



January 3, 2012

5085 Corporate Exchange Blvd. SE Grand Rapids, MI 49512 1.800.SKYTRON ph: 616.656.2900 fx: 616.656.1628

SKYBOOM ORDER DRAWING PACKAGE AND DISCLOSURE

prepared for

VA IOWA MEDICAL CENTER - ROOMS # 1-6

SKYTRON SKYBOOMS are custom built to meet the requirements specified from your facility. Ensure that all of your custom specifications have been included.

Equipment References	Drawing #	Drawing Description
A, B, C, D, E, F, G, H, I, J, K, L & M	__00a	Room Layout - Contains overhead view of Skytron equipment
	__00b	SkyVision Routing - Contains overhead view of Skytron SkyVision conduit routing
	__1	Elevation / Mounting Details - Contains elevation drawing of equipment with mounting details
	__2	Carrier Details - Contains front, left and right side views of equipment carriers detailing accessories and outlet placement
	__3	Medical Gas Details - Contains medical gas details required for the riser plate installation
	__4	Electrical Wiring Details - Contains detailed wiring diagram and circuit requirements for equipment booms and lights
	__5	Communications Details - Contains a breakdown of required communications cabling and connections
	__6	Light Fixture Details - Contains details of light wiring for fixture mounts and back box details

• • • NOTE THAT NOT ALL DRAWINGS WILL BE REQUIRED FOR EACH MOUNT / DRAWING PACKAGE • • •

!!! PLEASE READ THE FOLLOWING CAREFULLY !!!

I have read the appropriate requirements from the Skytron Pre-Installation Guide for Ergon Skybooms and consulted with the individual trades. I understand there are specific ceiling height, medical gas, electrical, video / communications and structural requirements that must be supplied by the customer's representatives to support this project.

• • • EACH DRAWING MUST BE INITIALED AND DATED • • •

ACCEPTED ☒

ACCEPTED AS NOTED ☐

REJECTED ☐

APPROVAL:

Katherine M. Beardsley

TITLE:

Chief Biomedical Engineer

REQUESTED DELIVERY DATE:

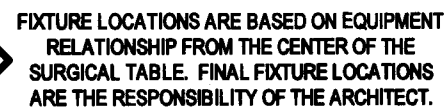
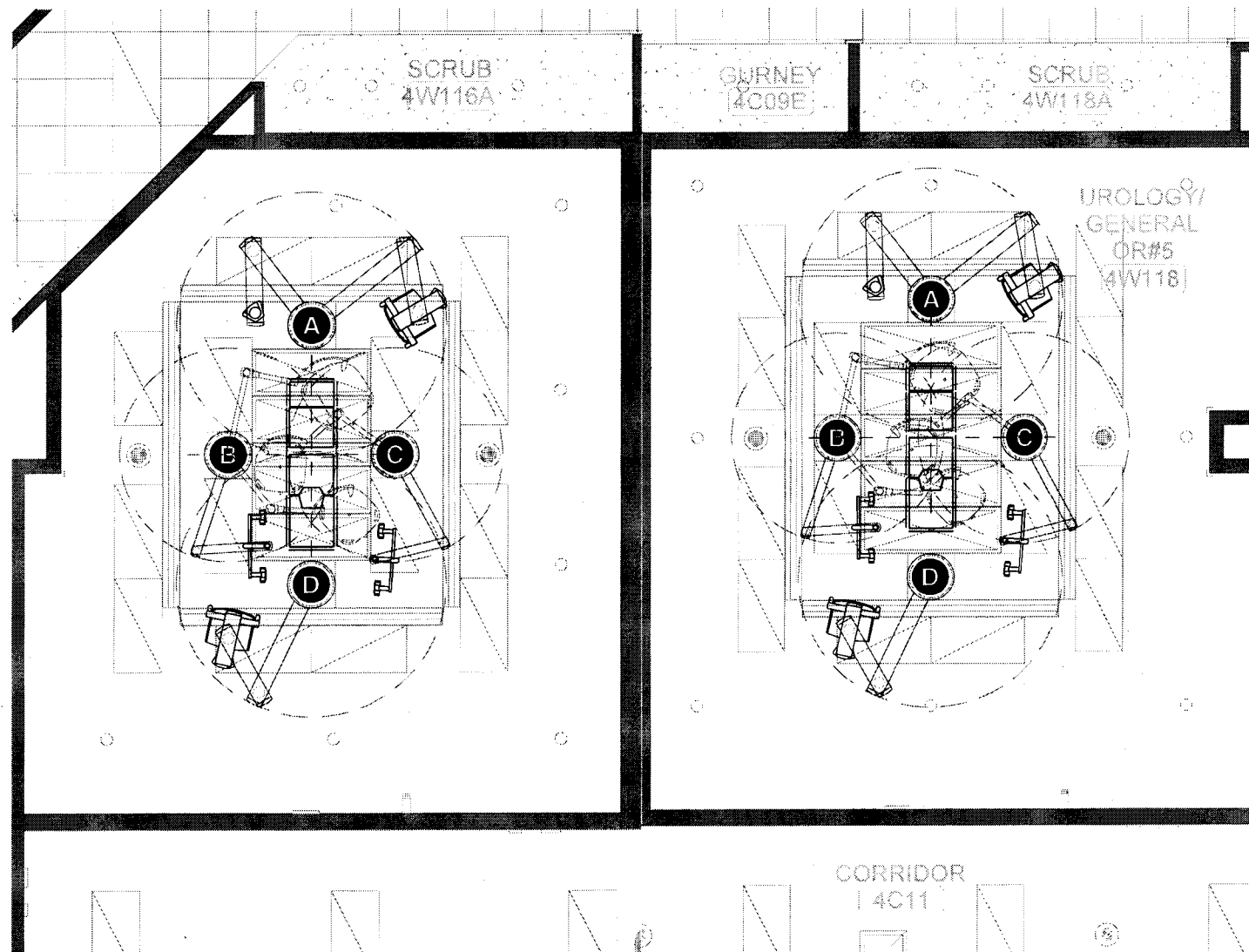
DATE:

