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1 OBJECT

The purpose of this Technical Specification is to consolidate, in a single document, all the information received from BUYER to support the Basic Design of 240POB Units for the following compartments and areas of Accommodation Module:

- Galley, Mess Room, Provision Store and Waste Areas,
- Infirmary,
- Gymnasium, Gym Free Floor Area, and Multipurpose/ Music Room, and
- Laundry.

2 BASIC INFORMATION

FPSO has a total of 240 people on board (POB). The Basic Design was developed considering an estimated maximum work shift of 210 people during the day, while the minimum night shift could be of 30 people, just for the operation of the unit.

All pieces of equipment listed in this document, except for item 2.3, shall be acquired from manufacturers that present proper contact for:

- Maintenance purposes,
- Supplying parts and/or spares for reposition in case of maintenance needs, and
- Specific products used to clean the equipment like decalcification or cleaning tablets for oven.

2.1 Galley, Messroom, Provision Store and Waste Areas

The design of the kitchens shall allow and favor the adequate flow of food, people, waste, clean material, and dirty material, necessary to promote healthy and safe food. The areas cannot be used as a passage for people and genders and there shall be no flow of dirty areas to clean areas or crossing of genders and waste. All kitchen and dining areas shall be air-conditioned to guarantee the following temperatures:

- Storage (dry): between 20 and 24º C
- Kitchen: between 16 and 25º C
- Meat, poultry, and fish handling room: between 12 and 18º C
- Messroom: between 19 and 24º C.

It is necessary that the ventilation system ensures thermal comfort and air renewal, performing efficient inflation and exhaustion, and that it is independent from the other systems of the vessel. It shall provide negative pressure inside the kitchen in relation to the adjacent environments (cafeteria, storage) to prevent the spread of odors. The environment shall be kept free of fungi, gases, smoke, powders, particles in suspension, and condensation of vapors. Exhaust hoods shall be adequately dimensioned over cooking equipment to contribute to the efficient exhaustion of smoke and odors. The air flow shall not fall directly on the food and shall be directed from the clean area to the dirty area. Fans or air conditioners (residential models, including split type) shall not be used.

The drains shall be siphoned and have grilles with a closing system. Their localization and quantity must be sufficient to prevent water accumulation during vessel heating and to permit periodic cleaning. The openings of exhaust systems, refrigeration or any other, shall have millimeter screens made with impermeable and removable material, to facilitate periodic cleaning. The electrical installations shall be built-in.

Kitchen faucets should have mobile spout and single lever type. Vats must be compatible with the stainless-steel pans with 45 cm in diameter and 46 cm in height in the “cookware washing” area and in the “wash area” as well as predict the point with the pre-rinse spray unit with spring at these points.

The doors shall have automatic closing. All storage doors, except the frigorific chambers, shall be self-closing with latching devices to keep open during loading and unloading operations.

The following information about spaces, areas, and compartments shall be followed:

- a. Reception: The container receiving area shall be covered and with more than one electricity point to connect those that are refrigerated. The ideal area should fit eight containers and must be near storage area. This area shall have a tank with a hose for pre-washing the products in a protected location before entering the storage area. In this area, waste will be generated that needs to be taken to the temporary garbage shelter without going through the interior of the Accommodation Module.
- b. Storage: There shall be a storage area for water bottles, with a bench and base with side opening, adapted to wash the bottles with pre-rinse spray unit with spring. An area shall be provided for the storage of utensils, such as pots, containers, pans, and trays, next to the utensil’s sanitation area, with different spaces for clean and dirty utensils. For the storage of food that requires refrigeration and freezing, cold rooms shall be used.
- c. Cleaning material deposit: An area shall be provided for the deposit of cleaning material with a tank for washing utensils used to clean the Accommodation Module.
- d. Pre-preparation and preparation: Provision shall be made for: room for pre-preparing meat, with independent areas for red meat, poultry and fish, independent area for pre-preparing salads, area for preparing bread, cakes and desserts, and a drinking fountain for food handlers. Pre-preparation areas shall not be provided next to the distribution counter. This area must have an area to keep, monoblocs and other utensils.
- e. Messroom: Equipment shall be arranged in such a way as to allow a continuous flow of people from entry to exit. A washbasin shall be provided at the entrance to the cafeteria. Items for consumption shall be made available in nearby locations, maintaining the following order:
 - Protected utensils (plates, fork, knife, spoon, bowls, glass cups and others),
 - 4 types of salad (cold counter with space for 4 GN 1/1 and bench for 2 GN¹/₂ and 4 GN¹/₄ containers),
 - 1 type of soup,

- 2 types of rice,
- 1 type of beans,
- 2 types of trim,
- 2 types of protein (meat) (hot counter with space for 8 GN 1/1 containers, 16 GN 1/2 containers),
- Desserts: 4 types of fruit and 2 types of sweets (cold counter with space for 4 GN 1/1 ou 8 GN 1/2 containers or trays),
- 2 types of natural juice,
- Condiments and sauces shall remain at the end of the distribution.

f. Snack points: Provide a room to be used as a snack distribution point near the control room or in work areas far from the messroom,

g. Temporary garbage shelter: It shall be isolated from the other areas of the Accommodation Module, remote and located in such a way that there is no passage of waste through the other areas of the Accommodation Module. There shall be provided water outlet point and place for cleaning the waste collectors and facilities for cleaning the environment, such as drains and a water point.

h. Equipment list: The physical area shall be calculated according to the equipment list.

BUYER request, as a minimum requirement, the following areas, and rates, as indicated on Basic Design documents:

- Dry Store: 84,09 m²/ 240 people → 0.35 m²/person,
- Water Gallon Store: 17.16 m²/ 240 people → 0.072 m²/ person,
- Summing Galley, Galley Store, Meat, Poultry and Fish Preparation, FLV, Bakery and Wash Area: 142.80 m²/ 240 people → 0.595 m²/ person,
- Summing the three Coffee Points (Main Deck, B and C Decks): 5.08 m² + 8.09 m² + 11 m² = 24.17 m²/ 240 people → 0.10 m²/ person.

SELLER shall consider frigorific chambers or cold rooms as defined below:

- Frozen food 62 liters/ person, and
- Refrigerated Food 81 liters/ person.

The dimensioning of cold rooms shall consider:

- The storage capacity in each freezer or refrigerator,
- The average per capita consumption of protein per meal,
- The types of storage food (refrigerated or frozen), properly separated by typologies,
- The storage of perishables for consumption of 11 days.

For the dimensioning of cold rooms, the design considered the use of traditional plastic boxes with dimensions of 300 mm x 360 mm x 550 mm (H x W x L) disposed on steel shelves with dimensions of 1200 mm x 600 mm. Shelves must be adjustable and based on other project using frigorific chambers, storage food was separated between the different types, presented on the **table I** below, with respective temperatures, areas, and numbers of structured steel shelves:

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TABLE I

Chamber	Temperature	Area (m ²)	Number of shelves
Meat	-18°C	20,58	12
Fish	-18°C	8,65	6
Dairy	+5°C	8,65	6
Vegetables	+10°C	23,46	15
Antechamber	+5°C	11,20	-

For storing drinking water gallons, the operation teams considers it as a critical point and informed that the gallons are stored inside their own individual crates, stacked 3 by 3, on pallets, and estimated the consumption of 1 gallon of 20 liters per person per week, totaling 240 gallons for week, requesting a safety margin reaching up to another 7 days, totaling 480 gallons to be stored per 14 days.

The drinking water gallons shall be stored in the Dry Storage (A317) and in the Water Gallon Store (A638), located on B and F decks, respectively.

Also, there is predicted a Used Gallon Area (A324) dimensioned to store the same number of gallons but used.

SELLER shall consider, at detailed design phase, the size and equipment for galley dimensioned for 210 people, number considered by PETROBRAS for the most populous shift, in its maximum condition.

SELLER shall consider, at detailed design phase, the ergonomic aspects for operation of all equipment and full comply to Brazilian and international regulation. Furniture adjustments shall be made whenever necessary.

