

SECTION 11 70 00
MEDICAL EQUIPMENT

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section includes requirements pertaining to provision of and/or installation of medical equipment. Each item is identified by a unique identifying tag or item number and a procurement responsibility code which is defined as follows:
- B.
 - 1. "CC" Contractor Furnished and Contractor Installed:
 - a. Contractor to furnish and install all equipment with all coordination provided by the Contractor for a complete and fully functional installation.
 - 2. "OC" VA Furnished and Contractor Installed:
 - a. VA to furnish and Contractor to install all equipment with all installation and coordination requirements provided by the Contractor for a complete and fully functional installation.
 - 3. "OV" VA Furnished and Vendor Installed Equipment:
 - a. VA to furnish and Vendor to install all equipment with rough-in, utility connections and structural supports/bracing provided by the Contractor.
 - 4. "OO" VA Furnished and VA Installed Equipment:
 - a. VA to furnish and VA to installed all equipment with rough-in, utility and structural supports/bracing requirements provided by the Contractor.
- C. Related Sections:
 - 1. Division 22 – Plumbing
 - 2. Division 23 – Heating, Ventilating and Air Conditioning
 - 3. Division 26 – Electrical
 - 4. Division 27 – Communications
 - 5. Division 28 – Electronic Safety and Security
- D. Related Documents:
 - 1. Equipment Drawings ("EQ" series).
 - a. Floor plans, indicating the location of floor, wall and ceiling mounted items.
 - b. Typical wall mounting heights and wall backing drawings.

2. Equipment Submittal:
 - a. Room by Room equipment list incorporated as reference.
 - b. Equipment Cover/Data sheets incorporated as reference.

1.2 SUBMITTALS

- A. Shop Drawings: Submit for all items, “CC”, “OC” “OV” and “OO”, requiring either fabrication or coordination of utilities, ceiling structural support, wall structural support or work from other Sections or both. Show actual layout of installations pertinent to this work. Standard printed sheets containing information not applicable to this work are not acceptable as shop drawings. Indicate details of construction, rough-in requirements, and relation to work of other Sections. Verify job conditions affecting the work and obtain accurate measurements for incorporation into shop drawings.
- B. Samples: Furnish samples of materials to be provided and manufacturer’s full range of color selections as applicable for items requiring approval of material finishes and colors.
- C. Equipment Lists: Within 30 days after award of Contract and before any equipment is ordered, submit to the Owner for review and approval, four copies of “CC” materials and equipment scheduled herein.
 1. Include references and symbols that correspond with the Contract Documents, together with the names and addresses of the manufacturers and the catalog numbers and trade names of the items.
 2. Supplement lists with catalog pages or data sheets, diagrams, drawings, and other descriptive data for each referenced item, as necessary to evaluate utility considerations, dimensions, and appearance of the items and materials.
 3. Submit equipment lists in the following manner:
 - a. Submit each set of lists in a manner suitable for storing in a loose-leaf three-ring binder.
 - b. Index the lists sequentially by item number as used in the Contract documents.
- D. Specifications and Installations Data: Prior to starting work, submit four copies of the manufacturer's printed specifications and installation instructions requiring coordination with work of other Sections. Provide manufacturer standard structural calculations for all equipment requiring seismic anchorage.
- E. Operating Manuals and Service Data:
 1. Upon completion of the project, furnish four copies of service manual for each type unit of equipment provided in the Project.
 2. Each manual shall contain operating instructions and information required for performing periodic minor maintenance on the equipment. Include the following information:

3. Identification of each major part of the unit by the manufacturer's part number.
 4. Wiring diagrams for electrical items and components.
 5. List of necessary service parts and equipment for maintenance.
- F. Accessory Catalogs: Upon completion of the Project, furnish two copies of the manufacturer's catalogs containing optional accessory items available for all equipment.
- G. Structural Calculations: For each equipment item requiring seismic supports, furnish two copies of the manufacturers approved seismic details and calculations.

1.3 QUALITY ASSURANCE

- A. Code Requirements: Conform to or exceed applicable State and local codes.
- B. Factory Tests: At point of manufacture, examine and test products under this Section for proper capacity, function and compliance with Specification requirements. Perform such testing in accordance with applicable referenced Specifications. Products installed under this Section are subject to additional acceptance examination and testing after installation at the Project Site.
- C. Manufacturer's Products: It is not the intention of this Specification to limit consideration to products of specific manufacturers. The following standards, establishes the characteristics for which submitted pieces of equipment will be reviewed and approved by the Owner. The standards are as follows:
1. Size of equipment.
 2. Function of equipment.
 3. Standard and listed accessories.
 4. Control of equipment.
 5. Performance of equipment.
 6. Construction of equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Materials shall be in accordance with requirements specified for the equipment listed on the "Items List" found in the Equipment Submittal documents. All materials shall be new and free from defects and imperfections that might affect both the serviceability and appearance of the finished product. Where finish or materials or both are not specified, the manufacturer's standard finish or materials is acceptable, providing it is suitable for conditions of use.
- B. Electrolytic Prevention: Make appropriate provisions to prevent electrolysis where metal parts are welded or otherwise fastened together.

