

ELEVATION

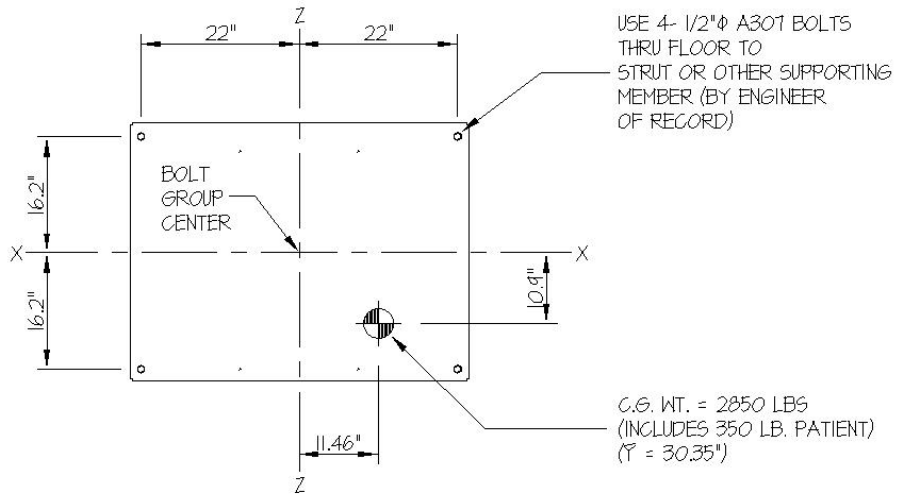
NOTES:

1. 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)
   VERTICAL FORCE (V_V) = 0.33(V_H)
2. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 2
	JOB NO. 12-0510	
Precision RXi Elevating Table (RXi)	DATE 8/4/05	OF 2 SHEETS

SEISMIC ANCHORAGE CALCULATION

UPPER FLOOR



PLAN AT BASE

LOADS:

WEIGHT = 2850 LBS (INCLUDES 350# PATIENT)
HORIZONTAL FORCE (V_H) = 2679 LBS
VERTICAL FORCE (V_V) = 893 LBS

BOLT GROUP PROPERTIES:

I_{X-X} = 1050 in.^{4}
I_{Z-Z} = 1936 in.^{4}
I_{Y-Y} = 2986 in.^{4}

MOMENTS: (FROM VERTICAL LOADS)

M_{XX} = (2850# - 893#)10.9" = 21,331"#
M_{ZZ} = (2850# - 893#)11.46" = 22,427"#

MOMENTS: (FROM LATERAL LOADS)

M_{XX} = 2679#(30.35") = 81,308"#
M_{ZZ} = 2679#(30.35") = 81,308"#
M_{YY} = 2679#(15.8") = 42,328"#

BOLT FORCES:

TENSION (T)

$$T = \left[\frac{81308"\#(16.2")}{1050}\right] + \left[\frac{81308"\#(22")}{1936} \times (0.3)\right] + \left[\frac{21331"\#(16.2")}{1050}\right] + \left[\frac{22427"\#(16.2")}{1050}\right] - \left[\frac{2850\# - 893\#}{4 \text{ BOLTS}}\right] = 1717 \text{ LBS/BOLT (MAX)}$$

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

SHEAR (V)

$$V = \frac{2679\#}{4 \text{ BOLTS}} + \frac{42328"\#\sqrt{16.2^2 + 22^2}}{2986} = 1057 \text{ LBS/BOLT (MAX)}$$

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

11.2.2. Non-Elevating Table

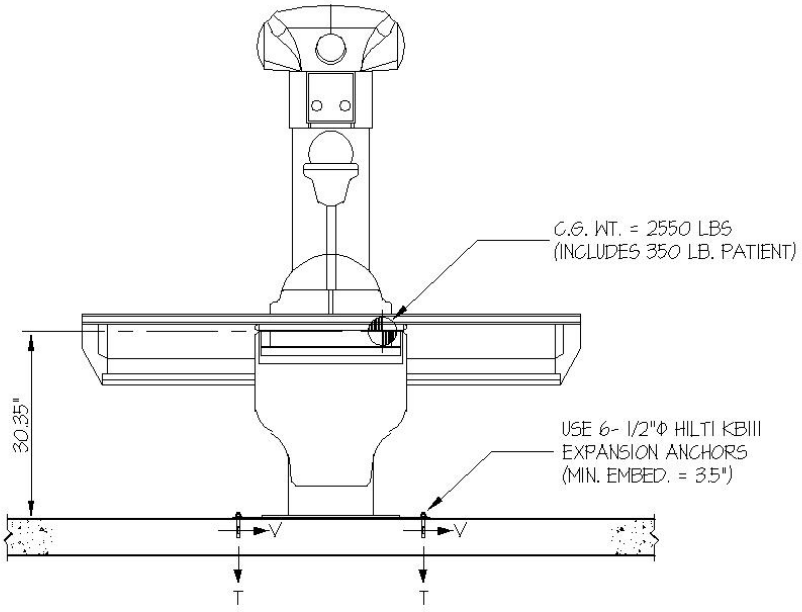
11.2.2.1. Slab on Grade

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Non-Elevating Table (RXi)	DATE 8/4/05	OF 2 SHEETS

SEISMIC ANCHORAGE CALCULATION

SLAB ON GRADE



T_{MAX} = 832 LBS/BOLT
V_{MAX} = 370 LBS/BOLT

ELEVATION

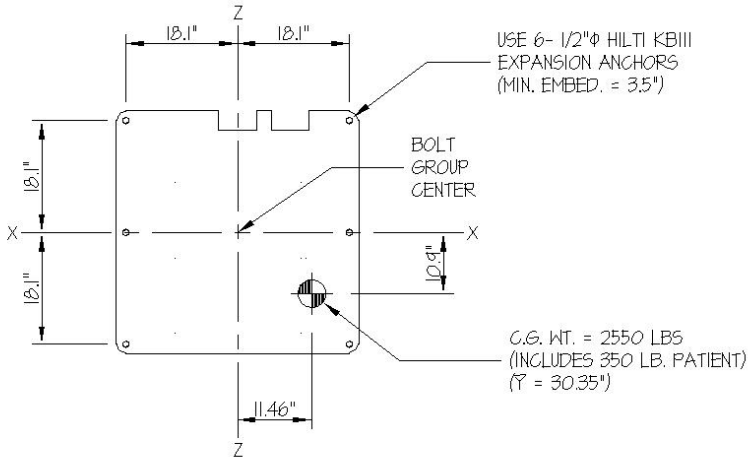
NOTES:

1. 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)
2. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 2
	JOB NO. 12-0510	
Precision RXi Non-Elevating Table (RXi)	DATE 8/4/05	OF 2 SHEETS

SEISMIC ANCHORAGE CALCULATION

SLAB ON GRADE



PLAN AT BASE

LOADS:

WEIGHT = 2550 LBS (INCLUDES 350# PATIENT)
HORIZONTAL FORCE (V_H) = 1275 LBS
VERTICAL FORCE (V_V) = 425 LBS

MOMENTS: (FROM VERTICAL LOADS)

M_{XX} = (2550# - 425#)10.9" = 23,163"#
M_{ZZ} = (2550# - 425#)11.46" = 24,353"#

BOLT GROUP PROPERTIES:

I_{X-X} = 1310 in.^{4}
I_{Z-Z} = 1966 in.^{4}
I_{Y-Y} = 3276 in.^{4}

MOMENTS: (FROM LATERAL LOADS)

M_{XX} = 1275#(30.35") = 38,696"#
M_{ZZ} = 1275#(30.35") = 38,696"#
M_{YY} = 1275#(15.8") = 20,145"#

BOLT FORCES:

TENSION (T)

$$T = \left[\frac{38696"\#(18.1")}{1310}\right] + \left[\frac{38696"\#(18.1")}{1966} \times (0.3)\right] + \left[\frac{23163"\#(18.1")}{1310}\right] + \left[\frac{24353"\#(18.1")}{1966}\right] - \left[\frac{2550\# - 425\#}{6 \text{ BOLTS}}\right] = 832 \text{ LBS/BOLT (MAX)}$$

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

SHEAR (V)

$$V = \frac{1275\#}{6 \text{ BOLTS}} + \frac{20145"\#\sqrt{18.1^2 + 18.1^2}}{3276} = 370 \text{ LBS/BOLT (MAX)}$$

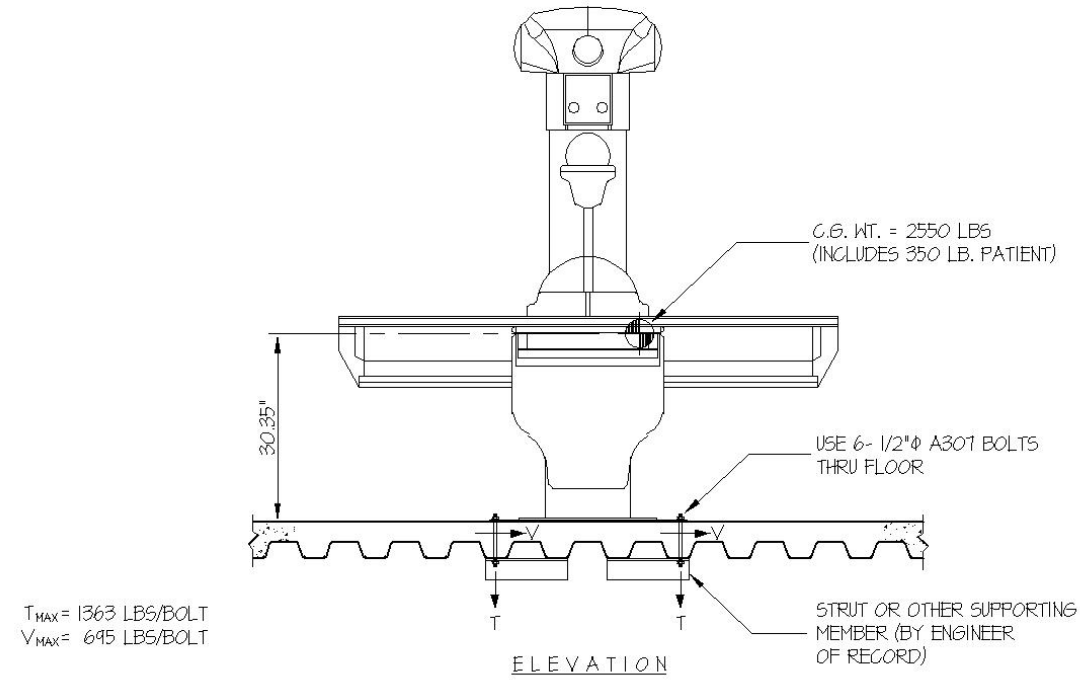
$\frac{P}{A}$ $\frac{M_{YY}(C)}{I}$

11.2.2.2. Upper Floor

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Non-Elevating Table (RXi)	DATE 8/4/05	OF 2 SHEETS

SEISMIC ANCHORAGE CALCULATION — UPPER FLOOR



T_{MAX} = 1363 LBS/BOLT
V_{MAX} = 695 LBS/BOLT

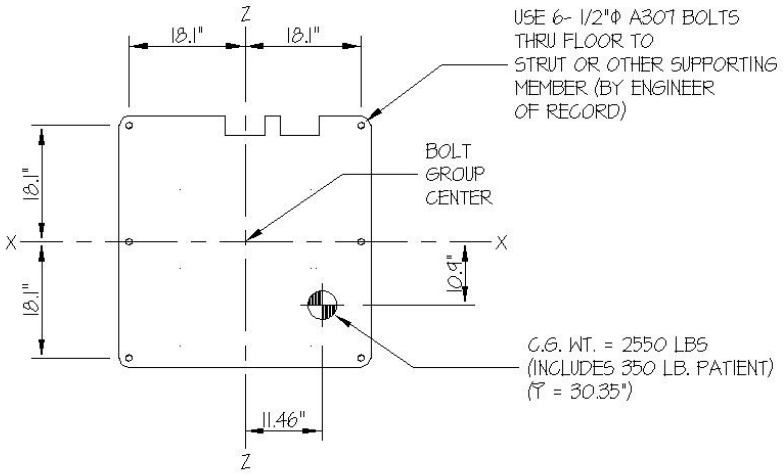
NOTES:

1. 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)
   VERTICAL FORCE (V_V) = 0.33(V_H)
2. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 2
	JOB NO. 12-0510	
Precision RXi Non-Elevating Table (RXi)	DATE 8/4/05	OF 2 SHEETS

SEISMIC ANCHORAGE CALCULATION

UPPER FLOOR



PLAN AT BASE

LOADS:

WEIGHT = 2550 LBS (INCLUDES 350# PATIENT)
HORIZONTAL FORCE (V_H) = 2397 LBS
VERTICAL FORCE (V_V) = 799 LBS

BOLT GROUP PROPERTIES:

$I_{X\text{-}X}$ = 1310 in.^{4}
$I_{Z\text{-}Z}$ = 1966 in.^{4}
$I_{Y\text{-}Y}$ = 3276 in.^{4}

MOMENTS: (FROM VERTICAL LOADS)

M_{XX} = (2550# - 799#)10.9" = 19,086"#
M_{ZZ} = (2550# - 799#)11.46" = 20,066"#

MOMENTS: (FROM LATERAL LOADS)

M_{XX} = 2397#(30.35") = 72,749"#
M_{ZZ} = 2397#(30.35") = 72,749"#
M_{YY} = 2397#(15.8") = 37,873"#

BOLT FORCES:

TENSION (T)

$$T = \left[\frac{72749"\#(18.1")}{1310}\right] + \left[\frac{72749"\#(18.1")}{1966} \times (0.3)\right] + \left[\frac{19086"\#(18.1")}{1310}\right] + \left[\frac{20066"\#(18.1")}{1966}\right] - \left[\frac{2550\# - 799\#}{6 \text{ BOLTS}}\right] = 1363 \text{ LBS/BOLT (MAX)}$$

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

SHEAR (V)

$$V = \frac{2397\#}{6 \text{ BOLTS}} + \frac{37873"\#\sqrt{18.1^2 + 18.1^2}}{3276} = 695 \text{ LBS/BOLT (MAX)}$$

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

11.2.3. Generator Cabinet

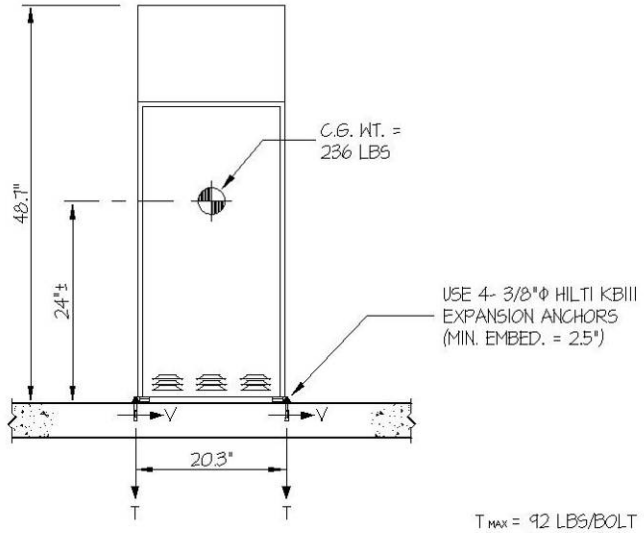
11.2.3.1. Slab on Grade

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Generator Cabinet (GEN)	DATE 7/22/05	OF 1 SHEET

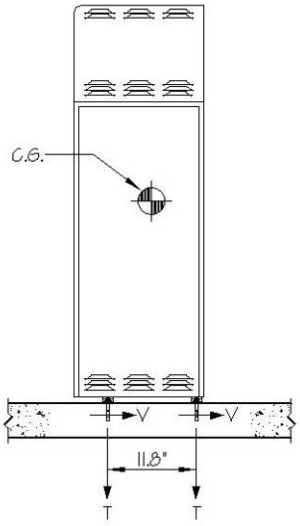
SEISMIC ANCHORAGE CALCULATION

SLAB ON GRADE



FRONT ELEVATION

T_{MAX} = 92 LBS/BOLT
V_{MAX} = 30 LBS/BOLT



SIDE ELEVATION

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)
WEIGHT = 236 LBS
HORIZONTAL FORCE (V_H) = 0.50W = 118 LBS
VERTICAL FORCE (V_V) = 0.33(V_H) = 39 LBS

BOLT FORCES:

TENSION (T)

$$T_{MAXIMUM} = \left[\frac{118\#(24")}{2\ \text{BOLTS}\ (20.3")} \times (0.3)\right] + \frac{118\#(24")}{2\ \text{BOLTS}\ (11.8")} - \frac{236\# - 39\#}{4\ \text{BOLTS}} = 92\ \text{LBS/BOLT (MAX)}$$

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

SHEAR (V)

$$V = \frac{118\#}{4\ \text{BOLTS}} = 30\ \text{LBS/BOLT (MAX)}$$

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

11.2.3.2. Upper Floor

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100

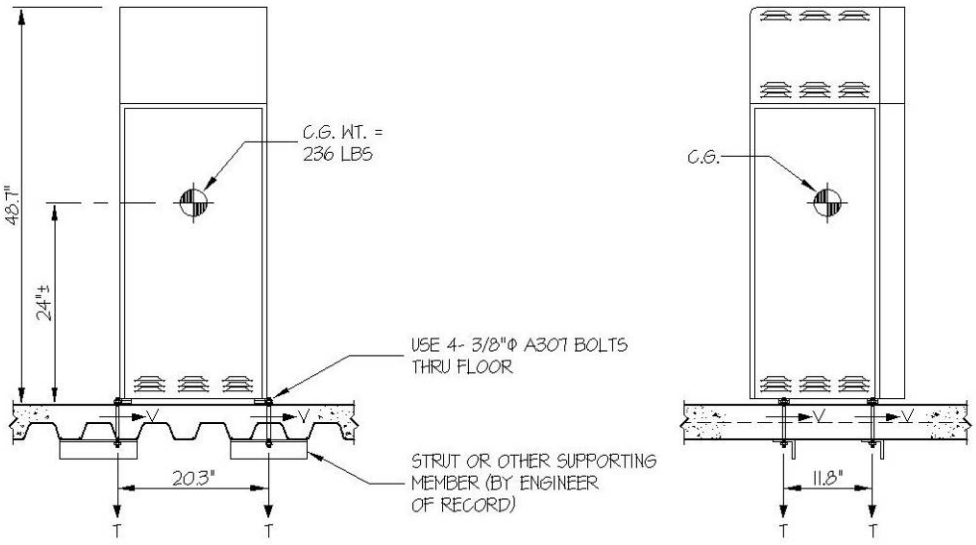
Precision RXi Generator Cabinet (GEN)

DES. R. LA BRIE
JOB NO. 12-0510
DATE 7/22/05

SHEET 1 OF 1 SHEET

SEISMIC ANCHORAGE CALCULATION

UPPER FLOOR



FRONT ELEVATION

T_{MAX} = 225 LBS/BOLT
V_{MAX} = 56 LBS/BOLT

SIDE ELEVATION

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)
WEIGHT = 236 LBS
HORIZONTAL FORCE (V_H) = 0.94W = 222 LBS
VERTICAL FORCE (V_V) = 0.33(V_H) = 74 LBS