SELLER shall consider, as minimal requirements, the **table II** below for specification and quantity of equipment for galley, mess room, provision store and waste areas:

TABLE II

Area	Equipment description	Details	Qty.
Cooking area	INDUSTRIAL CONTACT GRILL	Electric with grill in stainless steel structure with compartment underneath. Smooth top plate for high grill production in special treated steel with ideal thickness, electrical resistances in stainless steel, areas heated by an independent control system, internal control protection structure against heat, grease and water, stainless steel waste collection tray, meshed lower shelf in stainless steel. Dimensions approx. 1000 x 900 x 900 (H) mm	1
	ELECTRICAL RANGE	Electrical, in stainless steel, with 4 hot plates and under shelf. Heating by electric heaters of 3.5 kW for each individual control by mouth thermostat 50°C to 250°C. With each burner measuring approximately 360 x 360 mm, that is at least 1000 mm wide without considering the edges and spaces between burners, with hermetic cooking	2

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		surface that prevents the infiltration of dirt and liquids and ignition by switch. Dimensions approx. 1000x 900 x 900 mm	
	COMBI-STEAMER FOR 20 GN	Electric, stainless steel. Intelligent electric oven with climate asset management and dynamic air circulation, in the chamber cooking, based on stainless steel (table). Capacity 20 GN 1/1, triple-pane glass door with heat-reflective coating, with functions for grilling, roasting, steam cooking, stewing, and scalding, with all professional application, LED lighting for the cooking cabinet in each individual level, core temperature probe with six measurement points, integrated automatic retraction and water shut-off systems with spray and jet modes, and with accessories calculated for 210 meals: nonstick baking pans for omelets and eggs, frying pans and bread and a cart holder included. Intelligent automatic cleaning system. Dimensions approx. 1000 x 830 x 1850 mm	1
	INDUSTRIAL MULTIFUNCTION TILTING BRATTY PAN WITH COOKING OPTION IN PRESSURE, GRILLING AND COOKING AT LOW TEMPERATURE	Equipment with functions of conventional cooking appliances, such as the range, griddle, deep-fat fryer, bratt pan and kettle, in a single multi-functional unit, with heating technology formed by ceramic heating elements connected to the bottom of the reactive vat and scratch-proof and intelligent sensors at the bottom of the vat that measure the amount of load, condition and size of the food and constantly adjust the cooking process, with height adjustment, integrated shower/hose for cleaning, system that raises and lowers the food automatically from / in the cooking liquid, automatic tilting vat, with design for easy cleaning, integrated water drain and inlet (Precise water supply, to the litre, Time-saving automatic filling level control panel), selector button with stainless steel coating and touch, core temperature sensor with 6 measuring points, anti-burns protection and safety advices according with Brazilian rules, capacity: 100 liters, dimensions approx. (W x D x H) 1164x914x1100 mm (Cooking surface 42 dm ²), and with accessories calculated for 210 meals: Grill for the bottom of the 2/1 GN, frying baskets with arm, drainer, shell spatula, scraper, transport trolley, skimmer and baskets for cooking with arm.	1
	COOKING HOOD	In stainless steel. Dimensions and position according to layout. Covering all equipment used for cooking, according to lay out and ergonomic study.	According to layout
Bakery	DOUGH ROLLER EQUIPMENT (BREAD	For kneading doughs, in stainless steel structure, thickness adjustment with visual indicator, conveyors for transporting the dough to the rollers, sides in stainless	1

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KNOCKING CYLINDER)	steel, with electric flour dispenser, and all surface of the equipment must be easy to clean and disinfect. Security system, Emergency button, positive switches that turn off the equipment when the protection grid is open, and another security advices according with Brazilian regulation (NR12). Production capacity from 15 kg, dimensions approx. (height X width X length) 1580 x 810 x 1095 mm.	
INDUSTRIAL SPIRAL MIXER	Stainless steel spiral mixer, 25kg of dough, dimensions approx. 1270 x 620 x 1200 mm, with seamless stainless-steel tub and 40 liter capacity and cast iron beaters, with stainless steel base or table (own equipment or mounted separately), and safety devices required in accordance with NR 12 like the emergency button, grids or covers monitored by the security system for all moving parts that the operator may have access to in the correct operation of the equipment, For preparation of bread.	1
SCALE	Bench type. In stainless steel housing and platter, with capacity for 6 kg DIVISION 1G Dimensions approx. 220 x 305 x 85 (H) mm	1
ELECTRICAL JUICER	Stainless steel industrial juice extractor with stainless steel juice chamber, and safety devices required in accordance with NR 12 like system preventing automatic restart in case of sudden shutdowns, equipped with a lid, juice chamber, sieve, glass, large nut for squeezing oranges and small nut for squeezing lemons. Capacity approx. 10 oranges / minute and power approx. 0.5 hp	1
COOKING HOOD	Dimensioning and position according to the layout. Pay attention to the need to cover the combined oven.	According to layout
BREAD MODELER	Closed cabinet, Security protection, Automatic return, Conveyor belt for cylinder, SAE 1020 steel cylinders coated in hard chrome, armored bearings, emergency button, according to NR 12, and all surface of the equipment must be easy to clean an disinfect. Dimensions approx.: 750 x 560 x 1100 mm	1
INDUSTRIAL SPIRAL KNEADER	In stainless steel, compact and for use on a bench (own equipment or mounted separately), capacity for 15 kg of dough, with 2 speeds, with 304 stainless steel vat, without welds. Safety devices required in accordance with NR 12 like the emergency button, grids or covers monitored by the security system for all moving parts that the operator may have access to in the correct operation of the equipment, Dimensions approx. (height X width X length) 800 x 400 x 810 mm. For preparation of cakes.	1

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Salads and Vegetables area	REFRIGERATOR 400 LT	Temperature range +1°C to +10°C, stainless steel interior and exterior, glass door, CFC-free insulation and refrigerant R134a, automatic defrost and evaporation of condense water, interior lighting, lockable door, marine feet.	1
	CLIMATE CHAMBER FOR BREAD	Equipment that controls the temperature, accelerating or delaying the fermentation of the dough, temperature from 5°C to 35°C, 20 standard GN 1/1 mats, 430 stainless steel mats, With temperature sensor inside the chamber, Front casters with lock. Internal lining in stainless steel, external and external structure in 430 stainless steel.	1
	COMBI- STEAMER FOR 20 GN	Electric, stainless steel. Intelligent electric oven with climate asset management and dynamic air circulation, in the chamber cooking, based on stainless steel (table). Capacity 20 GN 1/1, triple-pane glass door with heat-reflective coating, with functions for grilling, roasting, roasting, steam cooking, stewing, and scalding, with all professional application, LED lighting for the cooking cabinet and each individual level, core temperature probe with six measurement points, integrated automatic retraction and water shut-off systems with spray and jet modes, and accessories calculated for 210 meals: nonstick baking pans for omelets and eggs, frying pans and bread and a cart holder included. Intelligent automatic cleaning system. Dimensions approx. 1000 x 830 x 1850 mm	1
	MULTI-PURPOSE PEELING MACHINE WITH BASE	Peeler, stainless steel, with electrical capacity 500kg/h coupled decantation to the body and sink waste filter basket, with stainless steel base (table). Dimensions approx. 825 x 650 x 1135 mm. With Cast aluminum discharge chute with quick-opening discharge hopper door. Safety devices required in accordance with NR 12 like a device not allowing the machine to work while it is open, in addition to an anti-reset that prevents the machine from automatically turning on in cases of shutdowns caused by power outages,	1
	INDUSTRIAL SLICER	Manufactured to work in continuous use, in accordance with INMETRO. Removable disc protector, which facilitates cleaning and sanitizing of the machine. Blade with a diameter of 350mm. Safety devices required in accordance with NR 12 like: emergency button and sensors according with Brazilian regulation, Master key, Reset button, Car with semicircular acrylic protector, to protect the operator's hands during the cutting process, Anti-reset which prevents automatic reclosing of the machine in cases of abnormal power shutdowns,	1

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		Movement: automatic, Blade diameter: 350 Ø mm, Rotation / minute 200 rpm. Dimensions approx. 662 x 797 x 667 mm	
	INDUSTRIAL BLENDER	Capacity: 8 Liters, electrical, all in stainless steel, and safety devices required in accordance with NR 12 like: electronic monitoring system on the lid that eliminates the cup's protection, the blender also has an anti-reset mechanism that prevents the machine from automatically restarting in the event of abnormal power outages, with motor powerful of 0,5 CV (4500 rpm) Dimensions approx. 460 x 280 x 480 (H) mm	1
	MANUAL CAN OPENER	Tabletop model, suitable for most sizes of cans, stainless steel.	1
	MULTIFUNCTIONAL EQUIPMENT WITH BLAST CHILLER FUNCTION	Multifunctional equipment with quick cooling, deep freezing, defrosting, temperature conservation, food regeneration, low temperature cooking, bread fermentation and pasteurization functions. Its chamber operates between -40°C and 85°C and its processes cool food to 3°C in the nucleus in up to 90 minutes, and with core probe with 3 detection points, magnetic and slow closing of the door opening up to 160°, WIFI module included for the HACCP report download. Capacity: number of trays: 13 x GN 2/1 with Double MultiRack 26 x GN1/1 (H= 65 mm). Productive Capacity approx.: 95 Kg / Cycle and. Dimensions approx: 870 x 1145 x 1965 mm (W x D x H)	1
	REFRIGERATOR 400 LT	Temperature range +1 to +10oC, stainless steel interior and exterior, glass door, CFC-free insulation and refrigerant R134a, automatic defrost and evaporation of condense water, interior lighting, lockable door, marine feet.	1
	VEGETABLE CUTTER	With min. 10 discs (slicers 6mm and 1mm, graters 2mm and 9mm, julienne 1x26mm and 2.5x2.5mm, French fries 8x16mm, dicing 5x5x5mm, 10x10x10mm and 25x25x25mm), large volume mouth that allows introduce large vegetables of the type, Cabbages, eggplants, half moon hopper 2.2 L, Cylindrical hoppers Ø 58 mm and Ø 39 mm, exactitube pusher – Included, easy to clean, equipped with an automatic lever-operated restart to save time and for greater comfort, and safety devices required in accordance with NR 12 like: emergency button. Production: 200 kg / h. Disc diameter 429 mm, Dimensions approx. 520 x 710 x 775 mm	1
Meat, poultry,	MULTIFUNCTIONAL EQUIPMENT WITH THAWING FUNCTION	Multifunctional equipment with cooling, rapid freezing, cold storage and non-stop cooling/freezing, hot preservation, defrosting, ready-to-serve, low-temperature cooking, chocolate melting, leavening, pasteurization and	1