1/11/12

P.O. NUMBER:

QUOTE NUMBER: 24777-5, 24778-3, 24779-3,
24780-3, 24782-3, 24783-2

DELIVERY TIME FOR STANDARD PRODUCTS ARE, (1-10 BOOMS = 60 DAYS) (11+ BOOMS = 120 DAYS), FROM RECEIPT OF BOTH SIGNED SUBS AND PURCHASE ORDER.

[illegible]

INITIAL: MMB
DATE: 1/5/12

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 12/8/2011

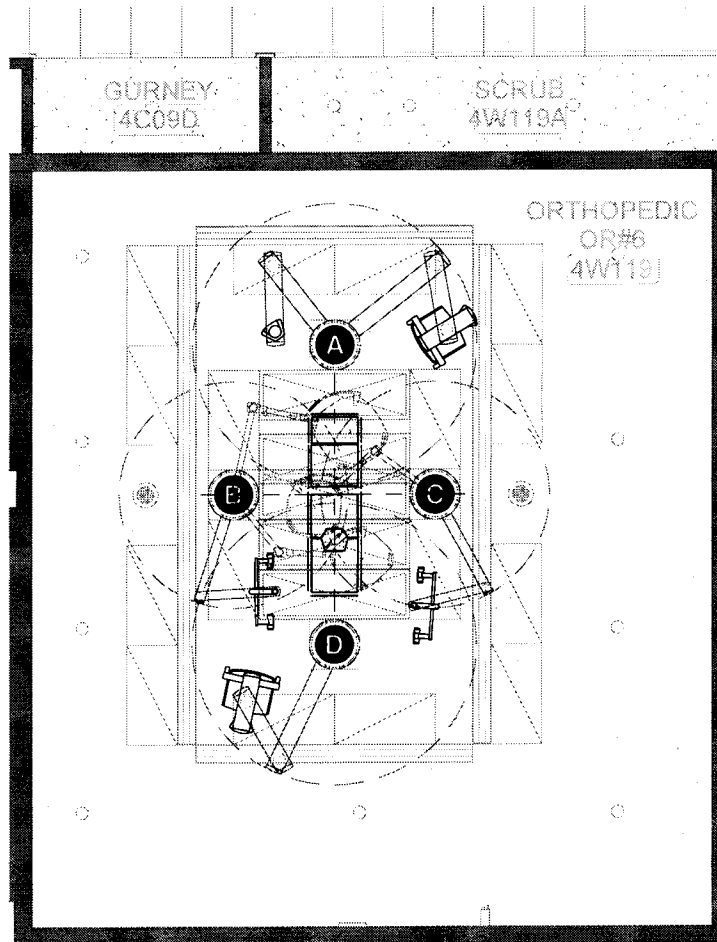
VA IOWA CITY

ROOM TYPE: GEN OR
REV. #: 0
DESCRIPTION: ROOM LAYOUT

SHEET
00a



FIXTURE LOCATIONS ARE BASED ON EQUIPMENT