BOLT FORCES:

TENSION (T)

$$T_{MAXIMUM} = \left[\frac{222\#(24")}{2\ BOLTS\ (20.3")} \times (0.3)\right] + \frac{222\#(24")}{2\ BOLTS\ (11.8")} - \frac{236\# - 74\#}{4\ BOLTS} = 225\ LBS/BOLT\ (MAX)$$

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

SHEAR (V)

$$V = \frac{222\#}{4\ BOLTS} = 56\ LBS/BOLT\ (MAX)$$

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

11.2.4. Integrated Console

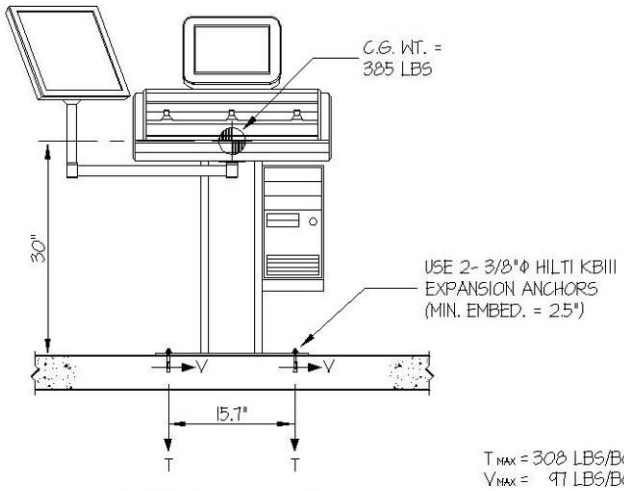
11.2.4.1. Slab on Grade

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

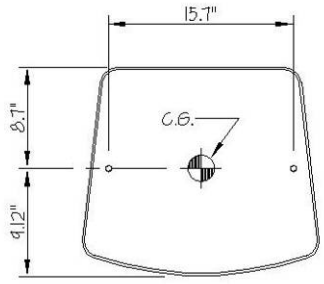
GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Integrated Console	DATE 8/2/05	OF 1 SHEET

SEISMIC ANCHORAGE CALCULATION

SLAB ON GRADE



FRONT ELEVATION



PLAN AT BASE

T_{MAX} = 308 LBS/BOLT
V_{MAX} = 97 LBS/BOLT

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)
WEIGHT = 385 LBS
HORIZONTAL FORCE (V_H) = 0.50W = 193 LBS
VERTICAL FORCE (V_V) = 0.33(V_H) = 64 LBS

BOLT FORCES:

TENSION (T)

$$T_{MAXIMUM} = \frac{193\#(30'')}{15.7''} + \left[\frac{193\#(30'')}{2\ BOLTS\ (8.7'')} \times (0.3)\right] - \frac{385\# - 64\#}{2\ BOLTS} = 308\ LBS/BOLT\ (MAX)$$

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

SHEAR (V)

$$V = \frac{193\#}{2\ BOLTS} = 97\ LBS/BOLT\ (MAX)$$

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

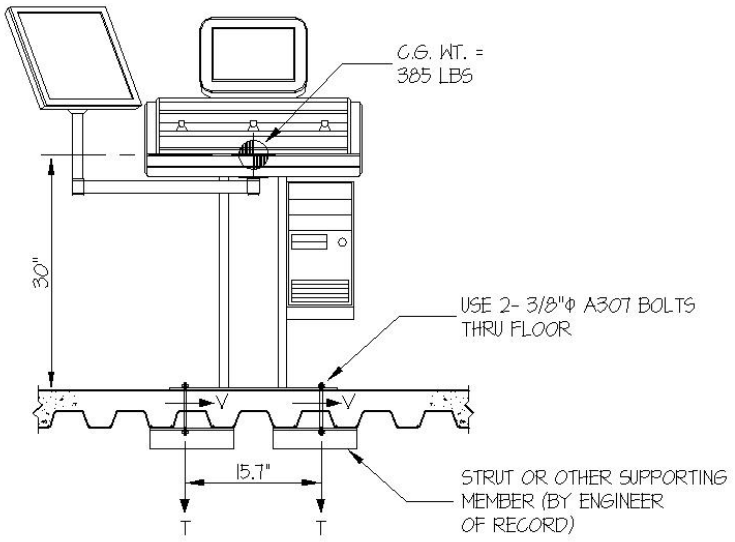
11.2.4.2. Upper Floor

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

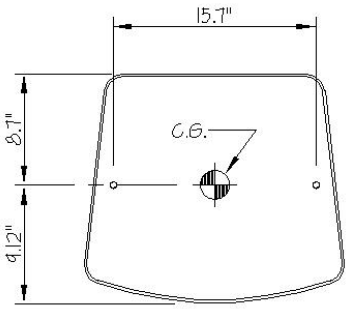
GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Integrated Console	DATE 8/2/05	OF 1 SHEET

SEISMIC ANCHORAGE CALCULATION

UPPER FLOOR



FRONT ELEVATION



PLAN AT BASE

T_{MAX} = 747 LBS/BOLT
V_{MAX} = 181 LBS/BOLT

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)
WEIGHT = 385 LBS
HORIZONTAL FORCE (V_H) = 0.94W = 362 LBS
VERTICAL FORCE (V_V) = 0.33(V_H) = 121 LBS

BOLT FORCES:

TENSION (T)

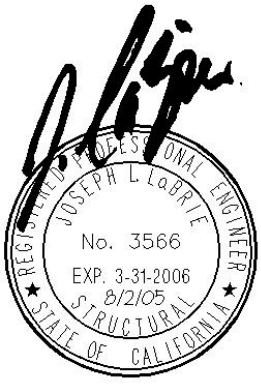
$$T_{MAXIMUM} = \frac{362\#(30'')}{15.7''} + \left[\frac{362\#(30'')}{2\ \text{BOLTS}\ (8.7'')} \times (0.3)\right] - \frac{385\# - 121\#}{2\ \text{BOLTS}} = 747\ \text{LBS/BOLT (MAX)}$$

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

SHEAR (V)

$$V = \frac{362\#}{2\ \text{BOLTS}} = 181\ \text{LBS/BOLT (MAX)}$$

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



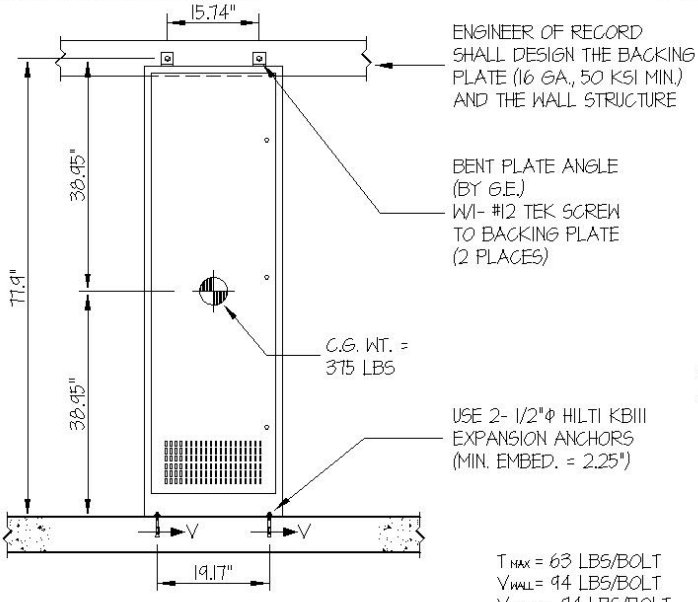
11.2.5. Table Cabinet

11.2.5.1. Slab on Grade

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Table Cabinet (PC)	DATE 7/22/05	OF 1 SHEET

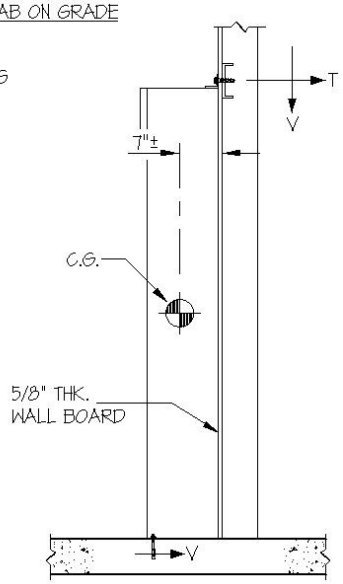
SEISMIC ANCHORAGE CALCULATION



FRONT ELEVATION

T_{MAX} = 63 LBS/BOLT
V_{WALL} = 94 LBS/BOLT
V_{FLOOR} = 94 LBS/BOLT

SLAB ON GRADE



SIDE ELEVATION

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

WEIGHT = 375 LBS

HORIZONTAL FORCE (V_H) = 0.50W = 188 LBS

VERTICAL FORCE (V_V) = 0.33(V_H) = 63 LBS

TENSION (T)

$$T_{PARALLEL} = \frac{188\#(38.95")(7")}{77.9"(15.74")} = 42 \text{ LBS}$$

$$T_{PERP.} = \frac{188\#(38.95")}{2 \text{ SCREWS } (77.9")} = 47 \text{ LBS}$$

$$T_{MAX} = \sqrt{42^2 + 47^2} = 63 \text{ LBS/SCREW (MAX)}$$

SHEAR (V)

$$V_{WALL} = \frac{188\#}{2 \text{ SCREWS}} = 94 \text{ LBS/SCREW (MAX)}$$

$$V_{FLOOR} = \frac{188\#}{2 \text{ BOLTS}} = 94 \text{ LBS/BOLT (MAX)}$$

#12 SM SCREWS TO 16 GAGE, 50 KSI

$T_{ALLOW.}$ = 225 LBS

$V_{ALLOW.}$ = 570 LBS

NOTE:

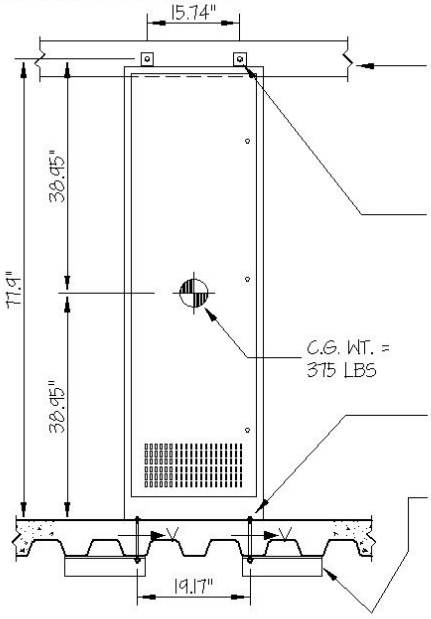
ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

11.2.5.2. Upper Floor

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

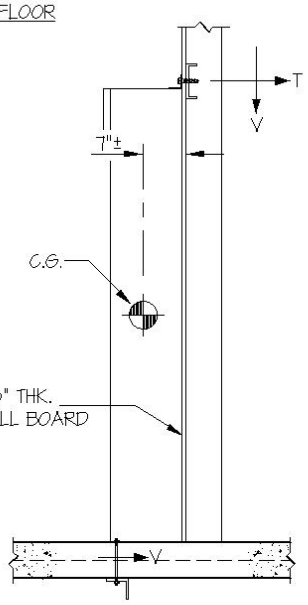
GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Table Cabinet (PC)	DATE 7/22/05	OF 1 SHEET

SEISMIC ANCHORAGE CALCULATION



FRONT ELEVATION

UPPER FLOOR



SIDE ELEVATION

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

WEIGHT = 375 LBS

HORIZONTAL FORCE (V_H) = 0.94W = 353 LBS

VERTICAL FORCE (V_V) = 0.33(V_H) = 118 LBS

TENSION (T)

$$T_{PARALLEL} = \frac{353\#(38.95")(7")}{77.9"(15.74")} = 78 \text{ LBS}$$

$$T_{PERP.} = \frac{353\#(38.95")}{2 \text{ SCREWS } (77.9")} = 88 \text{ LBS}$$

$$T_{MAX} = \sqrt{78^2 + 88^2} = 118 \text{ LBS/SCREW (MAX)}$$

SHEAR (V)

$$V_{WALL} = \frac{353\#}{2 \text{ SCREWS}} = 177 \text{ LBS/SCREW (MAX)}$$

$$V_{FLOOR} = \frac{353\#}{2 \text{ BOLTS}} = 177 \text{ LBS/BOLT (MAX)}$$

#12 SM SCREWS TO 16 GAGE, 50 KSI

$T_{ALLOW.}$ = 225 LBS

$V_{ALLOW.}$ = 570 LBS

NOTE:

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

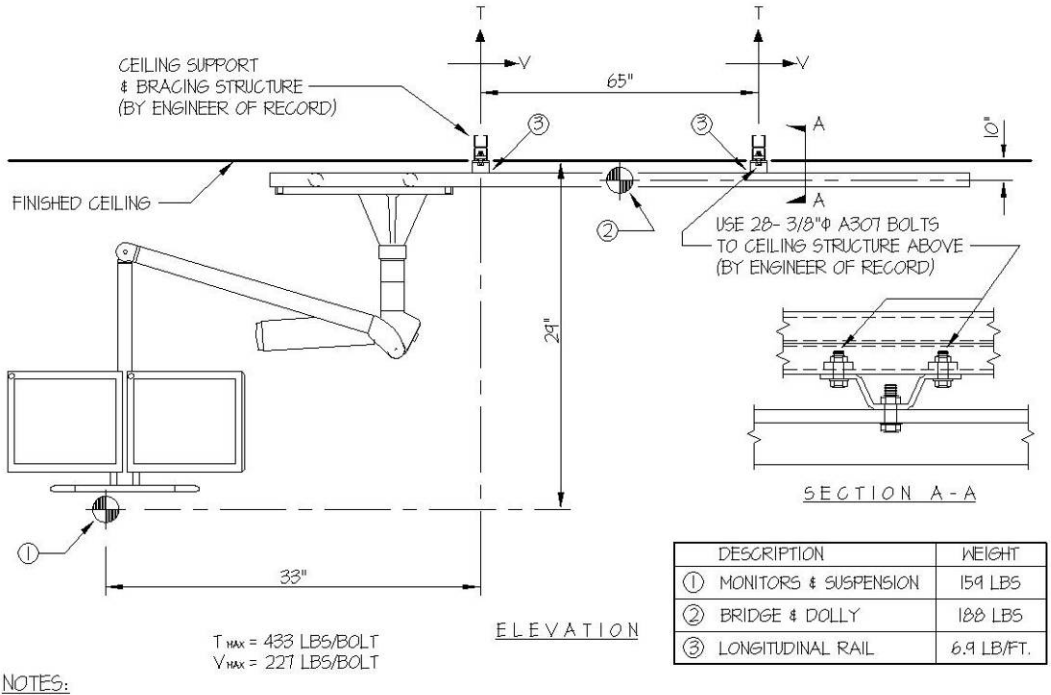
11.2.6. Monitor Suspension

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Monitor Suspension	DATE 8/22/05	OF 3 SHEETS

SEISMIC ANCHORAGE CALCULATION

CEILING MOUNTED

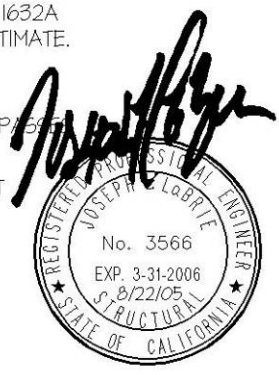


	DESCRIPTION	WEIGHT
①	MONITORS & SUSPENSION	159 LBS
②	BRIDGE & DOLLY	188 LBS
③	LONGITUDINAL RAIL	6.9 LB/FT.

T_{MAX} = 433 LBS/BOLT
V_{MAX} = 227 LBS/BOLT

NOTES:

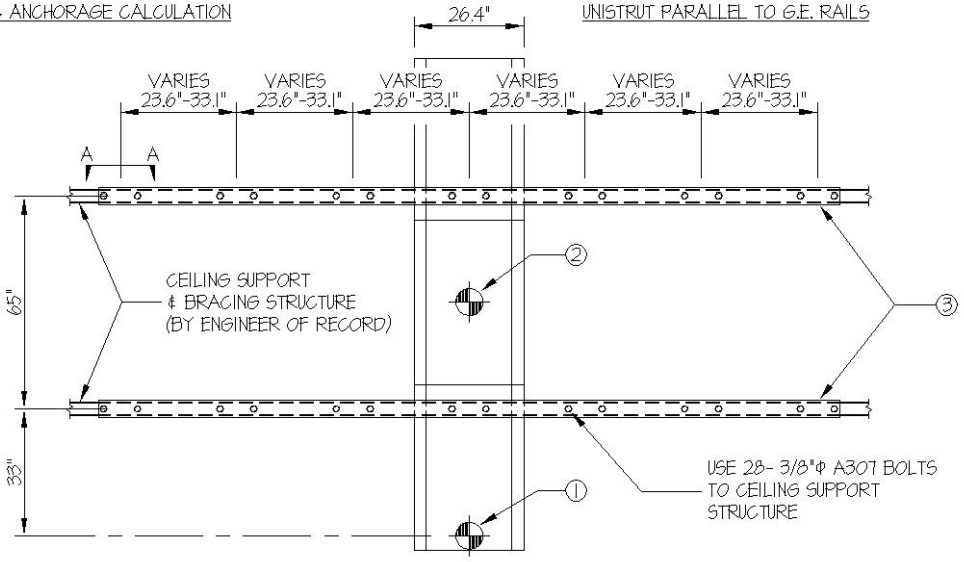
1. FORCES ARE DETERMINED PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A AND HAVE BEEN FACTORED TO REPRESENT WORKING DESIGN LOADS, NOT ULTIMATE.
   HORIZONTAL FORCE (V_H) = 2.36W (C_a= .66, a_p= 2.5, I_p= 1.5, R_p= 3)
   VERTICAL FORCE (V_V) = 0.33(V_H)
2. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.



EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 2
	JOB NO. 12-0510	
Precision RXi Monitor Suspension	DATE 8/22/05	OF 3 SHEETS

SEISMIC ANCHORAGE CALCULATION



PLAN AT CEILING

LOADS:

① MONITORS & SUSPENSION
WEIGHT = 159 LBS
HORIZONTAL FORCE (V_H) = 375 LBS
VERTICAL FORCE (V_V) = 125 LBS

② BRIDGE & DOLLY
WEIGHT = 188 LBS
HORIZONTAL FORCE (V_H) = 444 LBS
VERTICAL FORCE (V_V) = 148 LBS

③ LONGITUDINAL RAILS
WEIGHT = 6.9 LB/FT.
HORIZONTAL FORCE (V_H) = 16.3 LB/FT.
VERTICAL FORCE (V_V) = 5.4 LB/FT.