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		drying functions. Its chamber works between -40°C and +85°C capacity: number of trays: 13 x GN 2/1 with Double MultiRack 26 x GN1/1 (H= 65 mm). Productive Capacity approx.: 95 Kg / Cycle and. Dimensions approx: 870 x1145x1965 mm (W x D x H) and with programmable defrost cycles, with core probe with 3 detection points, magnetic and slow closing of the door opening up to 160°, WIFI module included for the HACCP report download.	
	REFRIGERATOR 400 LITERS	Temperature range +1°C to +10°C, stainless steel interior and exterior, glass door, CFC-free insulation and refrigerant R134a, automatic defrost and evaporation of condense water, interior lighting, lockable door, marine feet.	1
Pot Wash/ Scullery Area	DISHWASHER WITH HOOD 150 RACKS/HORAS.	Mechanical capacity approx. - 150 drawers per hour, CYCLE TIME (wash + rinse) - 60 seconds per drawer, with chemical automatic dosage (detergent and dryer), emergency stop system, wash temperature from 55 ° to 65 ° C and rinse temperature from 80 ° to 90 ° C. Program special hygiene to remove deposits of dirt and lime, fully equipped with: filling / drain hose, electric cable, detergent dispenser, drying agent, rinse pump, drain pump, backflow prevention device and dish racks , cup racks and cutlery racks. Safety device that interrupts the cycle if the door is opened during operation. Outside dimensions (W x D x H) (with closed hood) approx. 1620X1150X770 mm	1
	ROLLER SHUTTER	Stainless steel, for plates return.	1
	DIGITAL SCALE	Capacity 100 Kg, platform in stainless steel	1
Freezer/ Refrigerator room	PLATFORM SCALE	capacity 200 Kg, platform in stainless steel	1
	FROZEN CHAMBER	Dimensions and position according to layout: - Frozen (<-18°C) - 02 unit, - Refrigerated (<5°C) - 01 unit, - Refrigerated (<10°C) - 01 unit, and - Antechamber (<5°C). Wall / bulkhead , door and ceiling: material: stainless steel, 304 or pre-painted galvalume or other corrosion-resistant material that is easy to sanitize frequently, smooth, waterproof, and shall allow adequate thermal insulation of the chambers, Floor: smooth, waterproof, easy to clean, corrosion resistant, with adequate friction coefficient (anti-slip), cold resistant (e.g. plates and ceramic resistant to: thermal shock, freezing, chemical greasing, non-slip) Ladders: modular PE plastics in high resistance polyethylene for cold room	2
	REFRIGERATING CHAMBER		2
	ANTECHAMBER		1

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		<p>Shelves: Plain material - perforated and not barred stainless steel. Food must be packed with a minimum height of 25 cm, separated from the wall and between piles at least 10 cm and 60 cm away from the lining. Shelves must stay at 25 cm high from the floor.</p> <p>Slots or grills: Shall not exist. It shall have nothing connected to the sewage system inside the chamber,</p> <p>Thermometers: easy to read and calibrated, with display installed on the outside of the camera,</p> <p>Internal safety device that allows the door to be opened from the inside</p> <p>Safety switch located on the outside that signals "on" and "off", Emergency button inside that allows internal opening and alarm or other communication system.</p> <p>Specific cold room LED luminaires (frozen) with fall protection.</p> <p>Dimensions of equipment according to foodservice standard lay out of unit and the POB.</p>	
Distribution	ROLLER SHUTTER	Stainless steel, for self service	1
	HEATING CHAMBER	Digital controller. Stainless steel inner cover 304. Stainless steel shelves. Stainless steel inner cover 430. Doors with locking. Approx. 20 GN 1/1 container capacity, Digital thermostat, and timers. Digital thermometer probe to adjust temperature in the middle of the product, Heating by side shielded electrical resistances. Temperature: >70°C. dimensions approx. 1400x800x2050 mm	1
	REFRIGERATED COUNTER	Stainless steel. Refrigerated counter salads distribution with a recess for storage of containers 4 Gastro norm GN 1/1 or sub multiples. With approximate dimensions of 1800 x 700 x 850 mm top shelf and 02 doors. Refrigerated cabinet bottom, and front guard with tempered glass and with LED lighting. With 4 GN 1/1 and 8 GN ½, temperature control by thermostats and pilot lamp and digital temperature controller. The equipment shall have a protective barrier against the action of consumer,	1
	HOT CUPBOARD WITH SLIDING DOOR BELOW AND BAIN-MARIE (THERMAL DISTRIBUTION COUNTER)	Bain-Marie for 4 GN 1/1 200 mm containers, with stainless steel dividing strips to support containers GN 1/1, GN1/2 and GN1/4, with heated lower cabinets. Exterior and interior in AISI 304 stainless steel, rounded corners for easy cleaning, water bath with water supply and drainage valve for emptying, separate thermostats for cupboard and water bath tubs, supplied with a splash back device, the equipment must have a protection barrier against consumer	2

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		action, with LED lighting, Heating system through electric immersion resistors, Working temperature: above 85°C, Temperature control by thermostats and pilot lamp and digital temperature controller coupled, Lower cabinet with stainless steel and doors with magnetic closing system with anatomical handles and proper seal for temperature maintenance, smooth base and stainless steel intermediate shelf and built-in heating unit. Dimensions approx. 1500 x 700 x 800 mm.	
Messroom	CONTACT GRILL	Stainless steel. Dimensions approx. 370 x 480 x 180 (H) mm	1
	INDUSTRIAL JUICE COOLER	Juice beverage dispenser, with: 2 containers in stainless steel - 20 Lt each Paddle and/or jet agitator system. Brushed stainless-steel cabinet 430, Removable drip tray: facilitates handling and sanitization	1
	ICE CUBE MACHINE WITH DISPENSER	With deposit for 25Kg, adapted to the water gallon, Automatic. Cubed ice maker with built-in tank, equipped with ice-cube dispenser and ice cube dosing device in stainless steel and with self-service tray.	1
	MICROWAVE	Stainless steel, capacity aprox.38L.	1
	BLENDER	Stainless steel, capacity approx. 4 liters, (4500 rpm)	1
	COFFEE MACHINE – 20L	Large Scale Filtered Coffee Machine, Theoretical capacity: 60 liters/h, Holding capacity: 10 liters/each, Containers: 2, Preparation time: 10 minutes/5 liters, Approximate dimensions: 989 x 570 x 840 mm (W x D x H), with tap for hot water outlet, Stainless steel container and tower, Individual containers, Descaling system, Timer, Indicator of the amount of coffee deposited in the container, Equipment fault indicator through the display.	1
	ELECTRICAL AUTOMATIC JUICE EXTRACTOR	Automatic juice extractor - With stainless steel furniture, basket for 150 oranges or 20kg, tank for 7.6 liters or cooler for 7 liters, automatic filter, with self-service tray. Dimensions approx. 980X595X550 (H) mm	1
	FREEZER FOR ICE CREAM	Vertical Display Frost Free for Ice Cream - 324 Liters with cooling system with high performance, low energy consumption and high durability in the field, with a temperature range of -22°C to -18°C, LED lighting, with anti-fog tempered glass door. Dimensions approx. 1903 x 525 x 615 mm	1
	REFRIGERATOR 400 LT	Temperature range +1°C to +10°C, stainless steel interior and exterior, glass door, CFC-free insulation and	3