2.2 ELECTRICAL COMPONENTS

- A. Electrical Approval: Electrically operated equipment shall be listed by the Underwriters Laboratories, Inc., wherever standards have been established by that Agency. In lieu of UL approval, considerations will be given to certified test reports of a nationally recognized independent testing laboratory competent to perform such testing, indicating conformance to all requirements of the applicable UL standard, including method of test.
- B. Devices and Controls Required: All manual or automatic controls and protective or signal devices necessary for the operation of the equipment and wiring required, associated with equipment but not shown on the Electrical Plans shall be furnished and installed as part of the work of the Specification Section in which the equipment is specified.

2.3 PLUMBING COMPONENTS

- A. Sanitary Safeguard: All equipment with direct attachment to the water supply system shall be provided with backflow prevention devices to prevent polluted water or waste into the water supply system and into aseptic portions of equipment.

2.4 NAME PLATES

- A. Manufacturer's Identification: Unless otherwise specified, the following listed applicable information shall be affixed in a permanent manner to each item of equipment. The information shall be located in a suitable location on the product and shall be proportionate to the size of the equipment:
 - 1. Name of manufacturer or registered trade name.
 - 2. Manufacturer's type designation.
 - 3. Serial number.
 - 4. Utility ranges or capacity, such as voltage and watt rating or voltage and amperage rating if electrically heated or powered.

2.5 SEISMIC REQUIREMENTS

- A. Install equipment per project seismic requirements, reference Structural drawings and specifications. For all "CC" and "OC" equipment items provide manufacturers standard seismic supports, anchors and calculations.
 - a. Install manufacturer provided seismic anchoring for the following equipment:
 - i. LFT0238 Patient Lift
 - ii. ICE0000 Ice Machine.

PART 3 - EXECUTION

3.1 COORDINATION

- A. Prior to commencing work, coordinate work of equipment requirements with work of related Sections to obtain proper installation of items. Contractor shall acquaint himself with work of other Sections whose work abuts, joins, or is affected by or related to items specified in the applicable Sections.
- B. Carefully examine drawings and manufacturers' shop drawings and instructions and directions for proper location and installation of materials and equipment to avoid substantial changes.
- C. Coordinate appropriate pipe connection sizes and locations for direct connection to equipment items shown on documents.
- D. Coordinate appropriate power and data / communication requirements, locations and mounting heights of the equipment items identified in the documents.
- E. Contractor shall receive from the VA, allowing for adequate time to review and coordinate efforts of all VA furnished equipment items "OC", to fully coordinate all final utility and installation requirements. Existing equipment items to be relocated by the contractor are identified as "OC". Coordinate efforts with VA designated personnel.

3.2 DELIVERY, STORAGE, AND PROTECTION

- A. Packaging and Transporting: Each unit of equipment shall be placed in a substantial shipping container or crate for safe transportation to final destination. The shipping container or crate for heavy equipment shall be on skid construction to facilitate handling by lift equipment.
- B. Marking: Clearly and legibly indicate on exterior of each container or crate the shipping address and a brief description of contents. Fasten to outside of container a packing list and complete instructions for uncrating equipment and setting it in place. Protect such information in a weatherproof envelope.
- C. Protection: During storage and until completion and acceptance properly protect all materials and equipment from injury and damage. Before acceptance, remove all protective coverings, thoroughly clean surfaces, inside and outside, and leave equipment free from defects, damages, and blemishes.

3.3 INSTALLATION OF EQUIPMENT

- A. Cutting of Construction: Carefully layout work in advance. Cutting shall be done carefully, damage to buildings, and piping, wiring or equipment as a result of

cutting for installation shall be repaired by skilled mechanics of the trade involved, at no additional expense to the Owner.