BOLT FORCES:

TENSION (T)

$$T_1 = \frac{[(159\# + 125\#)98''] + 375\#(29'')}{2 \text{ BOLTS } (65'')} = 298 \text{ LBS/BOLT}$$

$$T_2 = \frac{[(188\# + 148\#)32.5''] + 444\#(10'')}{2 \text{ BOLTS } (65'')} = 118 \text{ LBS/BOLT}$$

$$T_3 = \frac{(6.9\#/FT. + 5.4\#/FT.)33.1''}{(2 \text{ BOLTS })12\#/FT.} = 17 \text{ LBS/BOLT}$$

$$T = 298\# + 118\# + 17\# = 433 \text{ LBS/BOLT (MAX)}$$

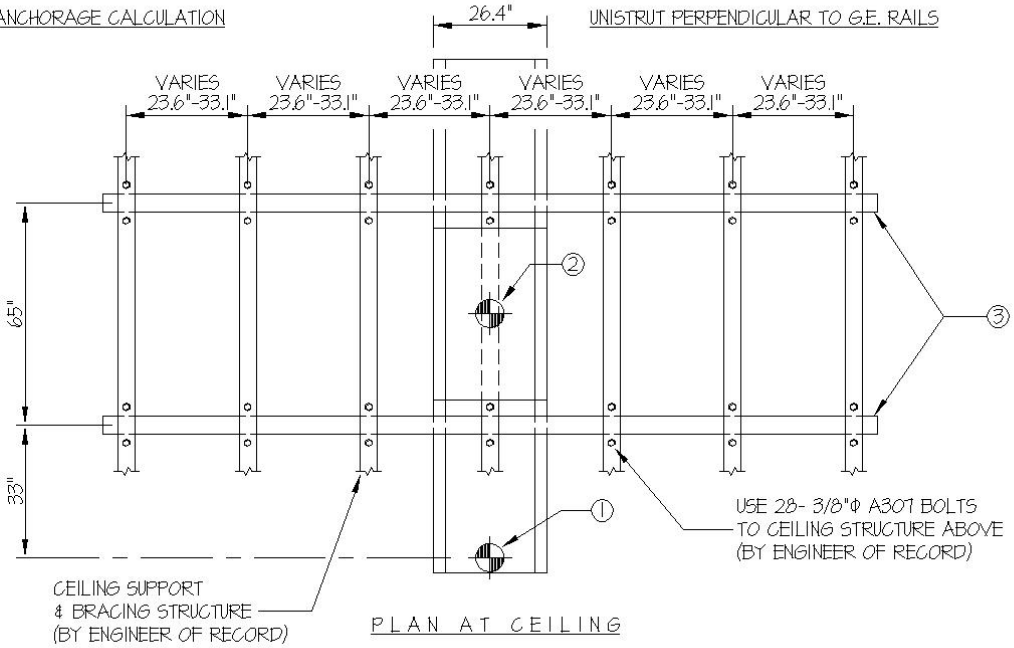
SHEAR (V)

$$V = \frac{375\# + 444\#}{4 \text{ BOLTS}} + \frac{16.3\#/FT.(33.1'')}{(2 \text{ BOLTS })12\#/FT.} = 227 \text{ LBS/BOLT (MAX)}$$

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 3
	JOB NO. 12-0510	
Precision RXi Monitor Suspension	DATE 8/22/05	OF 3 SHEETS

SEISMIC ANCHORAGE CALCULATION



PLAN AT CEILING

LOADS:

① MONITORS & SUSPENSION
WEIGHT = 159 LBS
HORIZONTAL FORCE (V_H) = 375 LBS
VERTICAL FORCE (V_V) = 125 LBS

② BRIDGE & DOLLY
WEIGHT = 188 LBS
HORIZONTAL FORCE (V_H) = 444 LBS
VERTICAL FORCE (V_V) = 148 LBS

③ LONGITUDINAL RAILS
WEIGHT = 6.9 LB/FT.
HORIZONTAL FORCE (V_H) = 16.3 LB/FT.
VERTICAL FORCE (V_V) = 5.4 LB/FT.

BOLT FORCES:

TENSION (T)

$$T_1 = \frac{[(159\# + 125\#)98"] + 375\#(29")}{2 \text{ BOLTS } (65")} = 298 \text{ LBS/BOLT}$$

$$T_2 = \frac{[(188\# + 148\#)32.5"] + 444\#(10")}{2 \text{ BOLTS } (65")} = 118 \text{ LBS/BOLT}$$

$$T_3 = \frac{(6.9\#/FT. + 5.4\#/FT.)33.1"}{(2 \text{ BOLTS})12\#/FT.} = 17 \text{ LBS/BOLT}$$

$$T = 298\# + 118\# + 17\# = 433 \text{ LBS/BOLT (MAX)}$$

SHEAR (V)

$$V = \frac{375\# + 444\#}{4 \text{ BOLTS}} + \frac{16.3\#/FT.(33.1")}{(2 \text{ BOLTS})12\#/FT.} = 227 \text{ LBS/BOLT (MAX)}$$

11.2.7. Non-tilting Wallstand

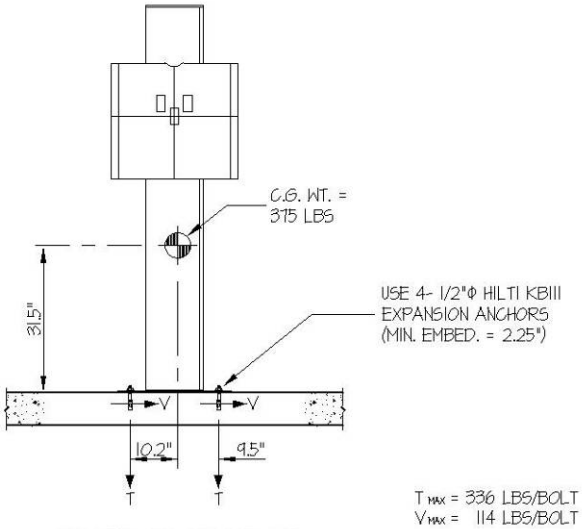
11.2.7.1. Slab on Grade

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Non-tilting Wallstand	DATE 7/22/05	OF 1 SHEET

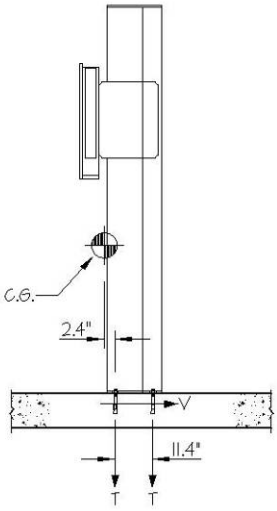
SEISMIC ANCHORAGE CALCULATION

SLAB ON GRADE



FRONT ELEVATION

T_{MAX} = 336 LBS/BOLT
V_{MAX} = 114 LBS/BOLT



SIDE ELEVATION

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)
WEIGHT = 375 LBS
HORIZONTAL FORCE (V_H) = 0.50W = 188 LBS
VERTICAL FORCE (V_V) = 0.33(V_H) = 63 LBS

BOLT FORCES:

TENSION (T)

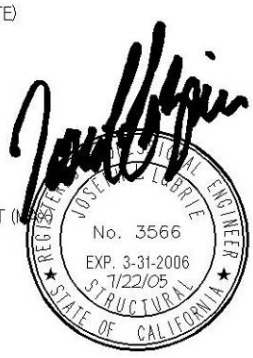
$$T_{MAXIMUM} = \left[\frac{188\#(31.5'')(2.4'')}{11.4''(19.7'')} \times (0.3)\right] + \frac{188\#(31.5'')(10.2'')}{11.4''(19.7'')} + \frac{(375\# + 63\#)(2.4'')(10.2'')}{11.4''(19.7'')} = 336 \text{ LBS/BOLT (M}$$

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

SHEAR (V)

$$V = \frac{188\#(13.8'')}{2 \text{ BOLTS } (11.4'')} = 114 \text{ LBS/BOLT (MAX)}$$

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



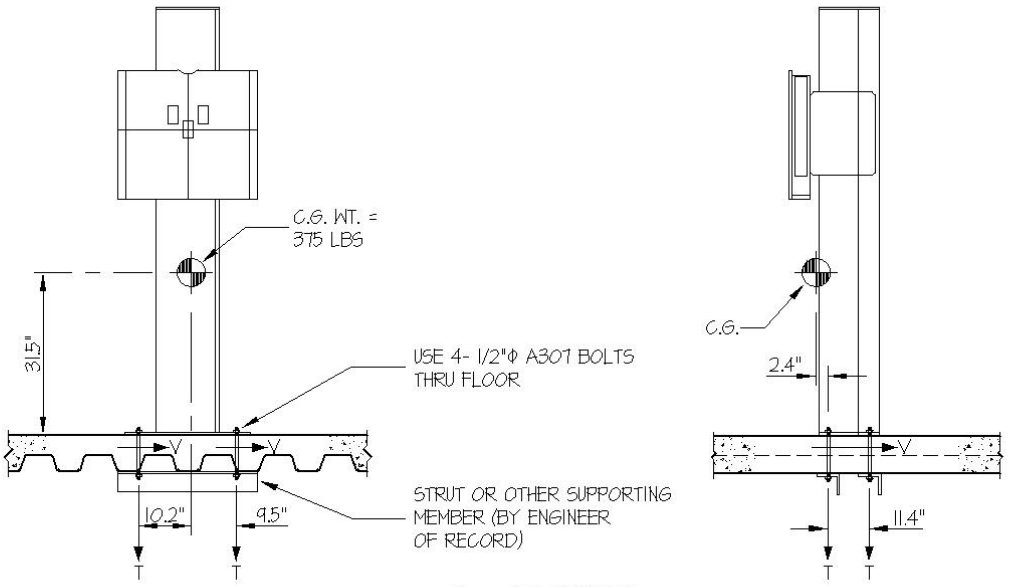
11.2.7.2. Upper Floor

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Non-tilting Wallstand	DATE 7/22/05	OF 1 SHEET

SEISMIC ANCHORAGE CALCULATION

UPPER FLOOR



FRONT ELEVATION

T_{MAX} = 594 LBS/BOLT
V_{MAX} = 214 LBS/BOLT

SIDE ELEVATION

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)
WEIGHT = 375 LBS
HORIZONTAL FORCE (V_H) = 0.94W = 353 LBS
VERTICAL FORCE (V_V) = 0.33(V_H) = 118 LBS

BOLT FORCES:

TENSION (T)

$$T_{MAXIMUM} = \left[\frac{353\#(31.5'')(2.4'')}{11.4''(19.7'')} \times (0.3)\right] + \frac{353\#(31.5'')(10.2'')}{11.4''(19.7'')} + \frac{(375\# + 118\#)(2.4'')(10.2'')}{11.4''(19.7'')} = 594 \text{ LBS/BOLT (MAX)}$$

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

SHEAR (V)

$$V = \frac{353\#(13.8'')}{2 \text{ BOLTS } (11.4'')} = 214 \text{ LBS/BOLT (MAX)}$$

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

11.2.8. Tilting Wallstand

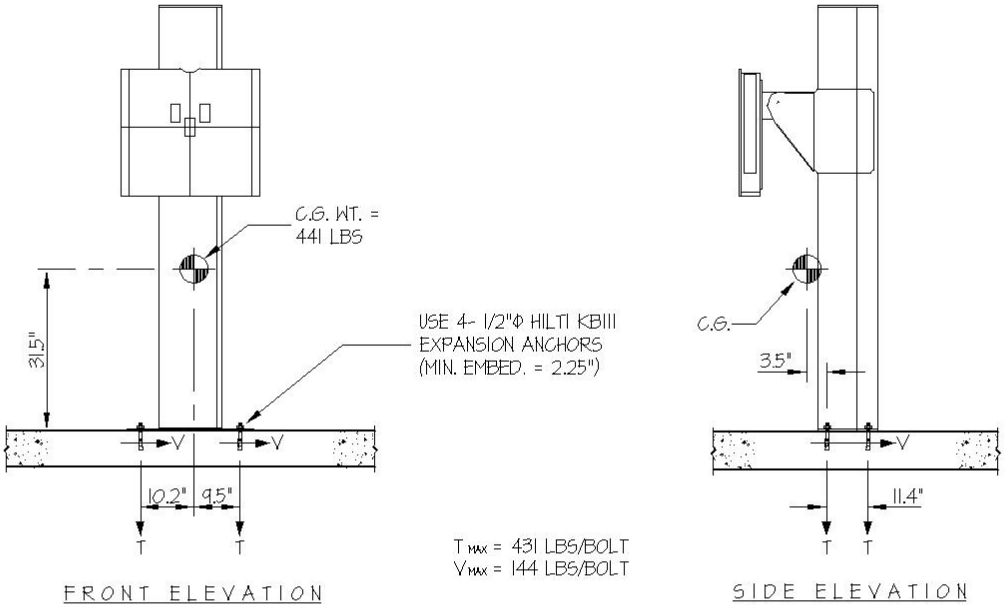
11.2.8.1. Slab on Grade

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Tilting Wallstand	DATE 7/22/05	OF 1 SHEET

SEISMIC ANCHORAGE CALCULATION

SLAB ON GRADE



FRONT ELEVATION

SIDE ELEVATION

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)
WEIGHT = 441 LBS
HORIZONTAL FORCE (V_H) = 0.50W = 221 LBS
VERTICAL FORCE (V_V) = 0.33(V_H) = 74 LBS

BOLT FORCES:

TENSION (T)

$$T_{MAXIMUM} = \underbrace{\frac{221\#(31.5'')(10.2'')}{11.4''(19.7'')}}_{\text{(HORIZ - SIDE TO SIDE)}} + \underbrace{\left[\frac{221\#(3.5'')(31.5'')}{11.4''(19.7'')} \times (0.3)\right]}_{\text{(HORIZ - FRONT TO BACK)}} + \underbrace{\frac{(441\# + 74\#)(3.5'')(10.2'')}{11.4''(19.7'')}}_{\text{(WEIGHT - } V_V\text{)}} = 431 \text{ LBS/BOLT (MAX)}$$

SHEAR (V)

$$V = \frac{221\#(14.9'')}{2 \text{ BOLTS } (11.4'')} = 144 \text{ LBS/BOLT (MAX)}$$

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

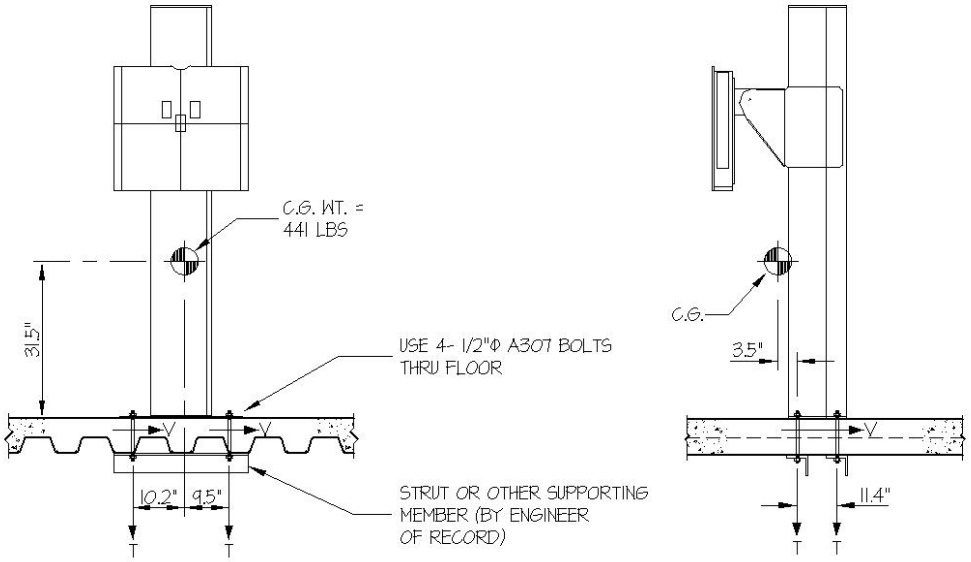
11.2.8.2. Upper Floor

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Tilting Wallstand	DATE 7/22/05	OF 1 SHEET

SEISMIC ANCHORAGE CALCULATION

UPPER FLOOR



FRONT ELEVATION

T_{MAX} = 747 LBS/BOLT
V_{MAX} = 271 LBS/BOLT

SIDE ELEVATION

LOADS: PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A (WORKING LOADS, NOT ULTIMATE)
WEIGHT = 441 LBS
HORIZONTAL FORCE (V_H) = 0.94W = 415 LBS
VERTICAL FORCE (V_V) = 0.33(V_H) = 138 LBS

BOLT FORCES:

TENSION (T)

$$T_{MAXIMUM} = \frac{415\#(31.5'')(10.2'')}{11.4''(19.7'')} + \left[\frac{415\#(3.5'')(31.5'')}{11.4''(19.7'')} \times (0.3)\right] + \frac{(441\# + 138\#)(3.5'')(10.2'')}{11.4''(19.7'')} = 747 \text{ LBS/BOLT (MAX)}$$

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

SHEAR (V)

$$V = \frac{415\#(14.9'')}{2 \text{ BOLTS } (11.4'')} = 271 \text{ LBS/BOLT (MAX)}$$

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

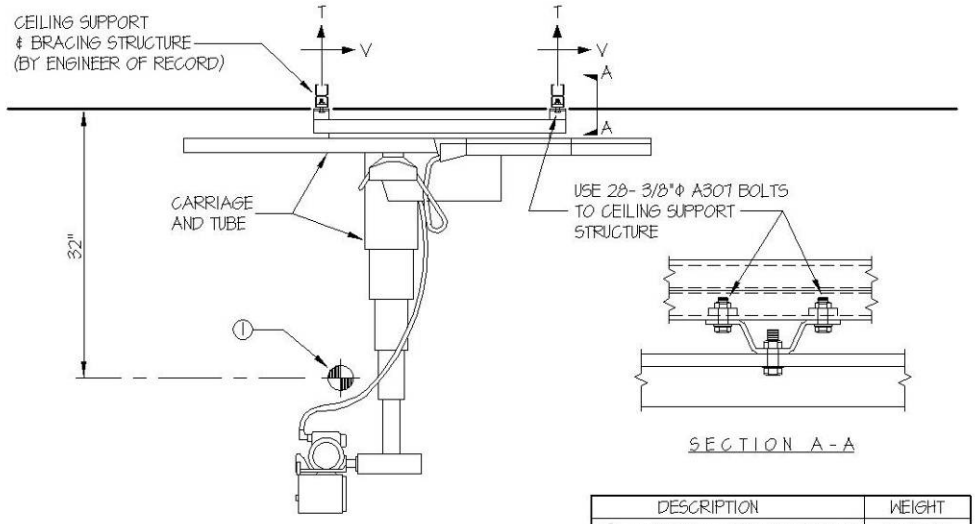
REGISTERED PROFESSIONAL ENGINEER
JOSEPH LaBRIE
No. 3566
EXP. 3-31-2006
7/22/05
STRUCTURAL
STATE OF CALIFORNIA

11.2.9. Overhead Tube Suspension

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING

GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 1
	JOB NO. 12-0510	
Precision RXi Overhead Tube Suspension	DATE 8/22/05	OF 3 SHEETS

SEISMIC ANCHORAGE CALCULATION



SECTION A-A

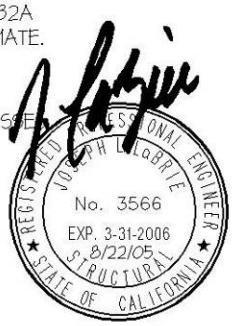
ELEVATION

DESCRIPTION	WEIGHT
① OVERHEAD TUBE SUSPENSION	309 LBS
② BRIDGE	188 LBS
③ LONGITUDINAL RAILS	6.9 LB/FT.

