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A mandatory component of this drawing set is the GE Healthcare Pre Installation manual. Failure to reference the Pre Installation manual will result in incomplete documentation required for site design and preparation.

Pre Installation documents for GE Healthcare products can be accessed on the web at: www.gehealthcare.com/siteplanning

GE contact name
Phone number
Email address

| OPTIMA RF420 |
| TYPICAL STUDY |

Drawn by
Verified by
Concession
S.O. (GON)
PIM Manual
Rev

- - - - 5725001-8EN 1

Format Scale File Name Date Sheet
A3 1:50 EN-RF-TYP-OPTIMA-RF420.DWG 13/MAR/2020 01/08

GE Healthcare
**Basic system**

1. Electrical outlet 10/16A 230V + G
2. RJ 45 network socket
3. System remote control (Y), locked when power OFF "ON" and "OFF" impulse buttons with indicator lamps red=ON / green=OFF located at 1.50m above floor
4. System emergency off (SEO), (recommended height 1.50m-1.85m above floor)
5. System ON light (L) - 24V
6. X-Ray ON lamp (L1) - 24V

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**Flush floor duct**

**Wall duct**

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**Table anchoring (see Floor Structural Details)**

**Wallstand anchoring (see Floor Structural Details)**

**200x100 flush floor duct**

**200x100 cable inlet on the floor**

**100x100 cable inlet on the floor**

**200x100 cable inlet on the floor**

**200x100 horizontal wall duct**

**200x100 cable inlet on the floor and vertical wall duct for PDB (h=1.1m)**

**Power distribution box (PDB)**
**FLOOR MOUNTING**

**ELEVATING TABLE BASE PLATE**

- Operation/Maintenance load: 7.40 kN
- Actual load (including the vibration factor of the equipment): 9.26 kN
- Floor occupation area: 0.40 m²
- Unit load: 23.1 kN/m² (If the strength is less than this value, floor reinforcing work is required)
- Tensile strength of an anchor: 17.4 kN
- Shear strength of an anchor: 12.4 kN

**WALLSTAND BASE PLATE**

- 4 Anchoring holes M10 x 40

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**CABLE MANAGEMENT**

**FLUSH FLOOR DUCT**

- Waterproof joint
- Removable cover

**DUCT ON THE WALL**

- Removable coverplate

---

**NOT TO SCALE**

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**SCALE 1:10**
**POWER REQUIREMENTS**

<table>
<thead>
<tr>
<th>POWER SUPPLY</th>
<th>3 PHASES+N+G 380/400/415/440V ±10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREQUENCY</td>
<td>50/60 Hz ± 0.5 Hz</td>
</tr>
<tr>
<td>MAXIMUM INPUT POWER (0.1 sec max)</td>
<td>130 kVA</td>
</tr>
<tr>
<td>AVERAGE CONTINUES POWER</td>
<td>1660 W</td>
</tr>
<tr>
<td>LINE IMPEDANCE PER WIRE</td>
<td>0.13 Ohm/400V</td>
</tr>
</tbody>
</table>

- Line supply should come into a power distribution box (PDB) containing the protective units and controls.
- The section of the supply cable should be calculated in accordance with its length and the maximum permissible voltage drops.
- There must be discrimination between supply cable protective device at the beginning of the installation (main low-voltage transformer side) and the protective devices in the PDB.

**SUPPLY CHARACTERISTICS**

- Power input must be separated from any others which may generate transients (elevators, air conditioning, radiology rooms equipped with high speed film changers...)
- All equipment (lighting, power outlets, etc...) installed with GE system components must be powered separately.

**GROUND SYSTEM**

- Equipotential: the equipotential link will be by means of an equipotential bar. This equipotential bar should be connected to the protective earth conductors in the ducts of the non GE cableways and to additional equipotential connections linking up all the conducting units in the rooms where GE units are located.

**CABLES**

- Power and cable installation must comply with the distribution diagram below.
- All cables must be isolated and flexible, cable color codes must comply with standards for electrical installation.
- Case PDB furnished by GE: The cables for signals and remote control (Y, SEO, L...) will go to PDB with a pigtail length of 1.5m, and will be connected during installation. Each conductor will be identified and isolated (screw connector).