- B. Setting and Connection: Install as indicated on the drawings. Install and connect equipment plumb and make level in accordance with the manufacturer's instructions and recommendations. Secure anchor and attach items and accessories. Make connections between equipment and work of other Sections in a neat manner, and install equipment so that work of other Sections will not be injured or damaged. Where applicable provide required filler and trim pieces to close spaces between equipment and work of other Sections.
- C. Cleaning and Adjusting: Carefully test and adjust equipment for proper operation. Lubricate moving parts if required by the manufacturer's specifications. Prior to acceptance of the Project, clean medical equipment both inside and outside, and leave equipment free from defects, damage, and blemishes.
- D. Installation: Install all equipment in compliance with manufacturer's written instructions and installation procedures.
- E. Provide and install all anchorage devices, seismic anchors and bracing, fasteners, shims and materials as required to provide a complete and fully functional installation.

3.4 TESTS AND INSPECTIONS

- A. General: Unless otherwise specifically set forth in the technical Section, examinations and tests set forth in the Specification or as otherwise appropriate or necessary to insure that the equipment conforms to Specification requirements shall be performed at no additional expense to the Owner.
- B. Prior to installation, thoroughly examine the equipment, materials, and components for both visual defects and conformance with Specifications.
- C. After installation, the equipment shall be inspected and tested under operating conditions. If inspections or tests show defects, such defects shall be corrected, defective material replaced and inspection and test repeated. Such corrections, replacement and retesting shall be made at no additional expense to the VA.

3.5 EQUIPMENT SCHEDULE

- A. Contractor Furnished-Contractor Installed "CC" equipment:
 - 1. SNK0029 – Single Bay, Stainless Steel Scrub Sink, automatic preset water temperature, hands free operation. Nominal 37 inches H x 32 inches W x 27.5 inches deep.
 - a. Features:
 - 1) Medical grade type 304 Stainless Steel.

- 2) Gooseneck Spray faucet with wide angle “rosette” style spray nozzle.
- 3) Deck mounted mixing valve, anti scald type limiting temperature to 112 degrees F ±2 degrees.
- 4) Deep sloped sink base, to prevent splash and facilitate drainage
- 5) 1-1/2 inch drain System.
- 6) Heavy 14 gauge sink bowl and 18 gauge panels. Fully undercoated for sound deadening and to prevent condensation.
- 7) Optional eyewash with blending valve.
- 8) 10 inch deep back shelf
- 9) Manufacturers standard sink carrier – provide all anchors and wall backing/bracing for complete carrier installation.
- 10) Infrared Electronic eye activated water flow system with automatic shutoff (120V 15 A service)
- 11) Integrated eyewash.
- 12) Laminar Faucet Diffuser.

b. Basis of Design

- 1) Skytron Model SS2121-MK with option listed above. Manufacturer’s offering products of approved similar design, function and quality are acceptable.
- 2) Install per manufacturers recommendations.
- 3) Coordinate install with required plumbing and electrical work.
- 4) Provide manufacturers standard attachment anchors.
- 5) Contractor to provide certification testing to ensure that the installed equipment is installed and operating per manufacturer specifications and meets the required certifications.

CAD ID	Description	F/I	Description
SNK0029	Sink, Scrub, 1-Bay, Stainless Steel	C/C	

B. Owner (VA) Furnished- Contractor Installed “OC” equipment:

Verify final equipment selections and manufacturers with VA.

CAD ID	Description	F/I	Description
BED0108	Bed, Psychiatric, Security	O/C	
BRK0000	Bracket, Computer Workstation, Wall	O/C	
BRK0309	Bracket, DVD/VCR Wall Mount	O/C	
BRK0068	Bracket, Monitor, Wall	O/C	
BRK0000	Bracket, Television, Wall, Flat Panel TV	O/C	
BRK0328	Bracket, Patient Transfer Device	O/C	
DSP0001	Dispenser, Cleaning Solution	O/C	
GLV0053	Dispenser, Glove, Triple Box	O/C	
DSP0711	Dispenser, Hand Sanitizer, Wall Mount	O/C	
DSP0000	Dispenser, Otoscope Tips, Wall Mount	O/C	
CST0367	Dispenser, Personal Protection, Wall Mounted	O/C	
DSP0119	Dispenser, Scrub Sink Supplies	O/C	
DIS0261	Disposal, Sharps, Wall Mount	O/C	
HDW0022	Headwall, Rail System, 1 Patient	O/C	
ICE0048	Ice Machine, Dispenser, Nugget, Countertop	O/C	
INJ0025	Injector, Contrast Media, Ceiling Mount	O/C	
LFT0238	Lift, Patient, Ceiling, 1-Bed, Bariatric	O/C	Coordinate install with manufacturer/vendor.
LIG0082	Light, Exam/Procedure, Single, Ceiling	O/C	
LTS0279	Light, Surgical, Dual, Ceiling, w/Monitor Arm & Equip. Boom	O/C	Coordinate install with manufacturer/vendor.