T_{MAX} = 671 LBS/BOLT
V_{MAX} = 316 LBS/BOLT

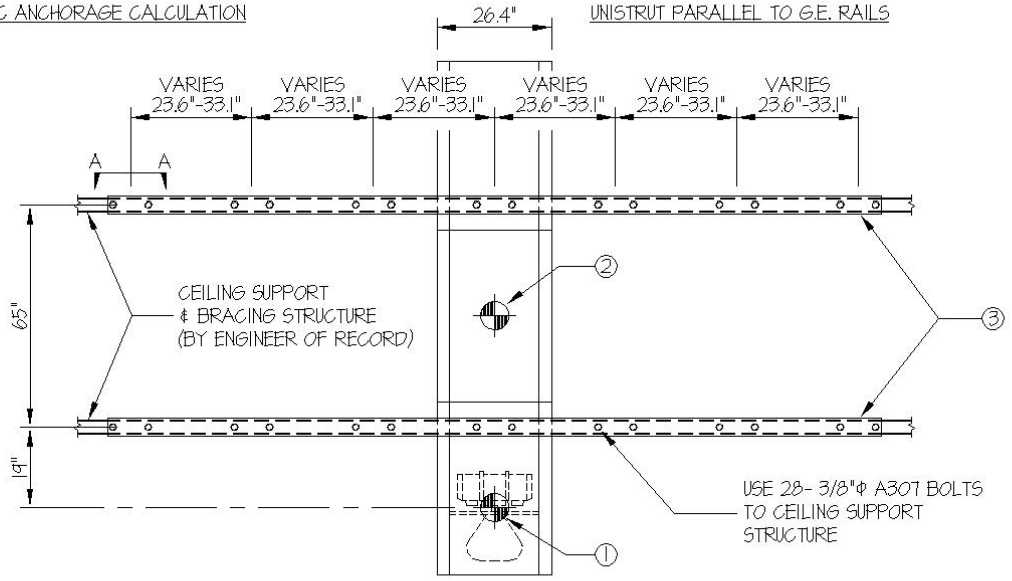
NOTES:

1. 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)
   VERTICAL FORCE (V_V) = 0.33(V_H)
2. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.



EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 2
	JOB NO. 12-0510	
Precision RXi Overhead Tube Suspension	DATE 8/22/05	OF 3 SHEETS

SEISMIC ANCHORAGE CALCULATION



PLAN AT CEILING

LOADS:

① CARRIAGE & TUBE	② BRIDGE	③ LONGITUDINAL RAILS
WEIGHT = 309 LBS	WEIGHT = 188 LBS	WEIGHT = 6.9 LB/FT.
HORIZONTAL FORCE (V_H) = 729 LBS	HORIZONTAL FORCE (V_H) = 444 LBS	HORIZONTAL FORCE (V_H) = 16.3 LB/FT.
VERTICAL FORCE (V_V) = 243 LBS	VERTICAL FORCE (V_V) = 148 LBS	VERTICAL FORCE (V_V) = 5.4 LB/FT.

BOLT FORCES:

TENSION (T)

$$T_1 = \frac{[(309\# + 243\#)84"] + 729\#(32")}{2 \text{ BOLTS } (65")} = 536 \text{ LBS/BOLT}$$

$$T_2 = \frac{[(188\# + 148\#)32.5"] + 444\#(10")}{2 \text{ BOLTS } (65")} = 118 \text{ LBS/BOLT}$$

$$T_3 = \frac{(6.9\#/FT. + 5.4\#/FT.)33.1"}{(2 \text{ BOLTS })12\#/FT.} = 17 \text{ LBS/BOLT}$$

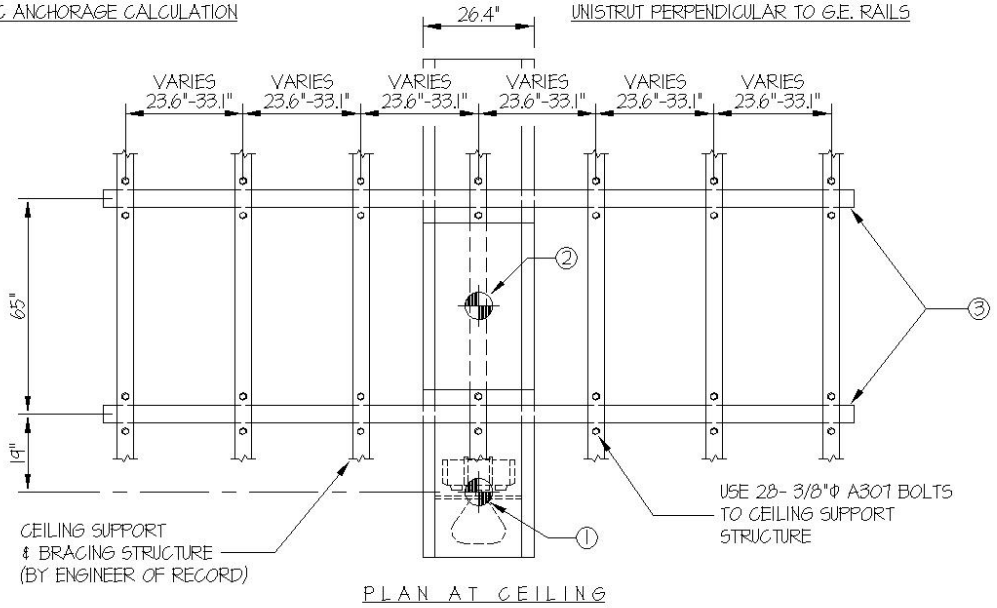
$$T = 536\# + 118\# + 17\# = 671 \text{ LBS/BOLT (MAX)}$$

SHEAR (V)

$$V = \frac{729\# + 444\#}{4 \text{ BOLTS}} + \frac{16.3\#/FT.(33.1")}{(2 \text{ BOLTS })12\#/FT.} = 316 \text{ LBS/BOLT (MAX)}$$

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING		
GEHC PIM 5123449-100	DES. R. LA BRIE	SHEET 3
	JOB NO. 12-0510	
Precision RXi Overhead Tube Suspension	DATE 8/22/05	OF 3 SHEETS

SEISMIC ANCHORAGE CALCULATION



PLAN AT CEILING

LOADS:

① CARRIAGE & TUBE
WEIGHT = 309 LBS
HORIZONTAL FORCE (V_H) = 729 LBS
VERTICAL FORCE (V_V) = 243 LBS

② BRIDGE
WEIGHT = 188 LBS
HORIZONTAL FORCE (V_H) = 444 LBS
VERTICAL FORCE (V_V) = 148 LBS

③ LONGITUDINAL RAILS
WEIGHT = 6.9 LB/FT.
HORIZONTAL FORCE (V_H) = 16.3 LB/FT.
VERTICAL FORCE (V_V) = 5.4 LB/FT.

BOLT FORCES:

TENSION (T)

$$T_1 = \frac{[(309\# + 243\#)84"] + 729\#(32")}{2 \text{ BOLTS } (65")} = 536 \text{ LBS/BOLT}$$

$$T_2 = \frac{[(188\# + 148\#)32.5"] + 444\#(10")}{2 \text{ BOLTS } (65")} = 118 \text{ LBS/BOLT}$$

$$T_3 = \frac{(6.9\#/FT. + 5.4\#/FT.)33.1"}{(2 \text{ BOLTS })12\#/FT.} = 17 \text{ LBS/BOLT}$$

$$T = 536\# + 118\# + 17\# = 671 \text{ LBS/BOLT (MAX)}$$

SHEAR (V)

$$V = \frac{729\# + 444\#}{4 \text{ BOLTS}} + \frac{16.3\#/FT.(33.1")}{(2 \text{ BOLTS })12\#/FT.} = 316 \text{ LBS/BOLT (MAX)}$$

Precision RXi - MIS Chart

Cables between POSITIONER CABINET (Pos. cab.) and POSITIONER (Pos.) BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**Inch**	**C \ mm**	**C \ inch**
P06	56298	5129626	Tilting Potentiometer	7	23	Pos. - Tilting Potentiometer - 3PT1	Pos. cab. - I/O interface board - 25S3CP1	7	0.28	12 x 5 x 14	.47 x .2 x .55
P07	56299	5129627	Tilting Tachymetric dynamo	7	23	Pos. - Tilting Tachymetric dynamo - 3DT1	Pos. cab. - Bus maxi drivers board - 23S9MVS1- pin 3,4,5	5	0.2	Crimped terminal	
P08	56300	5129628	Tilting Motor	7	23	Pos. - Tilting Motor - 3MT1	Pos. cab. - Bus maxi drivers board - 23S9MVS1- pin 1,2	10	0.39	Crimped terminal	
P09	56301	5129629	Positioner ground	7	23	Pos. - Tilting/Elevation group ground - 3GND1/2	Pos. cab. - Ground - 20GND0	7	0.28	Crimped terminal	
P10	56302	5129630	Tilting and Elevation Table Safety	7	23	Pos. - Tilting and Elevation Table Safety - 3Fc1, 3Fc2	Pos. cab. - I/O interface board - 25S3AMP1	5	0.2	12 x 5 x 14	.47 x .2 x .55
P11	56303	5129631	Elevation Table Potentiometer	7	23	Pos. - Elevation Table Potentiometer - 3PT2	Pos. cab. - I/O interface board - 25S3CP2	7	0.28	12 x 5 x 14	.47 x .2 x .55
P12	56304	5129633	Elevation Table Tachymetric dynamo	7	23	Pos. - Elevation Table Tachymetric Dynamo - 3TB2 [3DT2]	Pos. cab. - Bus maxi drivers board - 23S9MVS2-pin3,4,5	5	0.2	Crimped terminal	
P13	56305	5129634	Elevation Table Motor	7	23	Pos. - Elevation Table Motor - 3TB2 [3MT2]	Pos. cab. - Bus maxi drivers board - 23S9MVS2-pin 1,2	10	0.39	Crimped terminal	
P14	56306	5129635	Stand X-Ray Potentiometer	7	23	Pos. - Stand X-Ray Potentiometer - 3CP3 [3PT3]	Pos. cab. - I/O interface board - 25S3CP3	7	0.28	12 x 5 x 14	.47 x .2 x .55
P15	56307	5129636	Stand X-Ray Tachymetric dynamo	7	23	Pos. - Stand X-Ray Tachymetric dynamo - 3TB3 [3DT3]	Pos. cab. - Bus maxi drivers board - 23S9MVS3-pin 3,4,5	5	0.28	Crimped terminal	
P16	56308	5129637	Stand X-Ray Motor	7	23	Pos. - Stand X-Ray Motor - 3TB3 [3MT3]	Pos. cab. - Bus maxi drivers board - 23S9MVS3-pin 1,2	10	0.39	Crimped terminal	
P17	56309	5129638	Focal Film Distance signals	7	23	Pos. - Focal Film Distance Microswitch - 3Fc5	Pos. cab. - Bus step drivers board - 24S9AMP2	5	0.2	12 x 5 x 14	.47 x .2 x .55
P18	56310	5129639	Focal Film Distance Motor	7	23	Pos. - Focal Film Distance Motor - 3TB5 [3MT5]	Pos. cab. - Bus step drivers board - 24S9MVS8	9	0.35	30 x15 x18	1.18 x .59 x .7
P19	56311	5129640	Collimator	7	23	Pos. - Collimator Motors - 3CM1 [3MT7, 3MT8, 3MT9]	Pos. cab. - Bus mini drivers board - 23S10MVS3	13	0.51	70 x15 x18	2.75 x .59 x.7
				7	23	Pos. - Collimator potentiometers - 3CM1 [3PT7, 3PT8, 3PT9]	Pos. cab. - I/O interface board - 25S3CP7, 25S3CP8, 25S3CP9	9	0.35	12 x 5 x 14	.47 x .2 x .55
P20	56312	5129792	Display on Compressor group	7	23	Pos. - X-Ray Housing Tube group - 3TB6	Pos. cab. - I/O interface board - 25S3AMP9	9	0.35	23 x 7 x 14	.91 x .28 x .55
P21	56313	5129793	Compressor Motor	7	23	Pos. - Compressor group Motor - 3TB6 [3MT6]	Pos. cab. - Bus mini drivers board - 23S10MVS2-1/2	7	0.28	Crimped terminal	
P22	56314	5129794	Tabletop Transversal signals	7	23	Pos. - Tabletop Transversal Microswithes - 3Fc11, 3Fc12	Pos. cab. - I/O interface board - 25S3AMP6	5	0.2	12 x 5 x 14	.47 x .2 x .55
P23	56315	5129795	Tabletop Transversal Motor	7	23	Pos. - Tabletop Transversal Motor - 3TB10 [3MT10]	Pos. cab. - Bus mini drivers board - 23S10MVS2-3/4	7	0.28	Crimped terminal	
P24	56316	5129796	SFD Potentiometer	7	23	Pos. - SFD Potentiometer - 3PT4	Pos. cab. - I/O interface board - 25S3CP4	7	0.28	12 x 5 x 14	.47 x .2 x .55
P25	56317	5129797	SFD Tachymetric dynamo	7	23	Pos. - SFD Tachymetric Dynamo - 3DT4	Pos. cab. - Bus maxi drivers board - 23S9MVS4-pin 3,4,5	5	0.2	Crimped terminal	
P26	56318	5129798	SFD Motor	7	23	Pos. - SFD Motor - 3MT4	Pos. cab. - Bus maxi drivers board - 23S9MVS4-pin 1,2	10	0.39	Crimped terminal	
P27	56319	5129799	Remote Keyboard	7	23	Pos. - Remote Keyboard - 3S1AMP1	Pos. cab. - I/O interface board - 25S3AMP8	9	0.35	23 x 7 x 14	.91 x .28 x .55

P28	56320	5129800	Emergency Stop and I.I. safety	7	23	Pos. - SFD Group - Emerg.Stop and I.I. safety 3PULS1/3TB4	Pos. cab. - I/O interface board - 25S3AMP3	5	0.2	12 x 5 x 14	.47 x .2 x .55
P29	56321	5129801	Parallel Diaphragms Motor	7	23	Pos. - Parallel Diaphragms Motor - 3TB13 [3MT13]	Pos. cab. - Bus step drivers board - 24S9MVS2	9	0.35	30 x15 x18	1.18 x.59 x .7
P30	56322	5129802	Crossed Diaphragms Motor	7	23	Pos. - Crossed Diaphragms Motor - 3TB14 [3MT14]	Pos. cab. - Bus step drivers board - 24S9MVS3	9	0.35	30 x15 x18	1.18 x.59 x .7
P31	56323	5129803	Grid Motor	7	23	Pos. - Grid Motor - 3TB15 [3MT15]	Pos. cab. - Bus step drivers board - 24S9MVS4	9	0.35	30 x15 x18	1.18 x.59 x .7
P32	56324	5129804	Longitudinal Cassette Motor	7	23	Pos. - Longitudinal Cassette Motor - 3TB11 [3MT11]	Pos. cab. - Bus step drivers board - 24S9MVS6	9	0.35	30 x15 x18	1.18 x.59 x .7
P33	56325	5129805	Transversal Cassette Motor	7	23	Pos. - Transversal Cassette Motor - 3TB12 [3MT12]	Pos. cab. - Bus step drivers board - 24S9MVS9	9	0.35	30 x15 x18	1.18 x.59 x .7
P34	56326	5129806	I.I. Elevation Motor	7	23	Pos. - I.I. Elevation Motor - 3TB16 [3MT16]	Pos. cab. - Bus step drivers board - 24S9MVS7	9	0.35	30 x15 x18	1.18 x.59 x .7
P35	56327	5129807	SFD Reference Photocell	7	23	Pos. - SFD Reference Photocell board - 3S3AMP9	Pos. cab. - Bus step drivers board - 24S9AMP1	9	0.35	23 x 7 x 14	.9 x .28 x .55
P36	56328	5129808	Potentiometers for Film dimensions	7	23	Pos. - Cassette group - 3CP10/ 3CP11[3PT10/3PT11]	Pos. cab. - I/O interface board - 25S3CP10, 25S3CP11	8	0.32	12 x 5 x 14	.47 x .2 x .55
P37	56329	5129809	Longitudinal Tabletop Potentiometer	7	23	Pos. - Longitudinal Tabletop Potentiometer - 3CP17	Pos. cab. - I/O interface board - 25S3CP6	7	0.28	12 x 5 x 14	.47 x .2 x .55
P38	56330	5129810	Longitudinal Tabletop Tach. dynamo	7	23	Pos. - Longitudinal Tabletop dynamo - 3TB17 [3DT17]	Pos. cab. - Bus maxi drivers board - 23S9MVS17-pin3,4,5	5	0.2	Crimped terminal	
P39	56331	5129811	Longitudinal Tabletop Motor	7	23	Pos. - Longitudinal Tabletop Motor - 3TB17 / 3MT2	Pos. cab. - Bus maxi drivers board - 23S9MVS17-pin 1,2	10	0.39	Crimped terminal	
P40	56332	5131393	Rotating Footrest Motor	7	23	Pos. - Rotating Footrest Motor - 3CM18 [3MT18]	Pos. cab. - Bus mini drivers board - 23S10MVS2-5/6	7	0.28	Crimped terminal	
P41	56363A	5262738	Room double Foot switch extender	7	23	Pos. - Room double Foot switch connector - 3CM20	Pos. cab. - I/O interface board - 25S3AMP5	5	0.2	23 x 5 x 14	.91 x .2 x .55
I02	56297	5129813	Microphone and loudspeaker secondary	7	23	Pos. - Over the Pos - Microphone and loudspeaker secondary (507/1SA)	Pos. cab. - Intercom power supply/amplifier (528)	7	0.28	Crimped terminal	

Inside POSITIONER CABINET (Pos.Cab.) cables for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
I04	55513	5142355	Intercom power supply	/	/	Pos.Cab. - Power Transformer - 22TR1	Pos.Cab. - Intercom power supply/amplifier (528)	5	0.2	internal	

Inside POSITIONER (Pos.) cables for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
P42	55269	N/A	Tilting and Elevation Table safety	/	/	Pos. - Tilting Table safety - 3Fc1	Pos. - Elevation Table safety - 3Fc2	6	0.24	internal	
P43	55944	N/A	Stand X-Ray Potentiometer extender	/	/	Pos. - Stand X-Ray Group - 3PT3	Pos. - Stand X-Ray Group - 3CP3	7	0.28	internal	
P44	55245	N/A	Stand X-Ray Group Ground	/	/	Pos. - Stand X-Ray Group Ground - 3GND3	Pos. - Tilting/Elevation Group Ground - 3GND1/2	7	0.28	internal	
P45	55314	N/A	Variable Focal Film Distance Ground	/	/	Pos. - Focal Film Distance Ground - 3GND5	Pos. - Stand X-Ray Group Ground - 3GND3	7	0.28	internal	
P46	55530	N/A	Collimator Ground with Fixed FFD (opz.)	/	/	Pos. - Collimator Ground - 3GND7	Pos. - Stand X-Ray Group Ground - 3GND3	6	0.24	internal	