		refrigerant R134a, automatic defrost and evaporation of condense water, interior lighting, lockable door, marine feet.	
Coffee area	REFRIGERATOR 400 LT	Temperature range +1°C to +10°C, stainless steel interior and exterior, glass door, CFC-free insulation and refrigerant R134a, automatic defrost and evaporation of condense water, interior lighting, lockable door, marine feet.	2
	HOT WATER AND MILK	Suitable for heating large quantities of chocolate or milk (10 litres). The chocolate milk ou milk is heated through the bain-marie system, Suitable for heating large quantities of chocolate milk (10 litres). Dimensions approx. 290 mm (Ø) x438 (H) mm	
	COFFEE MACHINE - 10L	Round filter coffee machines, with stainless steel container and tower, Individual containers that facilitate transport, "Coffee-is-ready" sign, Descaling system, Timer, Warning system and automatic descaling process, Safety system in the hot water tap that does not release the water flow while it is out of the reach of the containers and also emits an audible warning if the containers are outside the heating plate, Indicator of the amount of coffee deposited in the container, Equipment failure indicator through the display, with option for automatic bottled water. Theoretical capacity: 60 liters / h, Holding capacity: 10 liters / each, Containers: 1, Preparation time: 10 minutes / 5 liters, Dimensions approx.: 612 x 512 x 840 mm (W x D x H), with one	2
Barbecue area	BARBECUE	Industrial barbecue made of stainless steel. Coal operated with two galleries of spinning spikes. With capacity for twenty-five skewers. With safety AISI 316L stainless steel door. Dimensions approx. 1522 x 700 x 1500 mm	1
	REFRIGERATOR 400 LT	Temperature range +1°C to +10°C, stainless steel interior and exterior, glass door, CFC-free insulation and refrigerant R134a, automatic defrost and evaporation of condense water, interior lighting, lockable door, marine feet.	1
Waste area	WASTE DISPOSER EXTERNAL 150KG/H CAPACITY	Industrial garbage disposal, consisting of a solenoid valve with permanent ventilation, simple control panel IPW 55, with thermal relay. Emergency button, according to NR 12. Stainless steel, protective rubber anti-splash. Dimensions approx. 400x600/865 mm. Provide with environmental management an external crusher of adequate capacity - ability to crush any debris and debris from biodegradable food, including animal bones, lumps, and fruit peels in general, maximum size of crushed waste of 25 mm, with a volume of 500 meals / hour. Power 7CV, 220 Volts	2

NOTE 1: The Galley area shall be divided into sections for preparation (salad and vegetable area and Meat, poultry, and fish area), cooking (cooking and barbecue area), distribution, washing (scullery/pot wash), and bakery and shall still have sufficient area and compatible equipment to cater for the total amount of people in the Mess Room. Drain shall be located in order to guarantee good hygienic conditions of all areas, included the messroom

NOTE 2: All necessary accessories for installation and proper use shall be part of the scope of supply, including foundations and supports.
Electrical, water and drain connections shall be provided for all equipment, as necessary and all water, drain and electrical connections shall be built-in to allow hygienic environments. All necessary devices and accessories to enable such connections shall be part of the scope of supply. All necessary galley fixtures, like faucets, mixing valves, sink strainers, etc. shall be part of the scope of supply. Where installed bases of equipment/furniture are not sealed on the floor, 300mm openings height will be necessary for cleaning.

NOTE 3: All equipment turn on/off buttons shall be easily identifiable, to facilitate the shutdown at an emergency, according with Brazilian rules (NR12)

NOTE 4: All components shall be designed to the following conditions:

- Offshore humid saline atmosphere
 - Corrosive environment with marine salts and hydrocarbons,
- and, all equipment shall be preferably stainless steel made, AISI 304, or received adequate non – corrosive treatment and paint finishing to the offshore use

SELLER shall consider, as minimal requirements, the **table III** below for specification and quantity of furniture for galley, mess room, provision store and waste areas:

TABLE III

Area	Furniture description	Details	Qty.
Cooking area	AUXILIAR TABLE	Stainless Steel. With gridded under shelf and tubular legs. Dimensions and position according to layout	2
	STAINLESS STEEL SHELF	For wall. provided with bars against roll. Dimensions and position according to layout	According to layout
	STAINLESS STEEL BENCH WITH BASIN	Stainless steel top and structure, with basin, with taps and accessories, lower shelves and provided with splash – back devices. Dimensions and position according to layout	1
	GUTTER WITH STAINLESS STEEL COVER A	“U” Shape, grid floor in stainless steel.	According to layout
	GUTTER WITH STAINLESS STEEL COVER (B and C)	Grid floor in stainless steel.	According to layout
Bakery	STAINLESS STEEL SHELF	For wall. provided with bars against roll. Dimensions and position according to layout	According to layout

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	STAINLESS STEEL BENCH	Stainless steel top and structure, lower shelves. and provided with splash – back devices. Dimensions and position according to layout	According to layout
	STAINLESS STEEL BENCH WITH BASIN	Stainless steel top and structure, with basin, with taps and accessories, lower shelves and provided with splash – back devices. Dimensions and position according to layout	1
Wash basin	WASH BASIN	Stainless steel with taps and accessories. Dimensions approx. 494 x 464 mm	According to layout
Salads and Vegetables area	STAINLESS STEEL SHELF	For wall. provided with bars against roll. Dimensions and position according to layout	According to layout
	STAINLESS STEEL BENCH	Stainless steel top and structure, lower shelves and provided with splash – back devices. Dimensions and position according to layout	According to layout
	STAINLESS STEEL BENCH WITH BASIN	Stainless steel top and structure, with basin, with taps and accessories, lower shelves and provided with splash – back devices. Dimensions and position according to layout	According to layout
Meat, poultry, and fish area	STAINLESS STEEL SHELF FOR MEAT	For wall. provided with bars against roll. Dimensions and position according to layout	1
	STAINLESS STEEL BENCH WITH BASIN FOR MET	Stainless steel top and structure, with basin, with taps and accessories, lower shelves and provided with splash – back devices. Dimensions and position according to layout	1
	STAINLESS STEEL BENCH WITH BASIN FOR POULTRY	Stainless steel top and structure, with basin, with taps and accessories, lower shelves and provided with splash – back devices. Dimensions and position according to layout	1
	STAINLESS STEEL SHELF FOR POULTRY	For wall. provided with bars against roll. Dimensions and position according to layout	1
	STAINLESS STEEL SHELF FOR FISH	For wall. provided with bars against roll. Dimensions and position according to layout	1
	STAINLESS STEEL BENCH WITH BASIN FOR FISH	Stainless steel top and structure, with basin, with taps and accessories, lower shelves and provided with splash – back devices. Dimensions and position according to layout	1
	Scullery/pot wash	HIGH CUPBOARD	Stainless steel high cabinet with 3 shelves hinged front doors and locks with individual keys. Stainless steel tubular legs with leveling shoes. Dimensions approx. 1200 x 650 x 1800 (H) mm
PRE-RINSE SPRAY UNIT		Chromed brass and steel, shower handle with self-closing action, separate swivel pipe, thermostatically controlled.	According to layout

	STAINLESS STEEL SHELF	For wall. provided with bars against roll. Dimensions and position according to layout	According to layout
	STAINLESS STEEL BENCH WITH BASIN	Stainless steel top and structure, with basin, with taps and accessories, lower shelves and provided with splash – back devices. Dimensions and position according to layout	2
	SERVICE TROLLEY	with push-handle is sturdy and of stainless steel throughout. Tiers rounded profile rim and noise insulation underneath. trolleys fitted with 125 mm ball bearing wheels, two with brakes. Maximum load of 2 tiered trolleys of 80 kg and that of 3-tiered 120 kg.	1
	PERFORATED REINFORCED SHELVES TYPE I (4 TIERES)	shelf in reinforced stainless steel with four shelves, with rounded structure for easy cleaning. Dimensions and position according to layout	According to layout
Freezer/Refrigerator room	PERFORATED REINFORCED SHELVES TYPE I (4 TIERES)	shelf in reinforced stainless steel with four shelves, with rounded structure for easy cleaning. Dimensions and position according to layout	According to layout
	GUTTER	In stainless steel. Dimensions and position according to layout	according to layout
Dry provision	SHELVING SYSTEM	Stainless steel: custom made, to fulfill the dry storage compartment with adequate shelves for storing provisions.	According to layout
Messroom	CHAIR	Chair in waterproof material easy to clean frequently, without arms, resistant	120
	TABLE	For four, six or eight seats in naval plywood top, covered by melamine laminated sheet, removable coaming support (wood made), base made of stainless-steel pipe or covered by plywood box with fire retardant melamine laminate. Dimensions - According to layout.	According to layout and for 120 seats
	SERVING COUNTER WITH CUPBOARDS	Custom made serving counter, total dimensions approx. 2980 x 1300 x 900 mm, with two accessible sides: right side in stainless steel top and cold cabinet underneath, with drawers and doors and upper shelf with sneeze guard, left side in stainless steel top, with cold basin for 3 GN 1/1 (for dessert) and cabinet underneath.	1
	MOBILE PLATE DISPENSER	steel plate dispenser for professional series: - two heated cylinders for 270 mm plates, - heating effect 0,7 kW	1
	TRAY AND CUTLERY TROLLEY	Stainless steel with castors, shelf, and cutlery hold. Dimensions approx.370 x 500 x 900 (H) mm	1
	RACK FOR GLASSES	Stainless steel, to be located over the Messroom serving counter	1

	BENCH WITH DOORS AND DRAWERS WITH TOP SHELF	Stainless steel top and naval plywood structure covered with fire retardant melamine laminate, with lower shelves and drawers. Dimensions approx. 2400x600x900(H)mm	1
Coffee area	BENCH WITH DOORS AND DRAWERS WITH TOP SHELF	Dimensions and position according to layout	1
Barbecue area	STAINLESS STEEL BENCH WITH BASIN	Stainless steel top and structure, with basin, with taps and accessories, lower shelves and provided with splash – back devices. Dimensions and position according to layout	According to layout

NOTE1: The Galley area shall be divided into sections for preparation (salad and vegetable area and Meat, poultry and fish area), cooking (cooking and barbecue area), distribution, washing (scullery/pot wash), and bakery and shall still have sufficient area and compatible equipment to cater for the total amount of people in the Mess Room. Drain shall be located in order to guarantee good hygienic conditions of all areas, included the messroom

NOTE2: All necessary accessories for installation shall be part of the scope of supply, including foundations and supports.