**CABLEWAYS**

The general rules for laying cableways should meet the conditions laid down in current standards and regulations, with regard to:

- Protecting cables against water (cableways should be waterproof)
- Protecting cables against abnormal temperatures (proximity to heating pipes or ducts)
- Protecting cables against temperature shocks
- Replacing cables (cableways should be large enough for cables to be replaced)
- Metal cableways should be grounded.

**POWER DISTRIBUTION**

- Main supply
- 3 phases + Neutral
- Ground
- 125A 400V

![Diagram of PDB connections]

- 24V: 3 x 1.5mm², 18 x 1.5mm², 5 x 35mm², 3 x 4mm², 3 x 2.5mm²
- 230V: 3 x 2.5mm²
- 400V: 3 x 4mm²

- PDB: Power Distribution Box
- Y: System remote-control locked when power OFF, "ON" and "OFF" impulse buttons with indicator lamps red=on / green=off
- L: System ON light - 24V - Located near access doors
- L1: X-Ray ON light - 24V - Located near access doors
- SEO: Emergency OFF, near access doors
- G: Generator
- T: Transformer (Digital Image Processor)
- ST: Starter

- Cable SUPPLIED BY CUSTOMER
- Equipment SUPPLIED BY CUSTOMER
- Equipment CAN BE ORDERED FROM GE
- Equipment SUPPLIED BY GE
DELIVERY

THE CUSTOMER/CONTRACTOR SHOULD:

- Provide an area, adjacent to the X-Ray suite, for delivery and unloading of the GE equipment,
- Ensure that the dimensions of all doors, corridors, ceiling heights, are sufficient to accommodate the movement of GE equipment from the delivery area to the specific rooms of the X-Ray site,
- Ensure that the access route will accommodate the weights of the equipment and any transportation, lifting and rigging equipment,
- If the parking and dock facilities are on property which does not belong to the customer, ensure that all necessary steps have been taken to ensure their temporary use by GE.

**SHIPPING DIMENSIONS AND WEIGHTS IN BOXES**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>LENGTH (mm)</th>
<th>WIDTH (mm)</th>
<th>HEIGHT (mm)</th>
<th>WEIGHT (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevating table</td>
<td>2310</td>
<td>1510</td>
<td>1110</td>
<td>680</td>
</tr>
<tr>
<td>Generator</td>
<td>1160</td>
<td>1010</td>
<td>2020</td>
<td>470</td>
</tr>
<tr>
<td>Image Capture Computer</td>
<td>1160</td>
<td>1060</td>
<td>1000</td>
<td>180</td>
</tr>
<tr>
<td>Monitor (1)</td>
<td>1210</td>
<td>810</td>
<td>850</td>
<td>75</td>
</tr>
<tr>
<td>Wallstand (option)</td>
<td>2310</td>
<td>860</td>
<td>870</td>
<td>200</td>
</tr>
</tbody>
</table>

Minimum door opening for equipment delivery is 1350x1800, contingent on a 1400x1800 corridor.
INTERCONNECTIONS

CONFIGURATION WITH WALLSTAND

PDB  Power Distribution Box
G   Generator
ST  Starter
T   Table
HE  Heat exchanger
OP  Operator console
MC  Monitor cart
WS  Wallstand
GENERAL SPECIFICATIONS

- GE is not responsible for the installation of developers and associated equipment, lighting, cassette trays and protective screens or derivatives not mentioned in the order.
- The final study contains recommendations for the location of GE equipment and associated devices, electrical wiring and room arrangements. When preparing the study, every effort has been made to consider every aspect of the actual equipment expected to be installed.
- The layout of the equipment offered by GE, the dimensions given for the premises, the details provided for the pre-installation work and electrical power supply are given according to the information noted during on-site study and the wishes expressed by the customer.
- The room dimensions used to create the equipment layout may originate from a previous layout and may not be accurate as they may not have been verified on site. GE cannot take any responsibility for errors due to lack of information.
- Dimensions apply to finished surfaces of the room.
- Actual configuration may differ from options presented in some typical views or tables.
- If this set of final drawings has been approved by the customer, any subsequent modification of the site must be subject to further investigation by GE about the feasibility of installing the equipment. Any reservations must be noted.
- The equipment layout indicates the placement and interconnection of the indicated equipment components. There may be local requirements that could impact the placement of these components. It remains the customer's responsibility to ensure that the site and final equipment placement complies with all applicable local requirements.
- All work required to install GE equipment must be carried out in compliance with the building regulations and the safety standards of legal force in the country concerned.
- These drawings are not to be used for actual construction purposes. The company cannot take responsibility for any damage resulting therefrom.