P47	55220	N/A	Collimator Ground	/	/	Pos. - Collimator Ground - 3GND7	Pos. - Focal Film Distance Group Ground - 3GND5	6	0.24	internal
P48	55316	N/A	X-Ray Housing Tube centered	/	/	Pos. - X-Ray Housing Tube Group - 3Fc13	Pos. - X-Ray Housing Tube Group - 3TB6	6	0.24	internal
P49	55257	N/A	Stand X-Ray Display board extender	/	/	Pos. - Compressor Group - 3S2AMP1 / 3AMP2	Pos. - X-Ray Housing Tube Group - 3TB6	12	0.47	internal
P50	56352	N/A	Compressor microswitches	/	/	Pos. - Compressor Group - 3Fc6, 3Fc7, 3Fc8	Pos. - Compressor Group - 3AMP2	8	0.32	internal
P51	55249	N/A	SFD Group Ground	/	/	Pos. - SFD Group Ground - 3GND4	Pos. - Tilting/Elevation Group Ground - 3GND1/2	7	0.28	internal
P52	55369	N/A	SFD Ground	/	/	Pos. - SFD Ground - 3GND11	Pos. - SFD Group Ground - 3GND4	7	0.28	internal
P53	55368	N/A	I.I. Safety	/	/	Pos. - I.I. safety - 3Fc4 or 3Fc4sx, 3Fc4dx	Pos. - SFD Group 3TB4	6	0.24	internal
P54	55352	N/A	Parallel Diaphragms Reference Photocell	/	/	Pos. - Parallel Diaphragms Photocell - 3Fc16	Pos. - SFD Reference Photocell board - 3S3AMP1	6	0.24	internal
P55	55353	N/A	Crossed Diaphragms Reference Photocell	/	/	Pos. - Crossed Diaphragms Photocell- 3Fc17	Pos. - SFD Reference Photocell board - 3S3AMP2	6	0.24	internal
P56	55354	N/A	Grid Reference Photocell	/	/	Pos. - Grid Photocell- 3Fc18	Pos. - SFD Reference Photocell board - 3S3AMP3	6	0.24	internal
P57	55355	N/A	Longitudinal Cassette Ref.ce Photocell	/	/	Pos. - Longitudinal Cassette Photocell- 3Fc14	Pos. - SFD Reference Photocell board - 3S3AMP4	6	0.24	internal
P58	55356	N/A	Transversal Cassette Reference Photocell	/	/	Pos. -Transversal Cassette Photocell- 3Fc15	Pos. - SFD Reference Photocell board - 3S3AMP6	6	0.24	internal
P59	55358	N/A	Centering Cassette Reference Photocell	/	/	Pos. - Centering Cassette Photocell- 3Fc21	Pos. - SFD Reference Photocell board - 3S3AMP7	6	0.24	internal
P60	55357	N/A	I.I. Elevation Reference Photocells	/	/	Pos. - I.I. Elevation Photocells - 3Fc19, 3Fc20	Pos. - SFD Reference Photocell board - 3S3AMP5	7	0.28	internal
P61	55478A	N/A	Film dimensions Potentiometers extender	/	/	Pos. - Cassette Group - 3PT10 / 3PT11	Pos. - SFD Group - 3CP10/11[3PT10/11]	6	0.24	internal
P62	55947	N/A	Longitudinal Tabletop Potentiometer ext.	/	/	Pos. - Longitudinal Tabletop Group - 3PT17	Pos. - Longitudinal Tabletop Group - 3CP17	7	0.28	internal
P63	55970	N/A	Longitudinal Tabletop Ground	/	/	Pos. - Longitudinal Tabletop Group - 3MT17	Pos. - Longitudinal Tabletop Group - 3GND17	4	0.16	internal
P64	55502	N/A	Rotating Footrest Motor extension	/	/	Pos. - Rotating Footrest Group - 3TB18 [3MT18]	Pos. - Rotating Footrest Group - 3CM18	3	0.12	internal
P65	55581	N/A	On board Console Joystick	/	/	Pos. - On board Console Joystick -P44A, P44B, P44C, P44D	Pos. - SFD Group - 3CM19	6	0.24	internal
P66	55580	N/A	On board Console Joystick extender	/	/	Pos. - SFD Group - 3AMP19 / 3CM19	Pos. - Remote Keyboard 3S1	6	0.24	internal
I01	55510	N/A	Microphone secondary	/	/	Pos. - collimator - Microphone secondary (507/SMV)	Pos. - Over the Pos - Microphone and loudspeaker secondary (507/1SA)	7	0.28	internal

Cables between POSITIONER CABINET (Pos. cab.) and DIAGNOSTIC ROOM for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**Inch**	**C \ mm**	**C \ inch**
P67	55317	5130656	Safety for low ceiling extender	15	49,2	Diagnostic Room - Photocell above the Pos. - 3CM2 [3Fc3]	Pos. cab. - I/O interface board - 25S3AMP2	7	0.28	12 x 5 x 14	.47 x .2 x .55
P68	55279	5130657	Safety for low ceiling	2	6,6	Diagnostic Room - Photocell above the Pos. - 3Fc3	Diagnostic Room - Photocell above the Pos. - 3CM2 [3Fc3]	7	0.28	18x18 x 65	.7 x .7 x 2.6
P69	55628[1]	5172381	Room double Foot switch	3	9,8	Diagnostic Room - Over the Pos. - double Foot switch	Pos. - Room double Foot switch connector - 3CM20	8	0.32	18x18 x 65	.7 x .7 x 2.6
	56662[2]	5269029	Room double Foot switch	3	9,8	Diagnostic Room - Over the Pos. - double Foot switch	Pos. - Room double Foot switch connector - 3CM20	8	0.32	18x18 x 65	.7 x .7 x 2.6

Cables between GENERATOR CABINET (Gen. Cab.) and MAIN SUPPLY PANEL for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
G01 *	56359	5130663	Power Supply Generator (3phases)	10	32,8	Main power supply panel MS1 (400/480Vac)	Gen. Cab. - Power Input board - [L1-L2-L3]	25	0.98	Crimped terminal	
G02 *	56360	5130665	Ground Generator	10	32,8	Main power supply panel NE1 (GND)	Gen. Cab. - Power Input board – GND	10	0.4	Crimped terminal	

Cables between POSITIONER CABINET (Pos. cab.) and MAIN SUPPLY PANEL for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
T01 *	55430	5130667	Power Supply positioner (1phases)	10	32,8	Main power supply panel MS2 (230/277Vac)	Pos. cab. - 22Filter (230Vac) or 22TR3 (277Vac)	10	0.39	Crimped terminal	
T02 *	55429	5130669	Ground positioner	10	32,8	Main power ground panel NE2 (GND)	Pos. cab. - 20GND0	7	0.28	Crimped terminal	

Cable between POSITIONER CABINET (Pos. cab.) and MAIN SUPPLY PANEL for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D01 *	56119	5130672	Power supply I.T. (1phases)	10	32,8	Main power cabinet MS3 (120/230Vac)	Pos. cab. - Infimed Isolator Transf. (120Vac or 230Vac)	8	0.32	Crimped terminal	

Inside POSITIONER CABINET (Pos. cab.) cables for ANALOG SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N03	55969	5130674	Nical/Positioner Interface signals	/	/	Pos. cab. - I/O interface board - 25S3 AMP10	Pos. cab. - Nical interface board - AMP1	7	0.28	internal	
N04	56113	5130677	Nical N33/Positioner Interface signals	/	/	Pos. cab. - I/O interface board - 25S3 AMP10A (only for N33)	Pos. cab. - Nical interface board - AMP3 (only for N33)	5	0.2	internal	
N23	56406	5142357	Nical N33/Positioner video out signals	/	/	Pos. cab. - Nical N33 Panel - V3 (only for N33)	Pos. cab. - Nical interface board - V3 (only for N33)	7	0.28	internal	

[1] GMM#:55628 - (P69 - Room double Foot switch), it uses a single release for Prep and Rad
[2] GMM#56662 - (p69 - Room double Foot switch), it uses a double release for Prep and Rad

Inside POSITIONER CABINET (Pos. cab.) cables for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D02	068-113	5130678	Power supply I.T./GIM	/	/	Pos. cab. - Infimed Isolator Transformer (120Vac Out)	Pos. cab. - GIM (120Vac In)	9	0.35	internal	

Cable between POSITIONER CABINET (Pos. cab.) and GENERATOR CABINET (Gen. cab.) for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
T03	56380	5130679	Generator/Positioner Interface signals	4	13,1	Gen. cab. -TDI board - J6	Pos. cab. - I/O Interface board - 25S3, AMP11, AMP12 , AMP13	11	0.43	70x16 x 60	2.7 x .63 x 2.4

Cables between POSITIONER CABINET (Pos. cab.) and GENERATOR CABINET (Gen. Cab.) for ANALOG SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N01	56176A	5130681	Power supply Nical panel and ABS	4	13,1	Gen. Cab. - Room interface board – TB7/TB8 (24Vdc Out) and TDI board – J7 pin1, 2 e 3	Pos. cab. - Nical Interface board – SC1	10	0.4	30x15x18	1.18 x .59 x .7
N02	55967	5130682	Power supply 220 Vac input for Monitor	4	13,1	Gen. Cab. - Room interface board TB7/TB10 (230Vac Out)	Pos. cab. - Nical panel – MV1 (230Vac In)	6	0.24	Crimped terminal	
N20	56401	5142352	Generator/N33 Interface signals	4	13,1	Gen. Cab. - TDI board – J4C (only for N 33)	Pos. cab. - Nical Interface board - J4C (only for N33)	5	0.2	12x12 x 25	.47 x .47 x .98
N21	56402	5142353	Generator/N33 Interface signals	4	13,1	Gen. Cab. - TDI board – J4D (only for N 33)	Pos. cab. - Nical Interface board - J4D (only for N 33)	5	0.2	12x12 x 25	.47 x .47 x .98
N22	56403	5142354	Generator/N33 Interface signals	4	13,1	Gen. Cab. - TDI board – J2 (only for N 33)	Pos. cab. - Nical Interface board - J2 (only for N 33)	5	0.2	10x10 x 15	.39 x .39 x .59

Cables between POSITIONER CABINET (Pos. cab.) and GENERATOR CABINET (Gen. cab.) for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D03	726-619-G1	5130683	Generator/Digital Interface signals	4	13,1	Gen. cab. - TDI board - J4A	Pos. cab. - GIM - P1 port1	5	0.2	12x12 x 25	.47 x .47 x .98
D04	726-619-G2	5130684	Generator/Digital Interface signals	4	13,1	Gen. cab. - TDI board - J4B	Pos. cab. - GIM - P1 port2	5	0.2	12x12 x 25	.47 x .47 x .98
D05	726-619-G3	5130685	Generator/Digital Interface signals	4	13,1	Gen. cab. - TDI board - J4C	Pos. cab. - GIM - P1 port3	5	0.2	12x12 x 25	.47 x .47 x .98
D06	726-619-G4	5130686	Generator/Digital Interface signals	4	13,1	Gen. cab. - TDI board - J4D	Pos. cab. - GIM - P1 port4	5	0.2	12x12 x 25	.47 x .47 x .98
D43	726-619-G6	5178104	Generator/Digital Interface signals	4	13,1	Gen. cab. - TDI board - J4F	Pos. cab. - GIM - P1 port6	5	0.2	12x12 x 25	.47 x .47 x .98
D07	726-618-G1	5130687	Generator/Digital Interface signals	4	13,1	Gen. cab. - TDI board - J3	Pos. cab. - GIM - P2 port1	5	0.2	10x10 x 15	.39 x .39 x .59
D08	726-618-G2	5130688	Generator/Digital Interface signals	4	13,1	Gen. cab. - TDI board - J2	Pos. cab. - GIM - P2 port2	5	0.2	10x10 x 15	.39 x .39 x .59
D09	726-618-G3	5130689	Generator/Digital Interface signals	4	13,1	Gen. cab. - TDI board - J1	Pos. cab. - GIM - P3 port1	5	0.2	10x10 x 15	.39 x .39 x .59
D10	726-654-G1	5130690	ABS - PFL Interface signals	4	13,1	Gen. cab. - TDI board - J7	Pos. cab. - GIM - P18 abs, P20 drive output	5	0.2	Crimped terminal	

Cables between POSITIONER (Pos.) and GENERATOR CABINET (Gen. cab.) for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
T04	18875	5130691	High tension	5	16,4	Pos. - X-Ray Housing - anode, cathode	Gen. cab. - Tank 1 - anode, cathode	17	0.67	75x75x210	2.9 x 2.9 x 8.3
T05	55202	5130692	X-Ray Housing Ground	5	16,4	Pos. - X-Ray Housing - GND	Gen. cab. - Tank 1 - GND	6	0.24	Crimped terminal	
T06	55656	5130693	X-Ray Housing thermal switch	5	16,4	Pos. - X-Ray Housing - thermal switch	Gen. cab. - (Tank 1) - [Tube1, Thermal Switch]	7	0.28	Crimped terminal	
T07	55674	5130694	X-Ray Housing anode	5	16,4	Pos. - X-Ray Housing - anode [1 - 2 - 3]	Gen. cab. - (Tank 1) - [Tube1, Common - Main - Shift]	11	0.43	Crimped terminal	
T08	55673	5130695	X-Ray Housing fan	5	16,4	Pos. - X-Ray Housing - fan [3Vent1-1/ 3Vent1-2/GND]	Gen. cab. - Room Interface board [TB7 / TB10 / GND]	7	0.28	Crimped terminal	
T09	55844	5130696	COMET AEC chamber	5	16,4	Pos. - COMET chamber	Gen. cab. - AEC interface board channel 1-J1	8	0.32	Crimped terminal	
T10	40358	5130698	VACUDAP chamber	5	16,4	Pos. - Collimator - DAP	Gen. cab. - DAP Interface board channel 1-J2	7	0.28	35x15 x 55	1.4 x.59 x 2.2

Cables between POSITIONER (Pos.) and POSITIONER CABINET (Pos. cab.) for ANALOG SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N05	55968	5130699	I.I. magnification	7	23	Pos. - I.I. connector	Pos. cab. - Nical Interface board – AMP2	6	0.24	23x5 x 14	.91 x .2 x .55
N06	55966	5130700	Nical N23 camera video signal input (only N23 vers.)	7	23	Pos. - I.I. group – N23 TV chain connector (only for N23 vers.)	Pos. cab. - Nical N23 Panel – camera head (only for N23 vers.)	8	0.32	33x15 x 33	1.3 x .59 x 1.3
N07	56090	5130701	Nical N23/N33 camera video signal input	7	23	Pos. - I.I. group – N23/N33 TV chain connector	Pos. cab. - Nical N23/N33 Panel – camera head	9	0.35	33x15 x 33	1.3 x .59 x 1.3
N08	55965	5130702	Ground I.I.	7	23	Pos. - I.I. group – GND	Pos. cab. - 20GND0	6	0.24	Crimped terminal	

Cables between POSITIONER (Pos.) and GENERATOR CABINET (Gen. cab.) f or DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D11	726-795-G1	5130703	TV Chain Photo pick-up	5	16,4	Pos. - I.I. group - Photo pick-up Infimed camera	Gen. cab. - AEC interface board channel 3 - J3	4	0.16	Crimped terminal	
D12	56126	5130704	I.I. magnification	5	16,4	Pos. - I.I. group connector	Gen. cab. - Room Interface board - TB5	6	0.24	Crimped terminal	
D13	55965	5130702	Ground I.I.	5	16,4	Pos. - I.I. group - GND	Gen. cab. - Room Interface board - GND	6	0.24	Crimped terminal	

Inside CONSOLE cables for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D14	56220	5130706	Power Supply Monitor (only for Totoku monitor)	/	/	Console - Totoku Monitor - power supply ac/dc adap.(12 Vdc Out)	Console - Totoku Monitor (12 Vdc In)	7	0.28	internal	
T11	56183	5130707	Hand switch GMM console / Touch Screen	/	/	Console - Touch Screen - J3 or HS	Console - GMM keyboard - 70097B board - PRX-CP3	4	0.16	internal	
P01	55217	5130708	Foot switch GMM console	/	/	Console - GMM keyboard - 1S1CP1 board	Console - GMM keyboard - Foot switch	6	0.24	internal	
T12	56437	5142359	DAP Printer signal	/	/	Console - Touch Screen - J4 (COM3 - data link) or COM1	Console - DAP Printer	7	0.28	internal	
T13	56438	5142360	DAP Power supply ac/dc adaptor	/	/	Console - DAP Printer power supply ac/dc adaptor (9Vdc Out)	Console - DAP Printer	7	0.28	internal	

Inside CONSOLE cables for ANALOG SYSTEM (only for SVGA input monitor)											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N09	56220	5130706	Video converter/Monitor Power Supply	/	/	Console - Totoku power supply ac/dc adaptor (12Vdc Out)	Console - Nical video converter (12Vdc In)	7	0.28	internal	
N10	40533	5130710	Power Supply Monitor	/	/	Console - Nical video converter (12Vdc Out)	Console - Totoku power supply (12Vdc In)	7	0.28	internal	
N11	56222	5130711	SVGA Monitor - M/M	/	/	Console - Nical video converter - SVGA	Console - Totoku Monitor - video signal input SVGA	8	0.32	internal	

Inside CONSOLE cables for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D15	56218	5130712	Power supply PC	/	/	Console - power supply multiple connector	Console - PC - power supply (120Vac In)	9	0.35	internal	
D16	56218	5130712	Power supply Monitor	/	/	Console - power supply multiple connector	Console - Monitor - power supply (120Vac In)	9	0.35	internal	
D17	56218	5130712	Power supply Modem	/	/	Console - power supply multiple connector	Console - Modem - power supply ac/dc adaptor (120Vac In)	9	0.35	internal	
D18	56224	5130715	Power supply Modem	/	/	Console - Modem - power supply ac/dc adaptor (9Vac Out)	Console - Modem - power supply (9Vdc In)	6	0.24	internal	
D19	56209	5130716	SVGA Monitor - M/M	/	/	Console - PC o Video Splitter (opz.) - SVGA	Console - Monitor SVGA	8	0.32	internal	
D20	56216	5130717	Serial RS232 Modem	/	/	Console - PC - serial COM1	Console - Modem - serial	7	0.28	internal	
D21	726-521-G1	5130718	Digital PC DVI	/	/	Console - PC - DVI	Console - PC - DVI	7	0.28	internal	
D22	56228	N/A	Digital PC Keyboard	/	/	Console - keyboard	Console - PC - keyboard	4	0.16	internal	
D23	56230	N/A	Digital PC trackball	/	/	Console - trackball	Console - PC - trackball	4	0.16	internal	
D42	56467	5142361	Ground Digital PC	/	/	Console - GMM console - Ground	Console - PC - Ground	6	0.24	internal	