Water and drain connections shall be provided for all furniture and accessories, as necessary and all water, drain and electrical connections shall be built-in to allow hygienic environments. All necessary devices and accessories to enable such connections shall be part of the scope of supply. All necessary galley fixtures, like faucets, mixing valves, sink strainers, etc. shall be part of the scope of supply. Where installed bases of equipment/furniture are not sealed on the floor, 300mm openings height will be necessary for cleaning.

They must

NOTE3: The working benches shall be provided with splash – back devices.

All benches, shelves and lockers dimensions shall be confirmed on site before fabrication and all shelves shall be provided with bars against roll.

NOTE4: All components shall be designed to the following conditions:

- Offshore humid saline atmosphere
 - Corrosive environment with marine salts and hydrocarbons,
- and, all furniture shall be preferably stainless steel made, AISI 304, or received adequate non – corrosive treatment and paint finishing to the offshore use

2.2 Infirmary

SELLER shall follow as minimum requirement list below:

- The infirmary shall meet the existing specifications containing waiting room; Consultation room; Treatment and emergency room; Rest area; Bathroom and purge area. The set of rooms in the ward must have at least 55 m²,
- The infirmary shall be located as close to the helideck as possible, with free access for the use of stretchers,

- c. The infirmary shall have a specific air conditioning system, independent of the other compartments of the platform,
- d. The infirmary shall have essential socket-outlets fed from essential 220VC electrical panel to power all required equipment,
- e. The infirmary shall not have unevenness in accesses or in different spaces internally,
- f. The infirmary have all furniture and materials that require fabrics, materials that are waterproof and washable (e.g. sofa, chairs, curtains, etc.),
- g. There shall be drains on floors that can be closed,
- h. All taps operated without hands,
- i. All equipment, especially those requiring calibration, tests, valves, are in accordance with Brazilian legislation and standards (e.g., medical oxygen system, sphygmomanometers, etc.), as well as manuals in Portuguese,
- j. The lighting of the rooms, as well as the layout, shall be defined by the ergonomics guidelines.
- k. All the pipelines that will attend to oxygen points at Infirmary must be welded. It is not acceptable flanges and screwed connections inside bulkheads.
- l. All infirmaries shall have emergency lighting as per Electrical Discipline requirements. I-MD-3010.2D-5140-700-P4X-001 ELECTRICAL SYSTEM DESCRIPTIVE MEMORANDUM

Location, dimensions, and quantity shall follow document "INFIRMARY LAYOUT".

General furniture, as workstation, computer desk, chairs, cabinet, and benches shall follow specification presented on document "ACCOMMODATION ARCHITECTURE MATERIALS AND EQUIPMENT SPECIFICATION".

SELLER shall consider, as minimal requirements, the **table IV** below for specification and quantity of equipment for Infirmary:

TABLE IV			
ÁREA	EQUIPMENT	NOTES	QUAN T
WAITING ROOM	Two seats sofa	Steel frame with upholstered seat and back, waterproof, and washable, Polyurethane enamel paint. Dimensions approx.: 1300 x 700 x 430 mm.	1
	Coat hanger	Have room for 3 helmets	1
CLINICAL	Fixed Chair	Waterproof and washable upholstery, without armrests, without wheels	2
	Chair with wheels	Waterproof and washable upholstery, with armrests, with seat, adjustable armrests and backrest, wheels with brake	2
	Water cooler holder	Support for water gallon in stainless steel	1
	Shade curtain	Washable, compatible with glass partition part between clinic room and treatment room	1
	Washbasin	With hot and cold drinking water faucet and hands-free operation	1

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	Anthropometric scale	Digital type, with a capacity of at least 220 kg, with divisions in 50 grams. With height measuring assembly. Anthropometric.	1
	Examination table (Hospital bed)	Stainless steel frame with upholstered bed made of washable and waterproof material, no doors and drawers at the bottom, reclining headboard, handle with controlled movements with 4 "wheel with lock, support up to 150 kg, with stainless steel support for rolls of disposable sheets Dimensions: 1800 x 660 x 800 mm	1
	Archive cabinet	In navy plywood covered with melamine laminated fire retardant. Dimensions: 800 x 500 x 1600 mm	1
	Writing desk	In navy plywood covered with fire retardant melamine laminate. Dimensions approx.: 1400 x 1400 x 600 x 750 mm	1
	Cabinet with doors and shelves	In navy plywood covered with fire retardant melamine laminate. Dim.: 800 x 500 x 1600 mm	1
	Wireless phone	Better flexibility when talking to the doctor on board, bina and speaker.	1
	Printer	For printing health documents that need to be filed in the ward.	1
	Paper shredder		1
	White board	With aluminum frame, UV paint of high durability, polyethylene injected angle, made of MDF and superimposed by melamine laminate, 400 x 600 x 16 mm (H x W x T), eraser for whiteboard and brushes for rechargeable whiteboard.	1
OBSERVATION AREA	Fowler type bed (Hospital bed)	Automated bed, with bed elevation, with controlled movements (fowler type), Rods with brakes, Dimensions: 2000 x 900 mm	2
	Mattress	Hospital mattress with density 33, coated with waterproof, washable, and zippered cover. Dimensions 1880 x 880 mm	2
	Pillows	Pillows covered with waterproof cover and washable with zipper.	2
	Bedside table	In treated and painted steel, with wheels and brakes. Dimensions: 400 x 480 x 800 mm.	2
	Bedside light		2
	Step Stairs	With two steps covered with anti-slip rubber.	2
	Curtains	They shall have an anti-mildew treatment, with washable and impermeable fabrics, mounted on rings over 1/2 "stainless steel frame rail, fire resistant fabric. Approximate dimensions: hospital beds (according to layout).	2
	Trash can with pedal	Stainless steel, with pedal. Capacity: 5L	2

TREATMENT AREA	Medical Oxygen and compressed air system	With pressure reducer, with outlet for aspiration of secretion and exit for oxygen therapy. Double Ruler: one for flowmeter and oxygen humidifier and one for Venturi type vacuum cleaner, shall contain manometer and flowmeter with mask and whip for oxygenation. Consider consumption at the highest flow (15 l / min) and at the highest concentration (100%) possible. Every oxygen supply system (distribution, connections, valves, instruments, accessories (ex: low pressure alarm), etc.) shall be within the scope of supply of the bed points according to design. System manufactured and assembled in Brazil in accordance with national requirements.	2
	Double support (Saline stand)	For bottles, with height adjustment and painted structure. Type of floor without wheels.	2
	Washbasin	With hot and cold drinking water faucet and hands-free operation	1
	Cabinet with doors and shelves	In navy plywood covered with melamine laminated fire retardant, 2-door, floor, with shelf. Dim.: 900 x 400 x 110 mm	1
	Trash can with pedal	Stainless steel, with pedal. Capacity: 5L	2
	Examination table (Hospital bed)	Stainless steel frame with upholstered bed made of washable and waterproof material, no doors and drawers at the bottom, reclining headboard, handle with controlled movements with 4 "wheel with lock, support up to 150 kg, with stainless steel support for rolls of disposable sheets Dimensions approx.: 1800 x 660 x 800 mm driver with pedal	1
	Medical dressing trolley (curative car)	Tubular frame, top and door in stainless steel with 5-liter bucket and 3-liter basin, stainless steel with two 300mm steels, including supports, with 2 drawers, feet with 3 "castors, Dimensions approx.: 750 x 450 x 800 mm.	1
	Emergency Trolley	Made of carbon steel with anti-corrosion treatment and high resistance epoxy paint, Four casters (75 mm in diameter), two with brakes, Four drawers with single seal, 2 Partitions for medicines in the first drawer, lower tray for routine and disposable materials, Table for drug handling, Dimensions: 1050 x 500 700 mm (H x W x L), Shall include: support for Oxygen Cylinder, Swivel bracket for monitors and cardioverters, Acrylic board for cardiac massage, Support for serum with adjustable height, taken with 4 outputs	1
	Bar Fridge 120 L	Fridge type fridge with freezer of 120 liters	1
	Portable Phlebotomy Arm	Armrest in painted steel. Rod with adjustable height in round stainless steel tube, Stainless steel sheet shell with 200mm long, height adjustable	1
	Parabolic reflector with pedestal	Magnifying glass, lamp and without wheels. Light source is a 22-watt circular fluorescent. 110/220 volts. Floating Arm 42".	1