OPH0037	Oto/Ophthalmoscope Set, Wall Mount	O/C	
RCK0000	Rack, Apron, Wall Mount	O/C	
SHL0426	Shelving, Bins, Wall	O/C	
SPH0008	Sphygmomanometer, Aneroid, Wall Mount	O/C	
THM0000	Thermometer, Digital, Wall Mount	O/C	
VBX0000	Viewbox, 2 Panel, Recessed	O/C	
ICE0157	Water Treatment System, Ice Maker, Wall Mount	O/C	

C. Owner (VA) Furnished- Owner (VA) Installed “OO” and Owner (VA) Furnished- Vendor Installed “OV” equipment:

- The following equipment schedule has been included as reference which generically defines the equipment to be provided and installed by the Owner or Owners Vendor – Contractor to install as noted. Consult Owner/Vendor for final equipment selections.

ANA0505	Analyzer, Lab, Blood Gas, Point-of-Care	O/O	
ANA0424	Analyzer, Lab, Urinalysis, Semi-Automated	O/O	
APR0000	Apron, Lead, Allowance	O/O	
APR0000	Apron, Lead, Half	O/O	
BIN0000	Bin, Shredding, Secure	O/O	
BRD0003	Board, Patient Transfer Device	O/O	
BUK0000	Bucket, Kick	O/O	
BUK0000	Bucket, Mopping	O/O	
CST0415	Cabinet, Storage, Clinical, Instrument	O/O	
CWA0000	Cabinet, Warming, Single, Floor	O/O	

CTK0000	Cart / Truck, Soiled Utility	O/O	
CAR0000	Cart, C-locker Transport	O/O	
CAR0000	Cart, C-locker Transport	O/O	
CHC0000	Cart, Chart, 21-30 chart	O/O	
CYC0009	Cart, Cylinder, D&E, Multi	O/O	
HSK0000	Cart, Housekeeping, Stainless	O/O	
PRC0000	Cart, Procedure, Resuscitation	O/O	
PRC0163	Cart, Procedure, Resuscitation	O/O	
PRC0000	Cart, Procedure, Uro/Gyn	O/O	
SPC0000	Cart, Supply, Chrome, 48 inch	O/O	
SPC0000	Cart, Supply, Drawers	O/O	
SPC0529	Cart, Supply, Drawers	O/O	
SPC0000	Cart, Supply, Linen, 60"	O/O	
UTC0000	Cart, Utility, Stainless	O/O	
UTC0000	Cart, Utility, Wire, Basket	O/O	
CHA0000	Chair, Clinical, Commode, Bariatric	O/O	
CHA0000	Chair, Clinical, Commode, Floor	O/O	
CHA0193	Chair, Clinical, Procedure, EENT	O/O	
VIS0000	Chart, Visual Acuity, Portable	O/O	
CLK0000	Clock, Analog, Synchronized, Wireless	O/O	
CLK0000	Clock, Analog, coordinated, Wireless	O/O	

CLK0000	Clock, Analog, Synchronized, Wireless	O/O	
COF0000	Coffee Maker, Automatic, 3-5 Warmer	O/O	
CLP0008	Colposcope, Video System	O/V	
DIG0029	Computed Radiography, Plate Reader, Single	O/V	
COV0000	Cover, Cart, Poly	O/O	
CTX0025	CT Scanner, Multi-Slice, 2-40 Slice	O/V	
DFB0028	Defibrillator, Monitor, w/Pacing	O/O	
DFB0028	Defibrillator, Monitor, w/Pacing	O/O	
DSK0122	Desk, Wall, Charting, PC	O/V	
MED0098	Dispenser, Medication, Auxiliary	O/V	
MED0050	Dispenser, Medication, Host (Main)	O/V	
MED0194	Dispenser, Medication, Workstation	O/V	
CST0371	Dispenser, Personal Protection, Door Mount	O/O	
SUP0016	Dispenser, Supply, Host	O/V	
DIS0000	Disposal, Sharps, Floor Cart	O/O	
DIS0267	Disposal, Sharps, Floor Cart	O/O	
DCK0000	Docking Station, Analyzer, Blood Gas, POC	O/O	
DOP0000	Doppler, Fetal Heart	O/O	
DOP0000	Doppler, Ultrasonic, Blood Flow	O/O	
ESU0000	Electrosurgical Unit, Bipolar	O/O	
FLW0000	Flowmeter, Air	O/O	