Inside CONSOLE cables for ROOM DIRECT MONITOR by DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D25	56226	5130721	Power supply Video Splitter	/	/	Console - Video Splitter ac/dc adaptor (9Vdc Out)	Console - Video Splitter (9Vdc In)	7	0.28	internal	
D26	56210	5130722	SVGA video signal for video splitter M/F	/	/	Console - PC - SVGA	Console -Video Splitter Splitter - SVGA - M/M	8	0.32	internal	

Cables between CONSOLE and GENERATOR CABINET (Gen. cab.) for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
G03	736675-01[3]	5130723	Touch Screen 12" Power supply	14,5	47,6	Gen. cab. - room interface board - TB7/ TB9 (120 Vac Out)	Console -Touch Screen - power supply (120vac In)	9	0.35	Crimped terminal	
G04	736676-01	5130724	Ground Touch Screen 12/15"	14,5	47,6	Gen. cab. - Room Interface board - GND	Console - Touch Screen - GND	5	0.2	Crimped terminal	
G05	732091-01[4]	5130725	Touch Screen 12" Signals	14,5	47,6	Gen. cab. - Generator Interface board - J4	Console - Touch Screen - J2	8	0.32	40x17 x 48	1.6 x .66 x 1.9
	739772-01[5]	5262929	Touch Screen 15" Signals/power supply				Console - Touch Screen - GEN				
T14	56439	5142362	DAP Printer Power supply	14,5	47,6	Gen. cab. - room interface board - TB7/ TB10 (220 Vac Out)	Console - DAP Printer - Ac/dc adaptor	9	0.35	40x12 x 80	1.6 x .47 x 3.2

Cables between CONSOLE and POSITIONER CABINET (Pos. cab.) for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
P02	55366	5130824	Power supply GMM Console	14,5	47,6	Pos. cab. - Auxiliary Transformer - 22TR2-27/28 (19Vac)	Console - GMM console - CPU console board - 1S2-CN6	9	0.35	Crimped terminal	
P03	55365	5130825	Fiber optical GMM Console	14,5	47,6	Pos. cab. - CPU Host board - 25S1-TX/RX	Console - GMM console - CPU console board - 1S2-TX/RX	4	0.16	7 x 7x 25	.28 x.28 x .98
P04	55232A	5130826	Keyboard signals GMM Console	14,5	47,6	Pos. cab. - I/O interface board - 25S3-AMP4	Console - GMM console - keyboard - 1S1-AMP1	8	0.32	23 x 5 x 14	.91 x .2 x .55
P05	55415	5130827	GND GMM Console	14,5	47,6	Pos. cab. - Ground - 20GND0	Console - GMM console - Ground 1GND0	7	0.28	Crimped terminal	
D27	56181	5130828	Serial RS232 Touch Screen	14,5	47,6	Pos. cab. - GIM - serial port0	Console - Touch Screen - COM4 or COM2	8	0.32	35x16 x 55	1.4 x .63 x 2.2
I03	56296	5130829	Microphone and loudspeaker principal	14,5	47,6	Pos. cab. - Intercom power supply/amplifier (528)	Console - GMM console - Microphone and loudspeaker (507/PA)	7	0.28	Crimped terminal	

Cables between CONSOLE and POSITIONER CABINET (Pos. cab.) for ANALOG SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N12	56111	5130830	Monitor Power supply 220 VAC	14,5	47,6	Pos. cab. - Nical panel - MV1 (230Vac Out)	Console - Monitor power supply (230Vac In)	7	0.28	Crimped terminal	
N13	56112	5130831	Nical camera video signal output	14,5	47,6	Pos. cab. - Nical panel - BNC output - Video Out	Console - Nical video signal converter input	7	0.28	14x14 x 15	.55 x .55 x .59

[3] GMM#: 73667501- (G03 - Touch Screen power supply cable) used only for touch screen 12".
[4] GMM#: 73209101- (G05 - Touch Screen signal cable) used only for touch screen 12".
[5] GMM#: 73977201- (G05 - Touch Screen signal cable) used for touch screen 15". Can replace GMM#: 73209101

Cables between CONSOLE and POSITIONER CABINET (Pos. cab.) for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D28	56184	5130832	Power supply console	14,5	47,6	Pos. cab. - Isolator trasformer (120Vac Out)	Console - power supply multiple connector (120Vac In)	9	0.35	40x40 x 65	1.6x 1.6 x 2.6
D29	735-371-G1	5130833	Connection GIM-PC (RJ45)	14,5	47,6	Pos. cab. - GIM - null modem (RJ45)	Console - PC (RJ45)	7	0.28	12x12 x 25	.47x .47 x .98
D30	56180	5130843	Serial RS232 for positioner diagnostic	14,5	47,6	Pos. cab. - CPU board - 25S1 CN3	Console - PC - COM5	8	0.32	35x16 x 55	1.4 x .63 x 2.2

Cables between CONSOLE and GENERATOR CABINET (Gen. cab.) for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D31	56182	5130844	Serial RS232 for Generator diagnostic	14,5	47,6	Gen. cab. - CPU board - J15	Console - PC - COM4	8	0.32	35x16 x 55	1.4 x .63 x 2.2

Cables between CONSOLE and POSITIONER (Pos.) for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D32	726-234-G1[6]	5130845	Infimed TV chain signals	22	72,2	Pos. - I.I. group. – Infimed Tv chain	Console - PC ()	10	0.4	53x15 x 40	2.1 x .59 x 1.6
T15	56416	5142367	Generator Remote Laudspeacker	22	72,2	Pos. - Positioner base - Remote loudspeacker - (A / -)	Console - Touch Screen - Audio OUT	7	0.28	27x10 x 45	1.1 x .39 x 1.8

Cables between CONSOLE and NETWORK for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D33	56232	5130846	Ethernet / Dicom connetion	20	65	Diagnostic Room - Hospital Network	Console - PC - eternet	8	0.32	12x12 x 45	.47 x .47 x 1.8
D34	56234	5130847	Phone Line connection	7,6	25	Diagnostic Room - Hospital phone line	Console - Modem - line	7	0.28	10x10 x 15	.39 x .39 x .59
D24	56240	5130848	Phone connection	2,1	7	Diagnostic Room - Hospital phone	Console - Modem - Phone	7	0.28	10x10 x 15	.39 x .39 x .59

inside ROOM DIRECT MONITOR cables for ANALOG SYSTEM (<u>only for SVGA input monitor</u>)											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N14	56220	5130706	Video converter/Monitor Power Supply	/	/	Console - Totoku power supply ac/dc adaptor (12Vdc Out)	Console - Nical video converter (12Vdc In)	7	0.28	internal	
N15	40533	5130710	Monitor Power Supply	/	/	Console - Nical video converter (12Vdc Out)	Console - Totoku power supply (12Vdc In)	7	0.28	internal	
N16	56222	5130711	Monitor SVGA M/M	/	/	Console - Nical video converter - SVGA	Console - Totoku Monitor - video signal input SVGA	8	0.32	internal	

[6] GMM#: 726-234-G1 (D32 - Infimed TV chain signal cable) replaces GMM#: 726-204-G1. They are compatible.

Cables between ROOM DIRECT MONITOR and POSITIONER CABINET (Pos. cab.) for ANALOG SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N17	56111	5130830	Monitor Power supply 220 VAC	15,5	50,8	Pos. cab. - Nical panel - MV1 (230Vac Out)	Suspension or cart Monitor - Monitor power supply (230Vac In)	7	0.28	Crimped terminal	
N18	56112	5130831	Nical camera video signal output	15,5	50,8	Pos. cab. - Nical panel - BNC output - Video Out	Suspension or cart Monitor - Nical video signal converter input	7	0.28	14x14 x 15	.55 x .55 x .59
N19	56114	5130855	GND Suspension or cart	15,5	50,8	Pos. cab. - 20GND0	Suspension or cart Monitor - GND	6	0.24	Crimped terminal	

Inside ROOM REFERENCE MONITOR cables for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D35	56220	5130706	Power Supply Monitor (only for Totoku Monitor)	/	/	Console - Totoku Monitor power supply ac/da adap. (12 VDC out)	Console - Totoku Monitor (12 VDC out)	7	0.28	internal	

Cable between ROOM REFERENCE MONITOR and CONSOLE for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D36	56207	5130857	SVGA Monitor M/M	18	59	Console - PC - Reference Image	Suspension or cart Monitor - Monitor - SVGA	8	0.32	33x16 x 58	1.3 x .63 x 2.3

Cables between ROOM REFERENCE MONITOR and POSITIONER CABINET (Pos. cab.) for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D37	56120	5130858	Power supply Reference Monitor	15,5	50,8	Pos. cab. - Infimed Isolator Transformer (120Vac Out)	Suspension or cart Monitor - Monitor power supply (120Vac In)	8	0.32	40x40 x 65	1.6 x 1.6 x 2.6
D38	56114	5130855	GND Suspension or cart	15,5	50,8	Pos. cab. - 20GND0	Suspension or cart Monitor - GND	6	0.24	Crimped terminal	

Inside ROOM DIRECT MONITOR cables for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D39	56220	N/A	Power Supply Monitor (only for Totoku Monitor)	/	/	Console - Totoku Monitor power supply ac/dc adap. (12 VDC out)	Console - Totoku Monitor (12 VDC out)	7	0.28	internal	

Cable between ROOM DIRECT MONITOR and CONSOLE for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D40	56207	5130857	SVGA Monitor M/M	18	59	Console - Video Splitter – Direct Image	Suspension or cart Monitor - Monitor - SVGA	8	0.32	33x16 x 58	1.3 x .63 x 2.3

Cables between ROOM DIRECT MONITOR and POSITIONER CABINET (Pos. cab.) for DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
D41	56120	5130858	Power supply Direct Monitor	15,5	50,8	Pos. cab. - Infimed Isolator Transformer (120Vac Out)	Suspension or cart Monitor - Monitor power supply (120Vac In)	8	0.32	40x40 x 65	1.6 x 1.6 x 2.6

Cables between OVERHEAD TUBE SUSPENSION (OTS) and MAIN SUPPLY PANEL for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
C01	55779	5130863	Power supply OTS	20	65,6	Main Power supply Panel MS4 (115 / 230 Vac)	OTS - power supply - ST1 [L1 – N – GND]	8	0.32	Crimped terminal	
C02	55784	5130864	Ground OTS	20	65,6	Main Power supply Panel NE4 (GND)	OTS - Ground – GND	6	0.24	Crimped terminal	

Cables between OVERHEAD TUBE SUSPENSION (OTS) and GENERATOR CABINET for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
C03	18878	5130865	High tension	14,5	47,6	OTS - X-Ray Housing - anode, cathode	Gen. cab. - Tank 2 - anode, cathode	17	0.67	75x75x210	3 x 3 x 8.3
C04	55783	5130866	Ground X-RAY Housing	14,5	47,6	OTS -X-Ray Housing GND	Gen. cab. - Tank 2 - GND	6	0.24	Crimped terminal	
C05	55782	5130867	X-Ray Housing thermal switch	14,5	47,6	OTS - X-Ray Housing thermal switch [Thermal Switch]	Gen. cab. - (Tank 2) - [Tube2, Thermal Switch]	7	0.28	Crimped terminal	
C06	55786	5130868	X-Ray Housing anode	14,5	47,6	OTS - X-Ray Housing anode [1 - 2 - 3]	Gen. cab. - (Tank 2) - [Tube2, Common - Main - Shift]	11	0.43	Crimped terminal	
C07	55993	5130869	VACUDAP chamber	14,5	47,6	OTS - Collimator - DAP	Gen. cab. - DAP Interface board channel 2 - J3	7	0.28	35x15 x 55	1.4 x.6 x 2.2
C10	56400	5142373	Tube 2 indicator	14,5	47,6	OTS - Collimator - M2- pin3, pin4	Gen. cab. - Room Inter. board TB8/TB4- pin2, pin1	7	0.28	Crimped terminal	

Cable between POSITIONER CABINET and OVERHEAD TUBE SUSPENSION (OTS) for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cable description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
C08	56194A	5130870	OTS parking position contacts	17,5	57,4	OTS - Parking position Transversal microswitch - MV1	Pos. cab. - I/O board – 25S3SC2 pins 8-9	6	0.24	Crimped terminal	
W07	56427	5142374	OTS sensor interface	17,5	57,4	OTS - Collimator remote PC board- M33/M103/M104/F08	Pos. cab. - I/O interface board – 25S3CP13	7	0.28	12 x 5 x 14	.47 x .2 x .55

Cables between WALLBUCKY and GENERATOR CABINET for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
W01	56284	5130872	Ground	17,5	57,4	Main Power Supply Panel NE3 (GND)	Wall bucky - GND	6	0.24	Crimped terminal	
W02	56283	5130873	Wall bucky generator interface	17,5	57,4	Gen. cab. - room interface board TB2/TB7/TB10/TB11	Wall bucky - Bucky TB1	11	0.43	Crimped terminal	
W03	56282	5130874	COMET AEC chamber	17,5	57,4	Gen. cab. - AEC interface board channel 2 - J2	Wall bucky - COMET chamber	8	0.32	Crimped terminal	

Cables between WALLBUCKY and AUTOMATIC COLLIMATOR for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
W04	56357A	5130875-2	Wall bucky sensor interface	17,5	57,4	Gen. Cab. - CM1 flex cable connector	Wall bucky - Bucky TB1 – B1	8	0.32	35x15 x 55	1.4 x .59 x 2.2
W05	56358B	5130876-2	Wall bucky sensor interface extender	14,5	47,6	OTS - Collimator remote PC board- M33/M35/M58÷M65 – B0	Gen. Cab. - CM1 in-line flex cable connector	8	0.32	35x15 x 55	1.4 x .59 x 2.2

Cables between WALLBUCKY and POSITIONER CABINET for BASE SYSTEM (combined with Positioner or OTS with manual collimator)											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
W06	56425	5148305	Wall bucky sensor interface	17,5	57,4	Pos. cab. - I/O interface board - 25S3CP13	Wall bucky - Bucky TB1	7	0.28	12 x 5 x 14	.47 x .2 x .55

Cables between POSITIONER and POSITIONER CABINET for INJECTOR by DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
J01	56420	5148306	Injector table interface	7	23	Pos. - Over the pos. – P1	Pos. cab. - I/O interface board – 25S4AMP1	8	0.32	30x30 x 25	1.2 x 1.2 x 1
J03	56431	5148307	Injector ground	7	23	Pos. - Over the pos. – GND	Pos. cab. - Ground – 20GND0	6	0.24	Crimped terminal	

Cables between POSITIONER CABINET and GENERATOR CABINET for INJECTOR by DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
J02	56421	5148309	Injector generator interface	4	13,1	Gen. cab. - TDI board - J11- pin 1, 2	Pos. cab. - I/O interface board - 25S4AMP2	7	0.28	12 x 5 x 14	.47 x .2 x .55

Cables between POSITIONER and INJECTOR by DIGITAL SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
J04	56453	5148310	Injector ground	4,5	15	Pos. - Over the pos. - GND	Injector - Ground	6	0.24	Crimped terminal	
J05	56442	5148311	ILLUMENA Injector table interface	4,5	15	Pos. - Over the pos. - P1	Injector - J2	8	0.32	32x32 x 70	1.3 x 1.3 x 2.7
J06	56443	5148312	ANGIOMAT Injector table interface	4,5	15	Pos. - Over the pos. - P1	Injector - J16	8	0.32	32x32 x 70	1.3 x 1.3 x2.7
J07	56444	5148313	MEDRAD Injector table interface	4,5	15	Pos. - Over the pos. - P1	Injector - J40	8	0.32	32x32 x 70	1.3 x 1.3 x2.7

*** These cables are not supplied with the systems destined to China; they are purchased locally.**

Precision RXi version e - MIS Chart

Cables between POSITIONER CABINET (Pos. cab.) and POSITIONER (Pos.) BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**Inch**	**C \ mm**	**C \ inch**
P06	55941	5129626	Tilting Potentiometer	3	9,8	Pos. - Tilting Potentiometer - 3PT1	Pos. cab. - I/O interface board - 25S3CP1	7	0.28	12 x 5 x 14	.47 x .2 x .55
P07	55235	5129627	Tilting Tachymetric dynamo	3	9,8	Pos. - Tilting Tachymetric dynamo - 3DT1	Pos. cab. - Bus maxi drivers board - 23S9MVS1- pin 3,4,5	5	0.2	Crimped terminal	
P08	55236	5129628	Tilting Motor	3	9,8	Pos. - Tilting Motor - 3MT1	Pos. cab. - Bus maxi drivers board - 23S9MVS1- pin 1,2	10	0.39	Crimped terminal	
P09	55241	5129629	Positioner ground	3	9,8	Pos. - Tilting/Elevation group ground - 3GND1/2	Pos. cab. - Ground - 20GND0	7	0.28	Crimped terminal	
P10	55240	5129630	Tilting Table Safety	3	9,8	Pos. - Tilting Table Safety - 3Fc1, 3Fc2	Pos. cab. - I/O interface board - 25S3AMP1	5	0.2	12 x 5 x 14	.47 x .2 x .55
P14	55242B	5129635	Stand X-Ray Potentiometer	3	9,8	Pos. - Stand X-Ray Potentiometer - 3CP3 [3PT3]	Pos. cab. - I/O interface board - 25S3CP3	7	0.28	12 x 5 x 14	.47 x .2 x .55
P15	55243A	5129636	Stand X-Ray Tachymetric dynamo	3	9,8	Pos. - Stand X-Ray Tachymetric dynamo - 3TB3 [3DT3]	Pos. cab. - Bus maxi drivers board - 23S9MVS3-pin 3,4,5	5	0.28	Crimped terminal	
P16	55244A	5129637	Stand X-Ray Motor	3	9,8	Pos. - Stand X-Ray Motor - 3TB3 [3MT3]	Pos. cab. - Bus maxi drivers board - 23S9MVS3-pin 1,2	10	0.39	Crimped terminal	
P17	55251	5129638	Focal Film Distance signals	3	9,8	Pos. - Focal Film Distance Microswitch - 3Fc5	Pos. cab. - Bus step drivers board - 24S9AMP2	5	0.2	12 x 5 x 14	.47 x .2 x .55
P18	55252	5129639	Focal Film Distance Motor	3	9,8	Pos. - Focal Film Distance Motor - 3TB5 [3MT5]	Pos. cab. - Bus step drivers board - 24S9MVS8	9	0.35	30 x15 x18	1.18 x .59 x .7
P19	55258	5129640	Collimator	3	9,8	Pos. - Collimator Motors - 3CM1 [3MT7, 3MT8, 3MT9]	Pos. cab. - Bus mini drivers board - 23S10MVS3	13	0.51	70 x15 x18	2.75 x .59 x.7
				3	9,8	Pos. - Collimator potentiometers - 3CM1 [3PT7, 3PT8, 3PT9]	Pos. cab. - I/O interface board - 25S3CP7, 25S3CP8, 25S3CP9	9	0.35	12 x 5 x 14	.47 x .2 x .55
P20	55256	5129792	Display on Compressor group	3	9,8	Pos. - X-Ray Housing Tube group - 3TB6	Pos. cab. - I/O interface board - 25S3AMP9	9	0.35	23 x 7 x 14	.91 x .28 x .55
P21	55255	5129793	Compressor Motor	3	9,8	Pos. - Compressor group Motor - 3TB6 [3MT6]	Pos. cab. - Bus mini drivers board - 23S10MVS2-1/2	7	0.28	Crimped terminal	
P22	55254	5129794	Tabletop Transversal signals	3	9,8	Pos. - Tabletop Transversal Microswithes - 3Fc11, 3Fc12	Pos. cab. - I/O interface board - 25S3AMP6	5	0.2	12 x 5 x 14	.47 x .2 x .55
P23	55253	5129795	Tabletop Transversal Motor	3	9,8	Pos. - Tabletop Transversal Motor - 3TB10 [3MT10]	Pos. cab. - Bus mini drivers board - 23S10MVS2-3/4	7	0.28	Crimped terminal	
P24	55945	5129796	SFD Potentiometer	3	9,8	Pos. - SFD Potentiometer - 3PT4	Pos. cab. - I/O interface board - 25S3CP4	7	0.28	12 x 5 x 14	.47 x .2 x .55
P25	55247	5129797	SFD Tachymetric dynamo	3	9,8	Pos. - SFD Tachymetric Dynamo - 3DT4	Pos. cab. - Bus maxi drivers board - 23S9MVS4-pin 3,4,5	5	0.2	Crimped terminal	
P26	55248	5129798	SFD Motor	3	9,8	Pos. - SFD Motor - 3MT4	Pos. cab. - Bus maxi drivers board - 23S9MVS4-pin 1,2	10	0.39	Crimped terminal	
P27	55267A	5129799	Remote Keyboard	3	9,8	Pos. - Remote Keyboard - 3S1AMP1	Pos. cab. - I/O interface board - 25S3AMP8	9	0.35	23 x 7 x 14	.91 x .28 x .55
P28	55250A	5129800	Emergency Stop and I.I. safety	3	9,8	Pos. - SFD Group - Emerg.Stop and I.I. safety 3PULS1/3TB4	Pos. cab. - I/O interface board - 25S3AMP3	5	0.2	12 x 5 x 14	.47 x .2 x .55
P29	55263	5129801	Parallel Diaphragms Motor	3	9,8	Pos. - Parallel Diaphragms Motor - 3TB13 [3MT13]	Pos. cab. - Bus step drivers board - 24S9MVS2	9	0.35	30 x15 x18	1.18 x.59 x .7
P31	55265	5129803	Grid Motor	3	9,8	Pos. - Grid Motor - 3TB15 [3MT15]	Pos. cab. - Bus step drivers board - 24S9MVS4	9	0.35	30 x15 x18	1.18 x.59 x .7
P32	55260	5129804	Longitudinal Cassette Motor	3	9,8	Pos. - Longitudinal Cassette Motor - 3TB11 [3MT11]	Pos. cab. - Bus step drivers board - 24S9MVS6	9	0.35	30 x15 x18	1.18 x.59 x .7