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Air bag – resuscitator (inside furniture/cabinet)	Adult ambulance type manual lung resuscitator containing self-inflating balloon, transparent mask with adult size cushion, air inlet valve with connection for O2 inlet, exhaust valve and oxygen reservoir pouch.	3
Portable respiratory assistance unit	Resistant, lightweight, and adjustable carrying case on the shoulder or hand containing: 5-liter medical oxygen cylinder in aluminum, with adjustable flow regulator between 0-15 liters per minute, manometer, humidifier and breathing mask for mouth and nose with reservoir.	2
Saline stand	Stainless Steel Saline Stand, with height adjustment and painted structure. Type of floor	1
Auxiliar table	Stainless steel, with 3 "wheels, with brakes. Dimensions approx.: 500 x 400 x 800 mm	1
Gyrating bench	Adjustable height. Upholstered seat (waterproof and washable) and wheels with latches, Dimension: Ø 380 mm	1
Rotating Chair	Waterproof and washable upholstery, with arms, with seat, adjustable arms and backrest, wheels with brake.	1
Step Stairs	With two steps covered with anti-slip rubber.	1
Medical Oxygen and compressed air outlets on walls	With pressure reducer, with outlet for aspiration of secretion and exit for oxygen therapy. Double Ruler: one for flowmeter and oxygen humidifier and one for Venturi type vacuum cleaner, shall contain manometer and flowmeter with mask and whip for oxygenation. Consider consumption at the highest flow (15 L/min) and at the highest concentration (100%) possible. Every oxygen supply system (distribution, connections, valves, instruments, accessories (ex: low pressure alarm), etc.) shall be within the scope of supply of the bed points according to design. System manufactured and assembled in Brazil in accordance with national requirements.	1
Automatic external defibrillator	Disposable paddles (2 pairs), internal memory with storage capacity of 45 minutes of ECG and events with USB connection, in the case, with Bi-volt Charger with Rechargeable Battery.	1
Electrocardiograph	Electrocardiograph 3 channels 12 leads ECG-12, 110 / 220V, 50 / 60Hz and internal rechargeable battery.	1
Multiparameter heart monitor	With detection range of 30 to 300 BPM, appliance with one 03-pin power cable (2500 mm), one 05-way patient cable (EMAI claw type), electric (110 / 220v) and rechargeable battery	1
Stethoscope (inside furniture/cabinet)	Stethoscope with double earphone of high sensitivity acoustics (sounds of low and high frequency) and adjustable diaphragms.	2
Sphygmomanometer (inside furniture/cabinet)	Aneroid pressure device with integrated manometer, standard adult bracket (25 to 34cm - arm diameter) in nylon with super-resistant contact closure and fan and valve pear	2
Oximeter (inside furniture/cabinet)	Portable pulse oximeter with indication of Oxygen Saturation (SpO2) - 35% to 99% and heart rate - 30 Bpm at 250 Bpm, containing a reusable adult sensor. It shall	1

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		have display with all parameters. Possible visual and audible alarms, electricity, and rechargeable batteries	
Otoscope (inside furniture/cabinet)		With adult ear speculum	1
Laryngoscope (inside furniture/cabinet)		Conventional laryngoscope kit containing medium fiber optic cable with battery power and curved spatulas (Macintosh) and straight (Miller) sizes 3,4 and 5. Shall contain replacement bulbs.	2
Cervical collar (inside furniture/cabinet)		Cervical collar for adult rescue, Set of cervical collars for immobilization with frontal opening, presenting high durability, containing pieces with sizes P, M, G and GG	2
Emergency Blanket Waterproof Shelter Rescue (inside furniture/cabinet)		Aluminized thermal blanket 2.10 x 1.40 M for rescue	2
Sterile Burn Blanket (inside furniture/cabinet)		Large size	
Dorsal immobilization vest (ked) (inside furniture/cabinet)		Dorsal obturation (ked) in nylon for total immobilization, from the head to the coccyx region, three tie rods in different colors (green, yellow and red), with cushion to accommodate the head, with set straps for the forehead and chin, waterproof and washable fabric	2
Head Immobilizer Rescue SP Head Block Adult (inside furniture/cabinet)		Head Immobilizer Rescue SP Head Block Adult, in injected foam, waterproof, for immobilization of head and cervical region, with eye and chin fixation rods, with points for checking fluid flow through the ear, Adult.	2
Glucometer (inside furniture/cabinet)		Capillary glycemia meter, Glucometer kit containing a meter, a lancet pen and two batteries	1
Nebulizer (inside furniture/cabinet)		Adult	1
Pocket Mask RCP CPR (inside furniture/cabinet)		Resuscitation Mask	2
Portable electronic vacuum cleaner		Portable electronic vacuum cleaner containing a vacuum-operated, electrically operated vacuum cleaner with adjustable suction and low charge indicator	1
Body bag (inside furniture/cabinet)		Made of thick plastic, zippered, for transporting corpses.	2
First aid backpack		Backpack for rescue, small size, first part with divisions of materials with strap, in the second part with materials for temporary immobilization, kits with medicines, airway, burns, instrument holder and support material.	1
Guedel oropharyngeal tube, polyethylene (inside furniture/cabinet)		With sizes of 2, 3, 4 and 5	1 of each
Drug locker for psychotropic locks		Locked cabinet with key, double key or safe	1

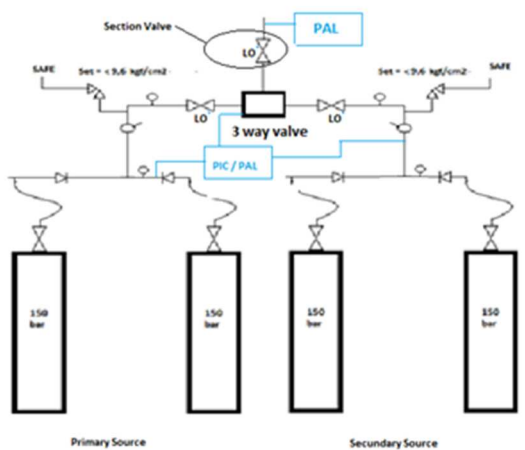
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	Medicine cabinet / hospital	Cabinet medicine, 2 steel doors with lock with key, 4 adjustable shelves, 4 adjustable stainless-steel feet, medicine compartment with inner lock. Glass showcase. Dimension: 450 x 400 x 1700 mm.	2
	Furniture-mounted with stainless steel worksurface and station sink	Floor cabinet, in navy plywood, with stainless steel worksurface, with two stainless steel sinks (500 x 400 x 250 mm each sink) and other areas covered with laminated fire-retardant melamine, with self-priming sink and tap, shelves and drawers. Dim.: 2400 x 600 x 900 mm	1
	Upper cabinet	In navy plywood covered with melamine laminated fire retardant. Minimum dimension: 2500 x 350 x 700 mm.	1
	Shower set	Shower with a flow of 75 liter / min, with diameter around 50cm, corrosion resistant material.	1
	Shower curtain	They shall have an anti-mildew treatment, with washable and impermeable fabrics, mounted on rings over 1/2 "stainless steel frame rail, fire resistant fabric. Approximate dimensions: hospital beds (according to layout).	2
	TV for video conferencing	According to specification presented on Telecommunication documents.	1
	Videoconferencing equipment	According to specification presented on Telecommunication documents.	1
	Cabinet for videoconferencing	In navy plywood covered with melamine laminated fire retardant. Dimensions: 600 x 500 x 1000 mm.	1
	Flat stretcher	High density polyethylene rigid board – 1900 mm x 500 mm - containing a set of three different color belts, automotive belt type, for use in hard-to-reach places and a head block immobilizer, with polyester cover, with carrying straps, a spider belt set.	2
	Telemedicine system	Equipment to be supplied by Petrobras	1
	Computer desk rectangular type with drawers	In navy plywood covered with melamine laminated fire retardant. Dim.: 1000 x 600 x 750 mm	1
	Fire extinguishers	According to specification presented on Safety documents.	To be defined
TOILET	Toilet unit	Toilet, access ramp with non-slip finish (removable)	1
	Washbasin	With hot and cold drinking water faucet and hands-free operation	1
	Handlebar for toilet	Stainless Steel (hospital type).	2
EXPURGE AREA	Worktop with 2 stainless steel sinks	Stainless steel with drain Ø 75 mm and one of the sinks with discharge valve. Dim.: 1200 x 500 x 900 mm	1
	Trash can with pedal	Stainless steel, with pedal. Capacity: 5 L	1
	Waste disposals	According to specification presented on document "ACCOMMODATION ARCHITECTURE MATERIALS AND EQUIPMENT SPECIFICATION"	To be defined