RELATIONSHIP FROM THE CENTER OF THE
SURGICAL TABLE. FINAL FIXTURE LOCATIONS
ARE THE RESPONSIBILITY OF THE ARCHITECT.

[illegible]

INITIAL: MLB
DATE: 1/5/12

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 12/8/2011

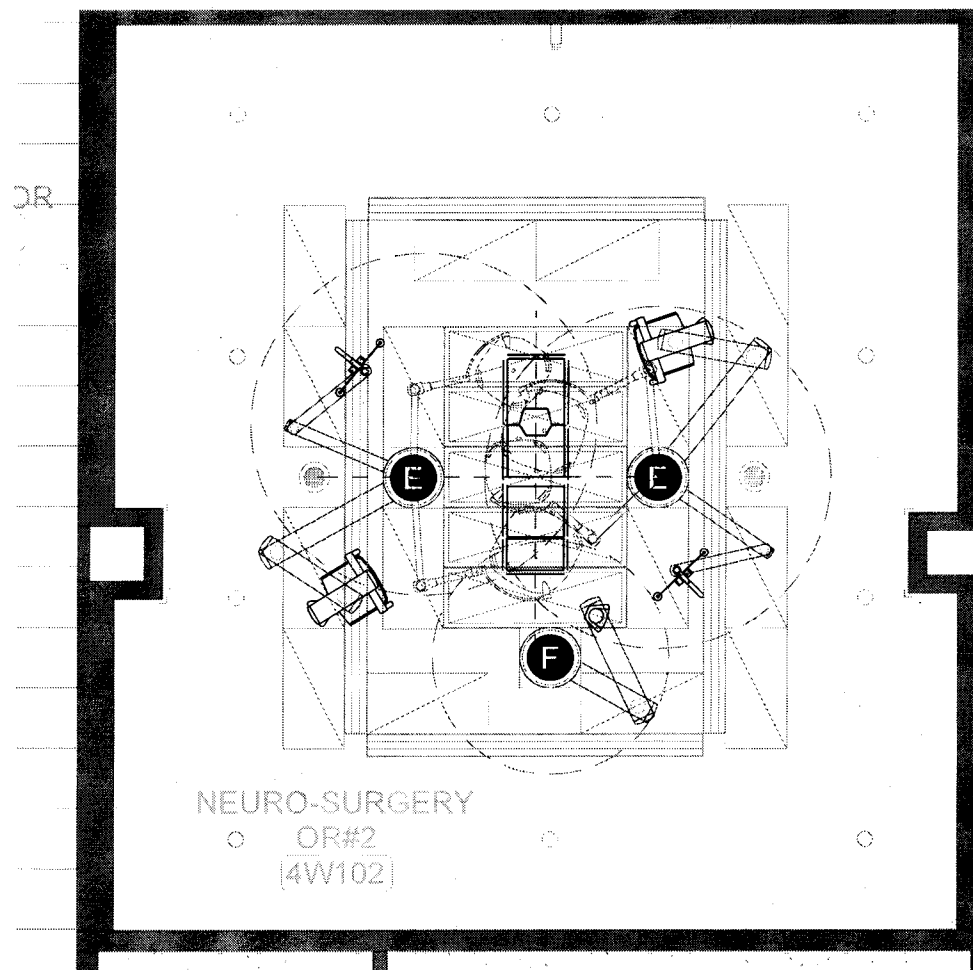
VA IOWA CITY

ROOM TYPE: GEN OR
REV. #: 0
DESCRIPTION: ROOM I

SHEET
00a



**FIXTURE LOCATIONS ARE BASED ON EQUIPMENT
RELATIONSHIP FROM THE CENTER OF THE
SURGICAL TABLE. FINAL FIXTURE LOCATIONS
ARE THE RESPONSIBILITY OF THE ARCHITECT.**