P35	55266	5129807	SFD Reference Photocell	3	9,8	Pos. - SFD Reference Photocell board - 3S3AMP9	Pos. cab. - Bus step drivers board - 24S9AMP1	9	0.35	23 x 7 x 14	.9 x .28 x .55
P36	55268A	5129808	Potentiometers for Film dimensions	3	9,8	Pos. - Cassette group - 3CP10/ 3CP11[3PT10/3PT11]	Pos. cab. - I/O interface board - 25S3CP10, 25S3CP11	8	0.32	12 x 5 x 14	.47 x .2 x .55
P41	56363A	5262738	Room double Foot switch extender	7	23	Pos. - Room double Foot switch connector - 3CM20	Pos. cab. - I/O interface board - 25S3AMP5	5	0.2	23 x 5 x 14	.91 x .2 x .55
I02	56297	5129813	Microphone and loudspeaker secondary	7	23	Pos. - Over the Pos - Microphone and loudspeaker secondary (507/1SA)	Pos. cab. - Intercom power supply/amplifier (528)	7	0.28	Crimped terminal	

Inside POSITIONER CABINET (Pos.Cab.) cables for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
I04	55513	5142355	Intercom power supply	/	/	Pos.Cab. - Power Transformer - 22TR1	Pos.Cab. - Intercom power supply/amplifier (528)	5	0.2	internal	

Inside POSITIONER (Pos.) cables for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
P43	55944	N/A	Stand X-Ray Potentiometer extender	/	/	Pos. - Stand X-Ray Group - 3PT3	Pos. - Stand X-Ray Group - 3CP3	7	0.28	internal	
P44	55245	N/A	Stand X-Ray Group Ground	/	/	Pos. - Stand X-Ray Group Ground - 3GND3	Pos. - Tilting/Elevation Group Ground - 3GND1/2	7	0.28	internal	
P45	55314	N/A	Variable Focal Film Distance Ground	/	/	Pos. - Focal Film Distance Ground - 3GND5	Pos. - Stand X-Ray Group Ground - 3GND3	7	0.28	internal	
P47	55220	N/A	Collimator Ground	/	/	Pos. - Collimator Ground - 3GND7	Pos. - Focal Film Distance Group Ground - 3GND5	6	0.24	internal	
P48	55316	N/A	X-Ray Housing Tube centered	/	/	Pos. - X-Ray Housing Tube Group - 3Fc13	Pos. - X-Ray Housing Tube Group - 3TB6	6	0.24	internal	
P49	55257	N/A	Stand X-Ray Display board extender	/	/	Pos. - Compressor Group - 3S2AMP1 / 3AMP2	Pos. - X-Ray Housing Tube Group - 3TB6	12	0.47	internal	
P50	56352	N/A	Compressor microswitches	/	/	Pos. - Compressor Group - 3Fc6, 3Fc7, 3Fc8	Pos. - Compressor Group - 3AMP2	8	0.32	internal	
P51	55249	N/A	SFD Group Ground	/	/	Pos. - SFD Group Ground - 3GND4	Pos. - Tilting/Elevation Group Ground - 3GND1/2	7	0.28	internal	
P52	55369	N/A	SFD Ground	/	/	Pos. - SFD Ground - 3GND11	Pos. - SFD Group Ground - 3GND4	7	0.28	internal	
P54	55352	N/A	Parallel Diaphragms Reference Photocell	/	/	Pos. - Parallel Diaphragms Photocell - 3Fc16	Pos. - SFD Reference Photocell board - 3S3AMP1	6	0.24	internal	
P56	55354	N/A	Grid Reference Photocell	/	/	Pos. - Grid Photocell- 3Fc18	Pos. - SFD Reference Photocell board - 3S3AMP3	6	0.24	internal	
P57	55355	N/A	Longitudinal Cassette Ref.ce Photocell	/	/	Pos. - Longitudinal Cassette Photocell- 3Fc14	Pos. - SFD Reference Photocell board - 3S3AMP4	6	0.24	internal	
P61	55478A	N/A	Film dimensions Potentiometers extender	/	/	Pos. - Cassette Group - 3PT10 / 3PT11	Pos. - SFD Group - 3CP10/11[3PT10/11]	6	0.24	internal	
P65	55581	N/A	On board Console Joystick	/	/	Pos. - On board Console Joystick -P44A, P44B, P44C, P44D	Pos. - SFD Group - 3CM19	6	0.24	internal	
P66	55580	N/A	On board Console Joystick extender	/	/	Pos. - SFD Group - 3AMP19 / 3CM19	Pos. - Remote Keyboard 3S1	6	0.24	internal	
I01	55510	N/A	Microphone secondary	/	/	Pos. - collimator - Microphone secondary (507/SMV)	Pos. - Over the Pos - Microphone and loudspeaker secondary (507/1SA)	7	0.28	internal	

Cables between POSITIONER CABINET (Pos. cab.) and DIAGNOSTIC ROOM for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**Inch**	**C \ mm**	**C \ inch**
P67	55317	5130656	Safety for low ceiling extender	15	49,2	Diagnostic Room - Photocell above the Pos. - 3CM2 [3Fc3]	Pos. cab. - I/O interface board - 25S3AMP2	7	0.28	12 x 5 x 14	.47 x .2 x .55
P68	55279	5130657	Safety for low ceiling	2	6,6	Diagnostic Room - Photocell above the Pos. - 3Fc3	Diagnostic Room - Photocell above the Pos. - 3CM2 [3Fc3]	7	0.28	18x18 x 65	.7 x .7 x 2.6
P69	55628[7]	5172381	Room double Foot switch	3	9,8	Diagnostic Room - Over the Pos. - double Foot switch	Pos. - Room double Foot switch connector - 3CM20	8	0.32	18x18 x 65	.7 x .7 x 2.6
	56662[8]	5269029	Room double Foot switch	3	9,8	Diagnostic Room - Over the Pos. - double Foot switch	Pos. - Room double Foot switch connector - 3CM20	8	0.32	18x18 x 65	.7 x .7 x 2.6

Cables between GENERATOR CABINET (Gen. Cab.) and MAIN SUPPLY PANEL for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
G01	56359	5130663	Power Supply Generator (3phases)	10	32,8	Main power supply panel MS1 (400/480Vac)	Gen. Cab. - Power Input board - [L1-L2-L3]	25	0.98	Crimped terminal	
G02	56360	5130665	Ground Generator	10	32,8	Main power supply panel NE1 (GND)	Gen. Cab. - Power Input board – GND	10	0.4	Crimped terminal	

Cables between POSITIONER CABINET (Pos. cab.) and MAIN SUPPLY PANEL for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
T01	55430	5130667	Power Supply positioner (1phases)	10	32,8	Main power supply panel MS2 (230/277Vac)	Pos. cab. - 22Filter (230Vac) or 22TR3 (277Vac)	10	0.39	Crimped terminal	
T02	55429	5130669	Ground positioner	10	32,8	Main power ground panel NE2 (GND)	Pos. cab. - 20GND0	7	0.28	Crimped terminal	

Inside POSITIONER CABINET (Pos. cab.) cables for ANALOG SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N03	55969	5130674	Nical/Positioner Interface signals	/	/	Pos. cab. - I/O interface board - 25S3 AMP10	Pos. cab. - Nical interface board - AMP1	7	0.28	internal	

Cable between POSITIONER CABINET (Pos. cab.) and GENERATOR CABINET (Gen. cab.) for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
T03	56380	5130679	Generator/Positioner Interface signals	4	13,1	Gen. cab. -TDI board - J6	Pos. cab. - I/O Interface board - 25S3, AMP11, AMP12 , AMP13	11	0.43	70x16 x 60	2.7 x .63 x 2.4

Cables between POSITIONER CABINET (Pos. cab.) and GENERATOR CABINET (Gen. Cab.) for ANALOG SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N01	56176A	5130681	Power supply Nical panel and ABS	4	13,1	Gen. Cab. - Room interface board – TB7/TB8 (24Vdc Out) and TDI board – J7 pin1- pin2 – pin3	Pos. cab. - Nical Interface board – SC1	10	0.4	30x15x18	1.18 x .59 x .7
N02	55967	5130682	Power supply 220 Vac input for Monitor	4	13,1	Gen. Cab. - Room interface board TB7/TB10 (230Vac Out)	Pos. cab. - Nical panel – MV1 (230Vac In)	6	0.24	Crimped terminal	

[7] GMM#:55628 - (P69 - Room double Foot switch), it uses a single release for Prep and Rad
[8] GMM#56662 - (P69 - Room double Foot switch), it uses a double release for Prep and Rad

Cables between POSITIONER (Pos.) and GENERATOR CABINET (Gen. cab.) for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
T04	18875	5130691	High tension	5	16,4	Pos. - X-Ray Housing - anode, cathode	Gen. cab. - Tank 1 - anode, cathode	17	0.67	75x75x210	2.9 x 2.9 x 8.3
T05	55202	5130692	X-Ray Housing Ground	5	16,4	Pos. - X-Ray Housing - GND	Gen. cab. - Tank 1 - GND	6	0.24	Crimped terminal	
T06	55656	5130693	X-Ray Housing thermal switch	5	16,4	Pos. - X-Ray Housing - thermal switch	Gen. cab. - (Tank 1) - [Tube1, Thermal Switch]	7	0.28	Crimped terminal	
T07	55674	5130694	X-Ray Housing anode	5	16,4	Pos. - X-Ray Housing - anode [1 - 2 - 3]	Gen. cab. - (Tank 1) - [Tube1, Common - Main - Shift]	11	0.43	Crimped terminal	
T08	55673	5130695	X-Ray Housing fan	5	16,4	Pos. - X-Ray Housing - fan [3Vent1-1/ 3Vent1-2/GND]	Gen. cab. - Room Interface board [TB7 / TB10 / GND]	7	0.28	Crimped terminal	
T09	56476	5178898	COMET AEC chamber	5	16,4	Pos. - COMET chamber	Gen. cab. - AEC interface board channel 1-J11	8	0.32	Crimped terminal	
T10	40358	5130698	VACUDAP chamber	5	16,4	Pos. - Collimator - DAP	Gen. cab. - DAP Interface board channel 1-J2	7	0.28	35x15 x 55	1.4 x.59 x 2.2

Cables between POSITIONER (Pos.) and POSITIONER CABINET (Pos. cab.) for ANALOG SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N05	55968	5130699	I.I. magnification	7	23	Pos. - I.I. connector	Pos. cab. - Nical Interface board – AMP2	6	0.24	23x5 x 14	.91 x .2 x .55
N06	55966	5130700	Nical N23 camera video signal input (only N23 vers.)	7	23	Pos. - I.I. group – N23 TV chain connector (only for N23 vers.)	Pos. cab. - Nical N23 Panel – camera head (only for N23 vers.)	8	0.32	33x15 x 33	1.3 x .59 x 1.3
N07	56090	5130701	Nical N23/N33 camera video signal input	7	23	Pos. - I.I. group – N23/N33 TV chain connector	Pos. cab. - Nical N23/N33 Panel – camera head	9	0.35	33x15 x 33	1.3 x .59 x 1.3
N08	55965	5130702	Ground I.I.	7	23	Pos. - I.I. group – GND	Pos. cab. - 20GND0	6	0.24	Crimped terminal	

Inside CONSOLE cables for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
P01	55217	5130708	Foot switch GMM console	/	/	Console - GMM keyboard - 1S1CP1 board	Console - GMM keyboard - Foot switch	6	0.24	internal	
T12	56437	5142359	DAP Printer signal	/	/	Console - Touch Screen - J4 (COM3 - data link)	Console - DAP Printer	7	0.28	internal	
T13	56438	5142360	DAP Power supply ac/dc adaptor	/	/	Console - DAP Printer power supply ac/dc adaptor (9Vdc Out)	Console - DAP Printer	7	0.28	internal	

Cables between CONSOLE and GENERATOR CABINET (Gen. cab.) for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
G05	55835	5178725	Keyboard signals CPI Console	14,5	47,6	Gen. cab. - Generator Interface board - J4	Console - console board - J5	8	0.32	40x17 x 48	1.6 x .66 x 1.9
T14	56439	5142362	DAP Printer Power supply	14,5	47,6	Gen. cab. - room interface board - TB7/ TB10 (220 Vac Out)	Console - DAP Printer - Ac/dc adaptor	9	0.35	40x12 x 80	1.6 x .47 x 3.2

Cables between CONSOLE and POSITIONER CABINET (Pos. cab.) for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
P02	55366	5130824	Power supply GMM Console	14,5	47,6	Pos. cab. - Auxiliary Transformer - 22TR2-27/28 (19Vac)	Console - GMM console - CPU console board - 1S2-CN6	9	0.35	Crimped terminal	
P03	55365	5130825	Fiber optical GMM Console	14,5	47,6	Pos. cab. - CPU Host board - 25S1-TX/RX	Console - GMM console - CPU console board - 1S2-TX/RX	4	0.16	7 x 7x 25	.28 x.28 x .98
P04	55232A	5130826	Keyboard signals GMM Console	14,5	47,6	Pos. cab. - I/O interface board - 25S3-AMP4	Console - GMM console - keyboard - 1S1-AMP1	8	0.32	23 x 5 x 14	.91 x .2 x .55
P05	55415	5130827	GND GMM Console	14,5	47,6	Pos. cab. - Ground - 22GND0	Console - GMM console - Ground 1GND0	7	0.28	Crimped terminal	
I03	56296	5130829	Microphone and loudspeaker principal	14,5	47,6	Pos. cab. - Intercom power supply/amplifier (528)	Console - GMM console - Microphone and loudspeaker (507/PA)	7	0.28	Crimped terminal	

Cables between CONSOLE and POSITIONER CABINET (Pos. cab.) for ANALOG SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N12	56111	5130830	Monitor Power supply 220 VAC	14,5	47,6	Pos. cab. - Nical panel - MV1 (230Vac Out)	Console - Monitor power supply (230Vac In)	7	0.28	Crimped terminal	
N13	56112	5130831	Nical camera video signal output	14,5	47,6	Pos. cab. - Nical panel - BNC output - Video Out	Console - Monitor video signal input	7	0.28	14x14 x 15	.55 x .55 x .59

Cables between ROOM DIRECT MONITOR and POSITIONER CABINET (Pos. cab.) for ANALOG SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
N17	56111	5130830	Monitor Power supply 220 VAC	15,5	50,8	Pos. cab. - Nical panel - MV1 (230Vac Out)	Suspension or cart Monitor - Monitor power supply (230Vac In)	7	0.28	Crimped terminal	
N18	56112	5130831	Nical camera video signal output	15,5	50,8	Pos. cab. - Nical panel - BNC output - Video Out	Suspension or cart Monitor - Monitor video signal input	7	0.28	14x14 x 15	.55 x .55 x .59
N19	56114	5130855	GND Suspension or cart	15,5	50,8	Pos. cab. - 20GND0	Suspension or cart Monitor - GND	6	0.24	Crimped terminal	

Cables between WALLBUCKY and GENERATOR CABINET for BASE SYSTEM											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
W01	56284	5130872	Ground	17,5	57,4	Main Power Supply Panel NE3 (GND)	Wall bucky - GND	6	0.24	Crimped terminal	
W02	56283	5130873	Wall bucky generator interface	17,5	57,4	Gen. cab. - room interface board TB2/TB7/TB10/TB11	Wall bucky - Bucky TB1	11	0.43	Crimped terminal	
W03	56590	5178699	COMET AEC chamber	17,5	57,4	Gen. cab. - AEC interface board channel 2 – J12	Wall bucky - COMET chamber	8	0.32	Crimped terminal	

Cables between WALLBUCKY and POSITIONER CABINET for for BASE SYSTEM (combined with Positioner or OTS with manual collimator)											
rf	**GMM #**	**GE Part #**	**cables description**	**mt**	**ft**	**source**	**destination**	**mm**	**inch**	**C \ mm**	**C \ inch**
W06	56425	5148305	Wall bucky sensor interface	17,5	57,4	Pos. cab. - I/O interface board - 25S3CP13	Wall bucky - Bucky TB1	7	0.28	12 x 5 x 14	.47 x .2 x .55