EXTERNAL AREA TO INFIRMARY

Cabinet for Oxygen cylinders with doors	Cabinet for storage of four Oxygen cylinders with door, ventilated type and with locks.	1
Medical Oxygen Cylinders	<p>With pressure reducer, safety valves (PSVs), distribution range: outlet for aspiration of secretion, outlet for ventilation. Design, supply, and installation of the piping system that connects the oxygen cylinders to equipment, is SELLER scope. The installation shall comply with the laws of ANVISA (RDC 50/2002) and NBR 12188. The capacity of the cylinders will be 4,6 liters / 0,7m³ or 5,0 liters / 1,0 m³, Aluminum cylinders, 40L / 7m³ - 150 bar or 40L / 8m³, fitted with VPRM according to NBR 12274; with identification according to NBR12176 (for maritime application). The system is powered by a connected cylinder and two backup cylinders. System according to the requirements of Brazil. See below figure as reference for installation arrangement:</p>  <p style="text-align: right; font-size: small;">PAL = PRESSURE ALARM LOW PIC = PRESSURE CONTROLLER</p>	4
Locker for hospital waste	Infectious waste shelter, with lighting, with lock, washable with drain and with ventilation. Dimension: 1500 x 800 x 1600 mm.	1
Plastic Hospital Waste	White bottles and with the following specification: Height min = 580 mm, lateral min = 315 mm, front mm = 310 mm. Thickness of the lower closure line = 3,0 mm, Top base thickness = 1.8 mm, Edge thickness lower edge = 2.0 mm, Thickness of the center of the body = 2.6 mm and Thickness of the center of the body (100 mm) = 2,3 mm. Capacity approximately = 55,3. In accordance with Brazilian law.	4
Flat stretcher	High density polyethylene rigid board – 1900 mm x 500 mm - containing a set of three different color belts, automotive belt type, for use in hard-to-reach places and a head block immobilizer, with polyester cover, with carrying straps, a spider belt set.	1
Cabinet for Stretcher	1900 mm x 500 mm x 150 mm	2

CLOSE TO HELIDECK (not presented on document I-DE-3010.1Y-1350-190-P4X-012)	Flat stretcher	High density polyethylene rigid board - 1.90m x 0.50m - containing a set of three different color belts, automotive belt type, for use in hard-to-reach places and a head block immobilizer, with polyester cover, with carrying straps, a spider belt set.	1
	Cabinet for Stretcher	1,90x0,50x0,15cm	1
	Medical Oxygen Cylinders	Portable unit with 5-liter aluminum oxygen cylinder with adjustable flow regulator between 0-15 liters per minute, manometer, humidifier and respiratory mask for mouth and nose with reservoir.	1
	First aid backpack	Backpack for rescue, small size, first part with divisions of materials with strap, in the second part with materials for temporary immobilization, kits with medicines, airway, burns, instrument holder and support material.	1
	Cabinet for the storage of first-aid materials	Cabinet in material suitable for external area that holds the oxygen cylinder and the backpack of 1st aid provided	1

2.3 Gymnasium, Gym Free Floor Area and Multipurpose/ Music Room

SELLER shall follow as minimum requirement list below, to provide proper fitness and multipurpose areas for **240 POB**:

- a. The physical activity room shall be located in order to be allowed easy access for workers during rest hours,
- b. Attention shall be given to provide a pleasant environment and encourage physical activity,
- c. Every maritime installation shall have a specific room for physical activity, with a focus on aerobic activities with low impact and risks to the health and safety of workers, and the strengthening of muscle and joint structures that are involved in the movements responsible for daily activities, work activities and accident prevention, in a simple, safe and efficient way,
- d. The planned space shall benefit aerobic and stretching activities, with space for activity on the ground, as well as for some equipment, materials (see equipment list) and administrative activities,
- e. For the definition of the quantity of equipment for the physical activity room, the number of users is around 25% of the total number of employees, concentrated in greater quantity in the period from 14 to 21 hours,
- f. Free space to practice ground activities with the use of ball, mats, stretches, which hold at least 05 (five) people at the same time.

Location, dimensions, and quantity shall follow document "GYMNASIUM LAYOUT" presents.

General furniture, as workstation, computer desk, chairs, cabinet, and benches shall follow specification presented on "ACCOMMODATION ARCHITECTURE MATERIALS AND EQUIPMENT SPECIFICATION".

SELLER shall consider, as minimal requirements, the **table V** below for specification and quantity of equipment for Gymnasium, Gym Free Floor Area, and Multipurpose/ Music Room:

TABLE V		
EQUIPMENT	NOTES	QUANT
Treadmill	Structure in carbon steel with electrostatic painting - Approximate dimensions: 2100 x 859 x 1481 mm, Module with panel with independent functions: speed, distance, time, calories, heart rate, Dual cardiac monitoring system, Double Security System, Longitudinal cushioning system with floating board, double-sided board, Running area: 150 x 50 cm, Maximum weight of use: at least 180 kg, Power motor (peak) - minimum 3.5 HP, Speed range: max 25 km/h, Tilt: at least 15%, Semi-automatic lubrication system.	minimum 6
Cross trainers	Module with intuitive panel of speed, calories, distance, time, and heart rate, user weight of at least 180 kg, stride length: between 8 and 13 inches, pedal adjustable, cushioned, oversized, with varying resistance levels, magnetic tension system. Approximate dimensions: 2000 x 700 x 1600 mm	minimum 2
Ergometric bicycles vertical	VERTICAL bicycle with structure in Carbon Steel and electrostatic paint powder resistant to corrosion and rust, Multifunctional Electronic Display. Functions Panel: Time, Distance, Heart Rate, Calories, Speed, Intensity, Pre-defined programs with different levels of difficulty, Dual Cardiac monitoring system, With various levels of effort regulation, With various seat and handlebar settings, Maximum Supported Capacity: 180 kg, Large pedals, Approximate measurements: 157 x 61 x 130 cm	Minimum 2
Ergometric bicycles horizontal	HORIZONTAL bicycle with structure in Carbon Steel and electrostatic paint powder resistant to corrosion and rust, Multifunctional Electronic Display with functions: Time, Distance, Heart Rate, Calories, Speed, Intensity and resistance levels, Pre-defined programs with different levels of difficulty, Dual Cardiac monitoring system, With various levels of effort regulation, Maximum Supported Capacity: 180 kg, Large pedals, Approximate dimensions: 101.0 cm x 56.0 cm x 150.0 cm	minimum 2
Abductor/Adductor	Maximum load: 82.5 kg / 112.5 kg, Fraction Load: 2.5 kg, Length: 1880 mm x Width: 1050 mm x Height: 1610 mm, Thickness Chassis: 3mm, Tower Thickness: 4.25mm, Cable diameter: 5mm, Marine corvine coating	minimum 1
Pectoral /Dorsal	Constructed with 60 mm round pipe, Base of support soil in oblong tube of 40 x 115 mm, Rubber feet, Battery of weights with pin and safety wire, Stainless steel guide bars, Injected upholstery with density control, Weight protection fairings, Approximate dimensions: 1,54 m x 1,23 m (open) x 2,00 m, Marine corvine coating	minimum 1
Conjugated Pulleys	Main pipe of 4" wall 3 to 5 mm, 40 x 115 mm oblong tubes, 50 x 150 mm oblong tubes, 40 x 80 and 50 x 100 mm adjustment tubes, Stainless steel weight and adjustment guides, Coated steel cables, Injected pulleys with armored bearings, Rubber floor support feet, Machined weights, Impact ring on weights bricks, Corvine nautical (anti mold) coating, 1.20 m bar rubberized for high handle	minimum 1