CUSTOMER RESPONSIBILITIES

It is the responsibility of the customer to prepare the site in accordance with the specifications stated in the final study. A detailed site readiness checklist is provided by GE. It is the responsibility of the customer to ensure all requirements are fulfilled and that the site conforms to all specifications defined in the checklist and final study. The GE Project Manager of Installation (PMI) will work in cooperation with the customer to follow up and ensure that actions in the checklist are complete, and if necessary, will aid in the rescheduling of the delivery and installation date.

Prior to installation, a structural engineer of record must ensure that the floor and ceiling is designed in such a way that the loads of the installed system can be securely borne and transferred. The layout of additional structural elements, dimensioning and the selection of appropriate installation methods are the sole responsibility of the structural engineer. Execution of load bearing structures supporting equipment on the ceiling, floor or walls are the customer’s responsibility.

RADIO-PROTECTION

Suitable radiological protection must be determined by a qualified radiological physicist in conformance with local regulations. GE does not take responsibility for the specification or provision of radio-protection.

THE UNDERSIGNED, HEREBY CERTIFIES THAT I HAVE READ AND APPROVED THE PLANS IN THIS DOCUMENT.

<table>
<thead>
<tr>
<th>DATE</th>
<th>NAME</th>
<th>SIGNATURE</th>
</tr>
</thead>
</table>

GLOBAL SITE READINESS CHECKLIST (DI)

Customer Name:  
PMI Name:  
GON/SD Number:  
Field Service Name:  
Equipment:  
Country/City or City/State:  
Site Visit Date for SRC:  
SRC Status:

<table>
<thead>
<tr>
<th>Site Ready Checks at Installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Site Planning</td>
</tr>
<tr>
<td>Room dimensions, including ceiling height, for all Exam, Equipment/Technical &amp; Control rooms meets GE specifications.</td>
</tr>
<tr>
<td>Ceiling support structure, if on the GE drawing, is at correct location and height according to the drawing specifications. Levelness and spacing has been measured. Overhead support Structure has been confirmed with contractor to meet GE criteria.</td>
</tr>
<tr>
<td>Rooms that will contain equipment, including staging areas if applicable, are construction debris free. Precautions must be taken to prevent debris from entering rooms containing equipment.</td>
</tr>
<tr>
<td>Finished ceiling is installed. If applicable ceiling tiles installed per PMI discretion.</td>
</tr>
<tr>
<td>Delivery route from truck to installation space has been reviewed, all communications have occurred, arrangements made for special handling (if needed). Floors along delivery route will support weight of the equipment, reinforcements arranged if needed.</td>
</tr>
<tr>
<td>System power &amp; grounding (PDB/MDP) is available as per GE specifications, installed at point of final connection and ready to use. Lock Out Tag Out is available.</td>
</tr>
<tr>
<td>System power and grounded audit has been scheduled to be completed during installation of equipment. (If Required) GEHC PM to confirmed if needed.</td>
</tr>
<tr>
<td>Adequate room illumination installed and working.</td>
</tr>
<tr>
<td>Cableways (floor, wall, ceiling, etc.) ready for GE cables and are of correct length and diameter. Cableways routed per GE Final drawings and access openings installed as determined by GEHC PM. Surface floor duct installed at time of system installation.</td>
</tr>
<tr>
<td>HVAC systems installed, and the site meets minimum environmental operational system requirements.</td>
</tr>
<tr>
<td>Network outlets installed and computer network available and working.</td>
</tr>
<tr>
<td>Hospital IT/connectivity contacts have been engaged and information has been added to Project management tool. (If Required)</td>
</tr>
<tr>
<td>Floor levelness/flateness is measured and within tolerance, and there are no visible defects per GEHC specifications. Floor Strength and thickness have been discussed with customer/contactor and they have confirmed GE requirements are met.</td>
</tr>
<tr>
<td>Customer supplied countertops where GE equipment will be installed are in place.</td>
</tr>
<tr>
<td>Specific for CT &amp; K-ray</td>
</tr>
<tr>
<td>Doors and windows complete or scheduled to be installed. If applicable, radiation protection (shielding) finished &amp; radioprotection regulatory approval for installation obtained.</td>
</tr>
</tbody>
</table>

PMI Signature:  
Customer Signature:  
FS Signature: optional