Precision RXi - MIS Maps

Table of Figures

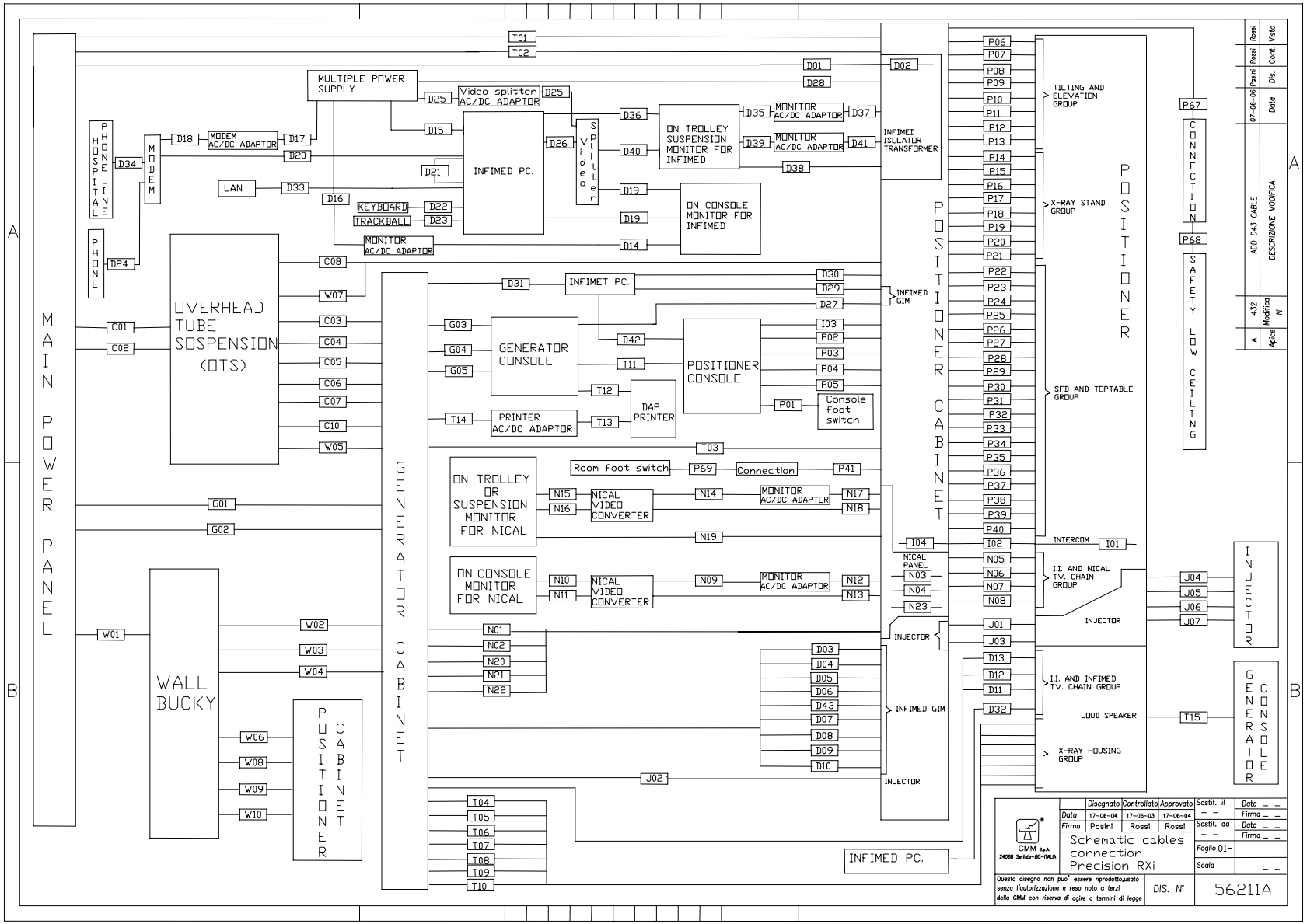


Fig. 1: Precision RXi system - schematic cables connection

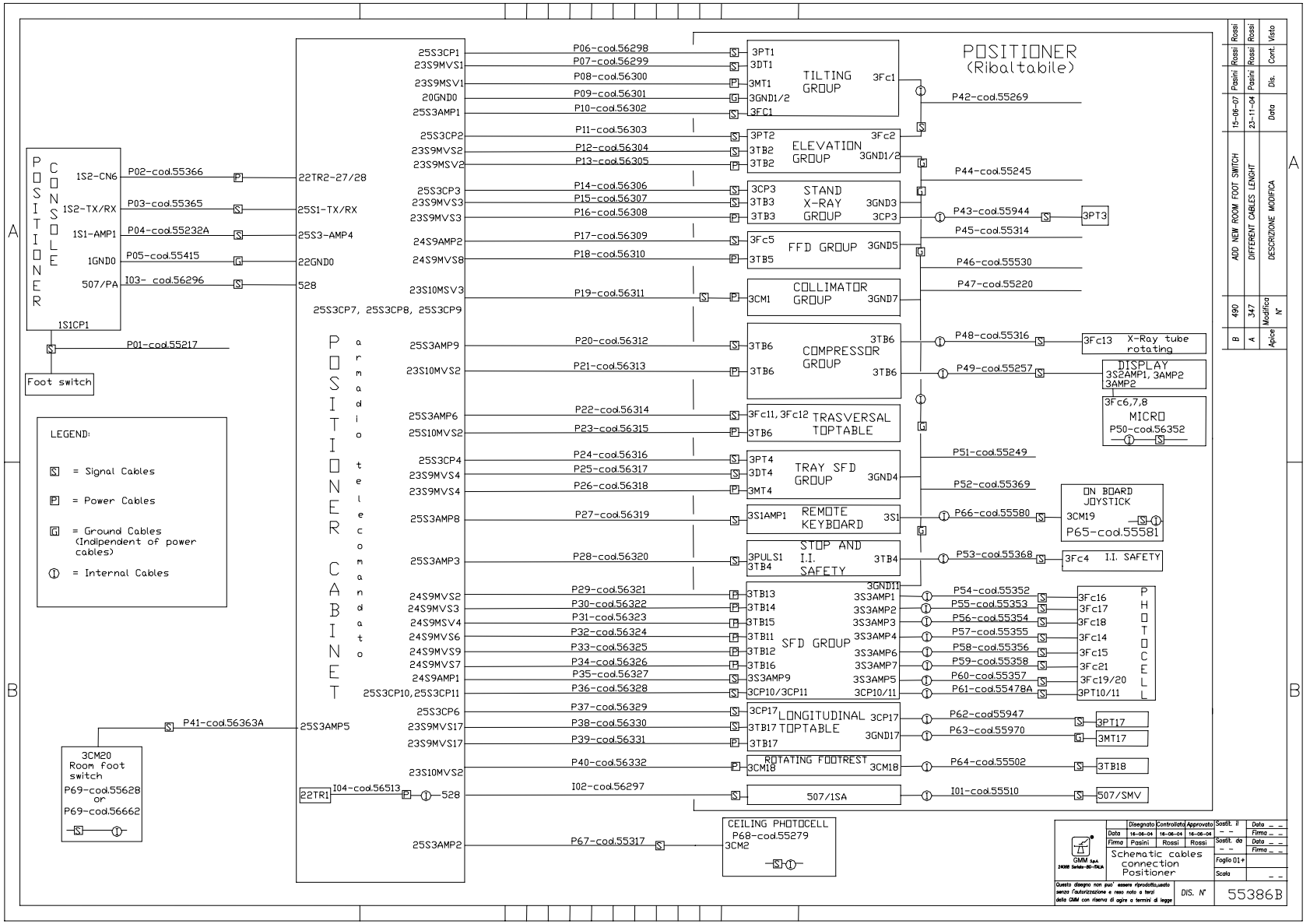


Fig. 2: Positioner - schematic cables connection

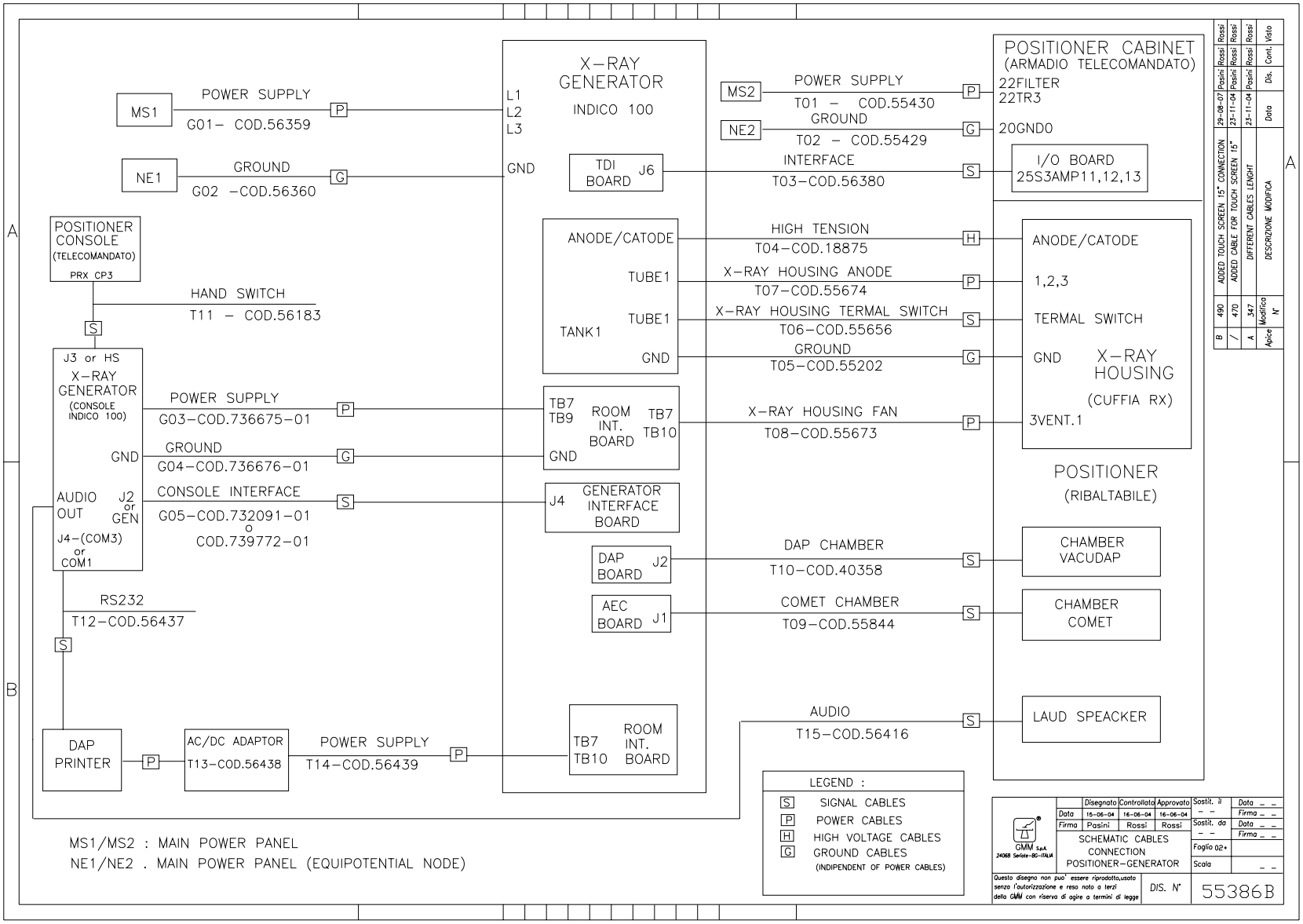


Fig. 3: Generator/Positioner – schematic cables connection

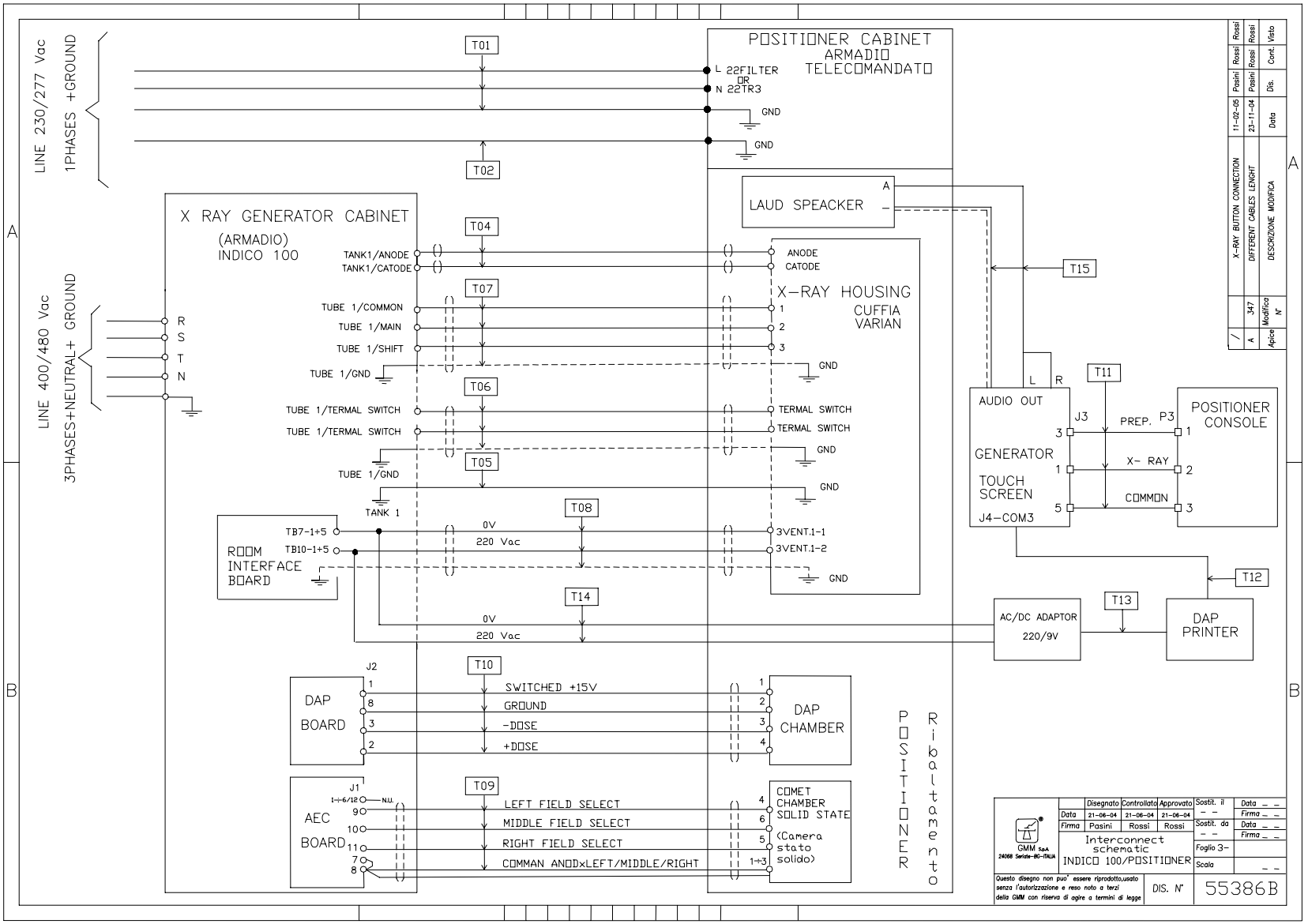


Fig. 4: Generator/Positioner – Detailed schematic interconnects

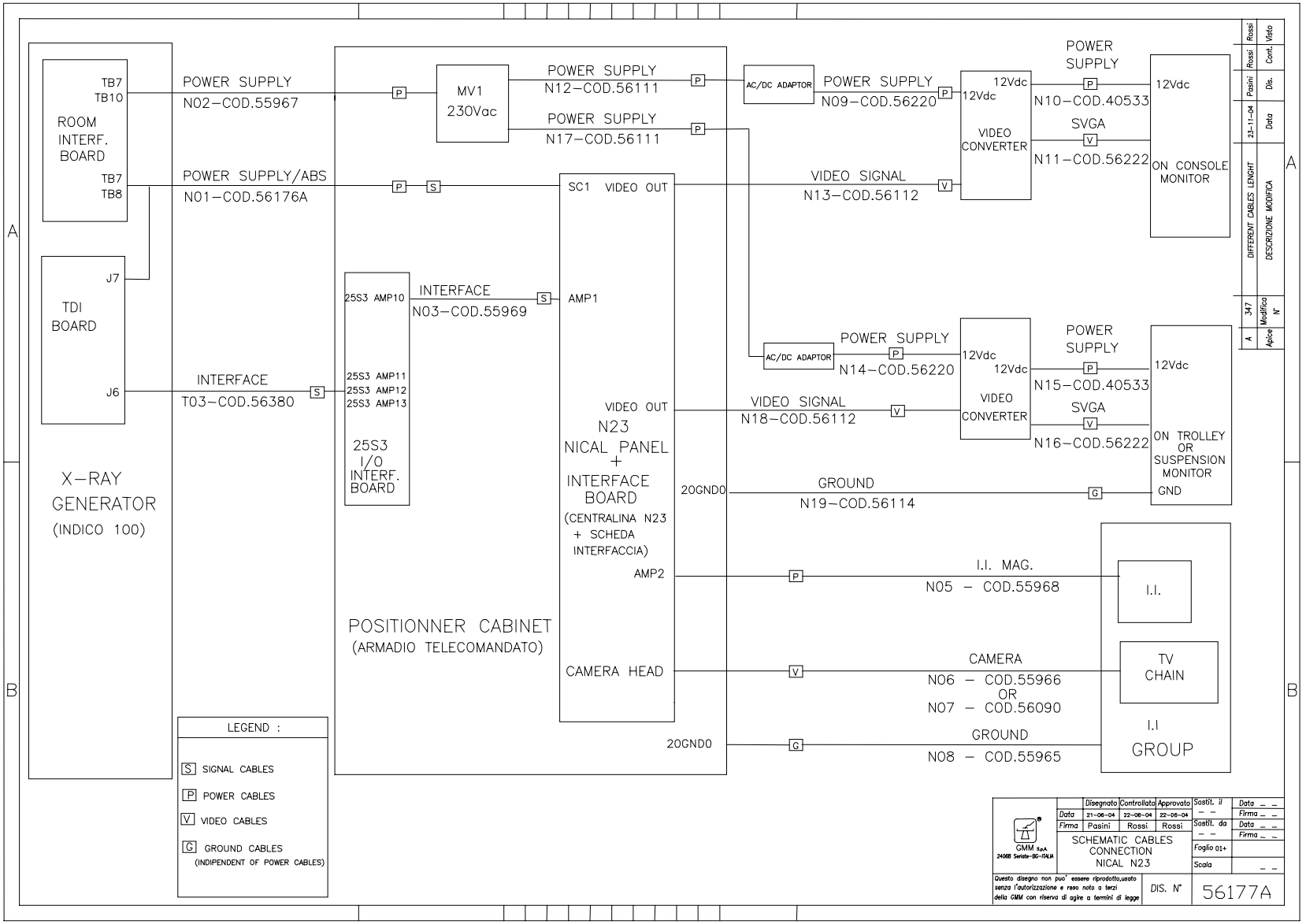


Fig. 5: Analog system 512 with Totoku monitor– Schematic cables