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	execution and straight short bar for low handle performance, Jacket in corvine nautical	
Extension Chair	Main Tube in thickness: 3mm, Seat adjustment, Super strong cable: Diameter: 6 mm, High Quality Pulley: 90 mm, Adaptive cushion molding. Path of motion that adheres to the principle of kinematics, Safety devices for weight and cable column, Ferromagnetic valve to adjust weight column.	minimum 1
Flexor Chair	Main Tube in thickness: 3mm, Seat adjustment, Super strong cable: Diam: 6 mm, High Quality Pulley: 90 mm, Adaptive cushion molding. Motion trajectory adhering to the principle of kinematics, Safety devices for weight and cable column, Ferromagnetic valve to adjust weight column.	minimum 1
Supine Sitting	Base of support soil in oblong tube of 40 x 115 mm, Column in oblong tubes of 40 x 115 mm, Articulated arms in tube of 50 x 100 mm, Pins for rubberized washers, Setting the start point of the movement, Rubber feet, Injected upholstery with density control, Marine corvine coating	Minimum 1
Flat Bench	Steel frame, Double sheet high density cushion,	Minimum 2
Multi-Function Power Tower	Vertical Knee Raise, Dip Station, Push-Up Station and Pull-Up Station with a Narrow and Wide Fist, with fid bank	Minimum 2
Half Step Ball Balance with Straps	Resistant Material. Holds up to 350 lbs. Measures 25" in diameter and 12" high when fully inflated. Has a rugged, high density dome and reinforced base.	minimum 3
Aluminum CrossFit stall bars	Aluminum Backing, with 3 cm diameter aluminum rods and bars for bending steel columns, Approximate dimensions: 100 cm x 220 cm x 40 cm	minimum 2
Weighted Bar Padded	Durable Heavy-Duty Steel Construction Wrapped in slip resistant foam for comfort of 3 kg, 2 kg, and 1 kg	minimum 2 of each
Stretching sticks	Wrapped in slip resistant foam for comfort	minimum 5
Power Bands	Plastic, with light, medium and moderate intensity with dimensions approx. 120 x 12 cm	minimum 4 of each
Gym Ball	Gym ball kit with dimensions - 75 cm and 65 cm - and air pump	minimum 2 of each
Life Fitness Jump Rope	Professional PVC Jump Rope	minimum 5
Ankle weights strap	Made of synthetic fiber fabric of the polyamide or polyester type of high tenacity, filling with grit and system of regulation with safety clasp and Velcro lock.	minimum 5 of each
Exercise Mats	Made of D33 foam, 100% coated (washable), without zipper, anti-mite, and anti-allergic treatment, polypropylene filling, Measure: 90 x 42 x 2 cm	minimum 20 units
Video Game Player	Video game apparatus with 4 wireless controls, motion sensors and games focused on physical exercises.	minimum 1
Mirrors on Bulkhead	Covering at least one wall close to the soil and stretching activity	
55" TV -Set		minimum 1
Micro system with DVD -player		minimum 1

Desk		minimum 1
Chair		minimum 1
Shelves	Dimensions to be defined	
Cabinets	Dimensions to be defined	
Wall Hooks		
Waste Basket		minimum 2
Single Cup Dispenser		minimum 1
Drinking Fountain		minimum 1
Wall Clock		minimum 1

NOTE1: Electrical equipment shall be supplied with power cord according to Brazilian sockets standard.

2.4 Laundry

SELLER shall follow as minimum requirement the list below:

- a. The laundry shall include spaces that contain washing and drying equipment and accessories, for different types of clothing, as below:
 - Uniforms: RF overalls (PPE clothing, fire resistant), approx. weight dry 1.5 kg,
 - Bed linen: mattress cover, elastic sheet, blanket cover, pillowcase, pillow cover, approx. weight dry 2.5 kg,
 - Bathing towels: bath towel and face towel, approx. weight dry 1.2 kg,
 - Other clothes: infirmary clothes and cleaning clothes, among others.
- b. In the laundry room, there shall be no crossing of clean clothes and dirty clothes and shall have distinction of spaces between dry and wet areas,
- c. The spaces shall provide places for storing clean clothes identified by cabins (2 to 3 sets of pieces per bed), places for storing chemicals, clothes washing tanks, benches for folding clean clothes, among others,
- d. Washing and drying equipment shall provide:
 - Separation between uniforms, especially with more dirt, from other clothes, especially bed and bath linen,
 - Differentiated cycles for certain types of clothing and according to dirt,
 - Ability to wash RF uniforms,
 - Differentiated cycles for washing clothes (cloths) used in the cleaning of environments, such as toilets and cabins,
 - Specific cycles for nursing clothes,
 - Specific cycles for kitchen team uniforms,
 - Specific cycles for special clothes: mattress cover, pillow cover, curtains, blankets, and others (not routine, but necessary),
 - Use of hot water (close to 60°C),

- Use of detergents, degreasers, and other clothing hygiene products,
 - Washing and drying of personal clothes (physical activity clothes and others),
- e. The installed capacity of equipment for washing and drying clothes shall consider the following frequency of washing clothes, per day:
- Uniform: 01 per person on board,
 - Bath and face towels: at least every 3 (three) days, according to NR-37 Brazilian Regulation,
 - Bed linen: at least every 3 (three) days for fixed employees, according to NR-37 Brazilian Regulation, and always, when changing users,
 - Curtains (when cloth) quarterly or when necessary,
 - Other clothes on demand.
- f. Define noise, heat and lighting levels that meet the comfort requirements of the worker, in addition to other ergonomic requirements,
- g. Meet the requirements related to safety on equipment (NR12),
- h. The laundry shall be located in order to be allowed easy access for workers,
- i. The transport of clothing in quantities without overloading the worker shall be allowed and facilitated by the Unit.

Laundry areas and industrial machines are specified to wash and dry all the clothes in 9 hours. Therefore, if the duration of washing and or drying cycles equipment increased, capacity or number of pieces of equipment shall be increased.

During a twelve-hour shift, the only one laundry operator shall wash and/or dry all clothes of the Unit and develop other tasks such as:

- Separating clothes before the first wash,
- Moving clothes between the washing and drying machines,
- Folding and organizing clothes at the end of shift, before returning them to their users.

Further, shall be considered:

- The drying machines only have material to be dried after the first set of clothes is washed,
- The washing machines shall stop washing in time to last set of washed clothes be dried,
- The laundry professional also develops some other tasks, as pre-washing, preparation of equipment, cleaning machine (between different types of item, f. ex.), disposal of sanitation products, and
- The laundry professional takes breaks for meals during this period.

The dimensioning of the laundry equipment was developed considering the dry weight per each item to be washed (see item "a"), the frequency for the washing cycles (see item "e"), the nine hours period, and also the characteristics of the principal equipment for washing and drying, as capacity (kg per cycle) and time of operating for each cycle.

The **table VI** below shows the necessary equipment to be provided during the Detailed Design phase so that the entire volume of clothing in the Unit can be properly handled:

- 3 (three) washing machines, capacity of 35 kg, 60 min per cycle,
- 3 (three) drying machines, capacity of 30 kg, 60 min per cycle.

TABLE VI

Washed items	Dry weight/ unit	Number of washes per day		Weights per items/day
		Quant.	Frequency of washing	
Uniforms	1,50 kg	240	All items washed daily	360 kg
Bed linen	2,50 kg	80	33% POB per day	200 kg
Bathing towels	1,20 kg	80	33% POB per day	96 kg
TOTAL DRY WEIGHT PER DAY			656 kg	

Equipment considered	Capac.	Quant.	Cycles/ hour	Capac/ hour	Total capacity per day
Washing machines (60 min cycle)	35 kg	3	1	105 kg	945 kg
Drying machines (60 min cycle)	30 kg	3	1	90 kg	810 kg

* Washing every 3 days according to NR-37 item 37.14.6.7.c

The items for personal use are not processed by industrial machines. For these items, other space with equipment are specified to wash and dry small capacities of clothes.

Location, dimensions, and quantity shall follow document "LAUNDRY LAYOUT" presents.

General furniture, as chairs, cabinet, and benches shall follow specification presented on "ACCOMMODATION ARCHITECTURE MATERIALS AND EQUIPMENT SPECIFICATION".

SELLER shall consider, as minimal requirements, the **table VII** below for specification and quantity of equipment for Laundry Areas:

TABLE VII

	EQUIPMENT	DETAILS	QUANT
WET AREA	Industrial washing machine	Minimum 35 kg capacity, front loading type, hot and cold water, centrifugation speed 500 rpm, stainless steel body (AISI 304), rigid mounting, 5 standard programmers.	3
	Industrial clothes dryer	Minimum capacity 30 kg, stainless steel body, Double door construction to be robust and secure and the door to open 180° for easy access.	3
	Semi-industrial washing machine	Minimum 10Kg capacity, front loading type, hot and cold water, stainless steel	3
	Semi industrial clothes dryer	Minimum 10 kg capacity, stainless steel	3
	Industrial tank with base	Stainless steel, with two sinks and taps, with flexible chrome plated connection.	1
	Cabinet w/doors	Stainless steel, Dim: 800x350x600 mm	1
	Bench with shelf	Stainless steel, Dim.: 800x700x1000 mm	1

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DRY AREA	Industrial laundry basket	Wheeled, with brackets, stainless, steel frame, heavy cotton bag. Dimensions: 1000 (W) x 500 (D) x 900 (H) mm	4
	Industrial ironing board	Mounted on the wall, retractable. Dim.: 1220x 380mm	1
	Working table w/ shelf	Stainless steel. The steel shelf shall have bar to prevent rolling and falling objects. Dimensions approx.: 1700x1050x1000(H)mm	1
	Laundry lockers	Stainless steel with shelves.	According to layout
	Cabinet w/ doors	Stainless steel with shelves. For Clothes Storage. Dimensions approx.: 850x450x600(H)mm	2
	Drinking fountain		1
	Cup holder		1
	Garbage basket	20 L	1
	Wall clock		1