FLW0000	Flowmeter, Air	O/O	
FLW0000	Flowmeter, Oxygen	O/O	
FLW0000	Flowmeter, Oxygen	O/O	
GVE0000	Gloves , Lead Lined	O/O	
HAM0000	Hamper, Linen	O/O	
IFS0000	Infuser, Pressure	O/O	
LMP0000	Lamp, Slit	O/O	
LFT0027	Lift, Patient, Battery Powered	O/O	
LIG0000	Light, Exam/Procedure, Single, Floor	O/O	
LIG0272	Light, Exam/Procedure, Single, Floor	O/O	
MIC0000	Microscope, Binocular	O/O	
MNR0000	Monitor, Blood Glucose	O/O	
CSM0025	Monitor, Central Station, 16 Patient	O/V	
MON0146	Monitor, Physiologic, Portable	O/O	
MON0147	Monitor, Physiologic, Portable	O/O	
MON0168	Monitor, Physiologic, Portable	O/O	
MON0547	Monitor, Physiologic, Portable	O/O	
OPE0000	Ophthalmoscope, Binocular, Indirect	O/O	
OVN0000	Oven, Microwave, Countertop	O/O	
OXM0000	Oximeter, Pulse	O/O	
INF0000	Pump, Infusion, Dual	O/O	

ASP0000	Pump, Suction/Aspirator, General, Portable	O/O	
REF0507	Refrigerator, Commercial, Undercounter	O/O	
REF0788	Refrigerator, Compact	O/O	
REF0564	Refrigerator, Domestic with Freezer	O/O	
REG0000	Regulator, Suction, Continuous, 3 Mode	O/O	
REG0000	Regulator, Suction, Intermittent/Continuous	O/O	
REG0000	Regulator, Suction, Surgical, High Flow	O/O	
SCL0000	Scale, Clinical, Adult, Digital, Floor	O/O	
SHL0734	Shelving, Wire, Chrome, 48	O/O	
SHL0000	Shelving, Wire, Chrome, 60	O/O	
SHL0000	Shelving, Wire, Chrome, 60	O/O	
SHL0730	Shelving, Wire, Chrome, 60	O/O	
SPH0000	Sphygmomanometer, Aneroid, Mobile	O/O	
IVS0000	Stand, IV, Stainless Steel	O/O	
MAY0000	Stand, Mayo, Thumb-Operated	O/O	
STL0000	Stool, Exam, Cushion-Seat	O/O	
STL0000	Stool, Exam, Cushion-Seat	O/O	
STL0000	Stool, Step, w/Handrail	O/O	
STL0000	Stool, Step, w/Handrail	O/O	
STR0168	Stretcher, EMT	O/O	
STR0452	Stretcher, Procedure / Recovery	O/O	

STR0452	Stretcher, Procedure / Recovery	O/O	
STR0073	Stretcher, Procedure, OB/GYN	O/O	
STR0147	Stretcher, Trauma / Surgery	O/O	
STR0147	Stretcher, Trauma / Surgery	O/O	
TEQ0012	Table, Equipment, Instrument, Eye	O/O	
TIN0000	Table, Instrument, 30-36 inch	O/O	
THM0000	Thermometer, Digital, Wall Mount	O/O	
THM0000	Thermometer, Tympanic, Digital	O/O	
TST0006	Toaster, Commercial	O/O	
ULT0000	Ultrasound, Imaging, Cardiac / Echo	O/O	
VNT0000	Ventilator, Adult / Pediatric	O/O	
VNT0105	Ventilator, BiPAP	O/O	
WMR0000	Warmer, Fluid/ Blood, Portable	O/O	
WMR0000	Warmer, Gel	O/O	
WMR0010	Warmer, Patient, Hypothermia	O/O	
WST0000	Waste Can, 32-36 Gallon	O/O	
WST0060	Waste Can, 32-36 Gallon	O/O	
WST0006	Waste Can, Bio-Hazardous	O/O	
WST0006	Waste Can, Bio-Hazardous	O/O	
WST0019	Waste Can, Bio-Hazardous	O/O	
WST0019	Waste Can, Bio-Hazardous	O/O	

WST0030	Waste Can, Bio-Hazardous	O/O	
WST0000	Waste Can, Open Top	O/O	
WST0036	Waste Can, Open Top	O/O	
WST0036	Waste Can, Open Top	O/O	
WST0000	Waste Can, Recycle Bin	O/O	
WST0000	Waste Can, Step-On	O/O	
WCR0000	Wheelchair, Adult, Heavy-Duty	O/O	
WKN0071	Workstation, Splint	O/O	
XRY0063	X-Ray Unit, General Radiography	O/V	
XRY0080	X-Ray Unit, Mobile, Analog	O/V	

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