[illegible]

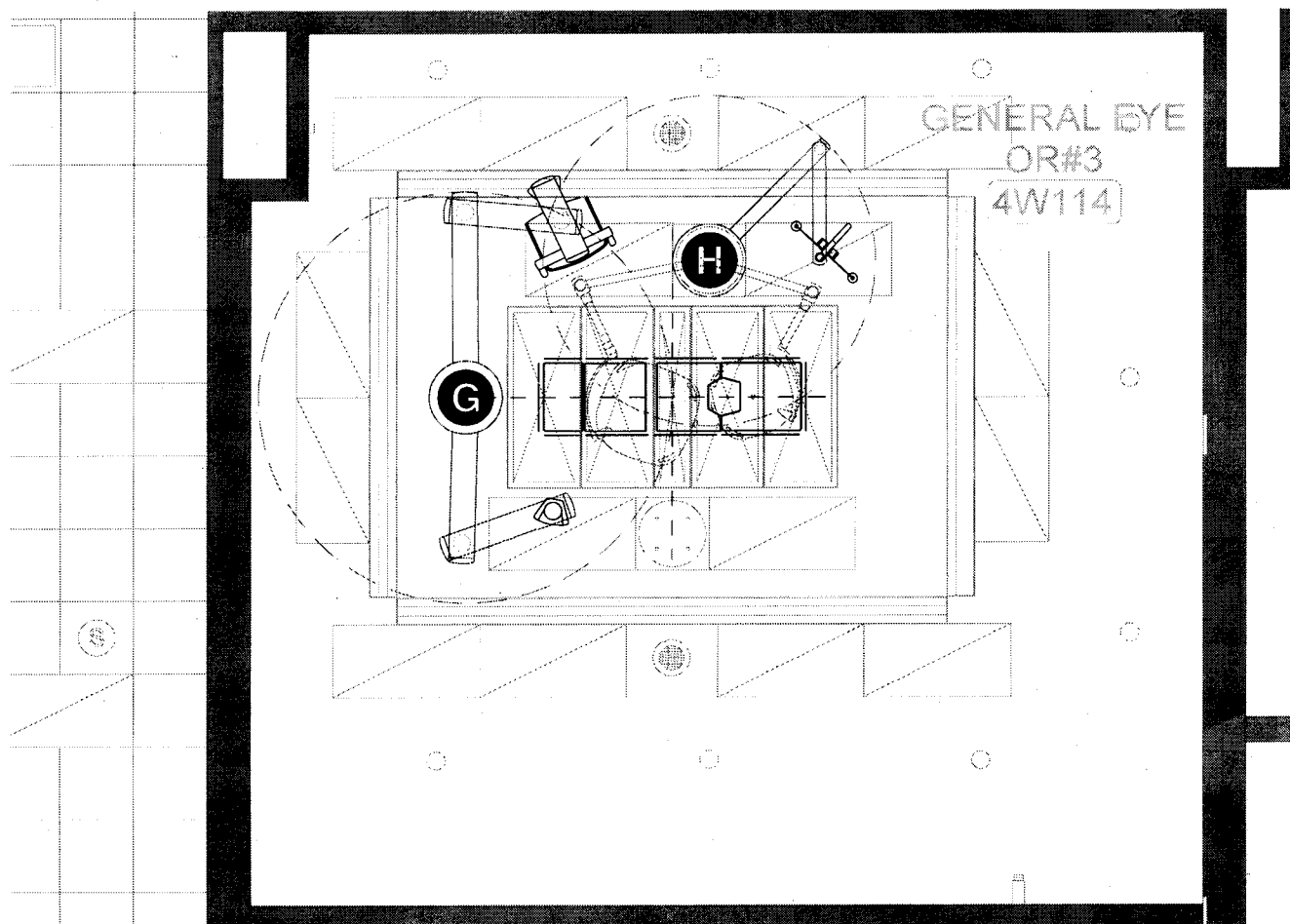
INITIAL: PLUB
DATE: 1/5/12

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 12/8/2011

VA IOWA CITY

ROOM TYPE: NUERO
REV. #: 1
DESCRIPTION: ROOM LAYOUT

SHEET
01a

[illegible]

INITIAL: KAJ
DATE: 1/5/12

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 12/13/2011

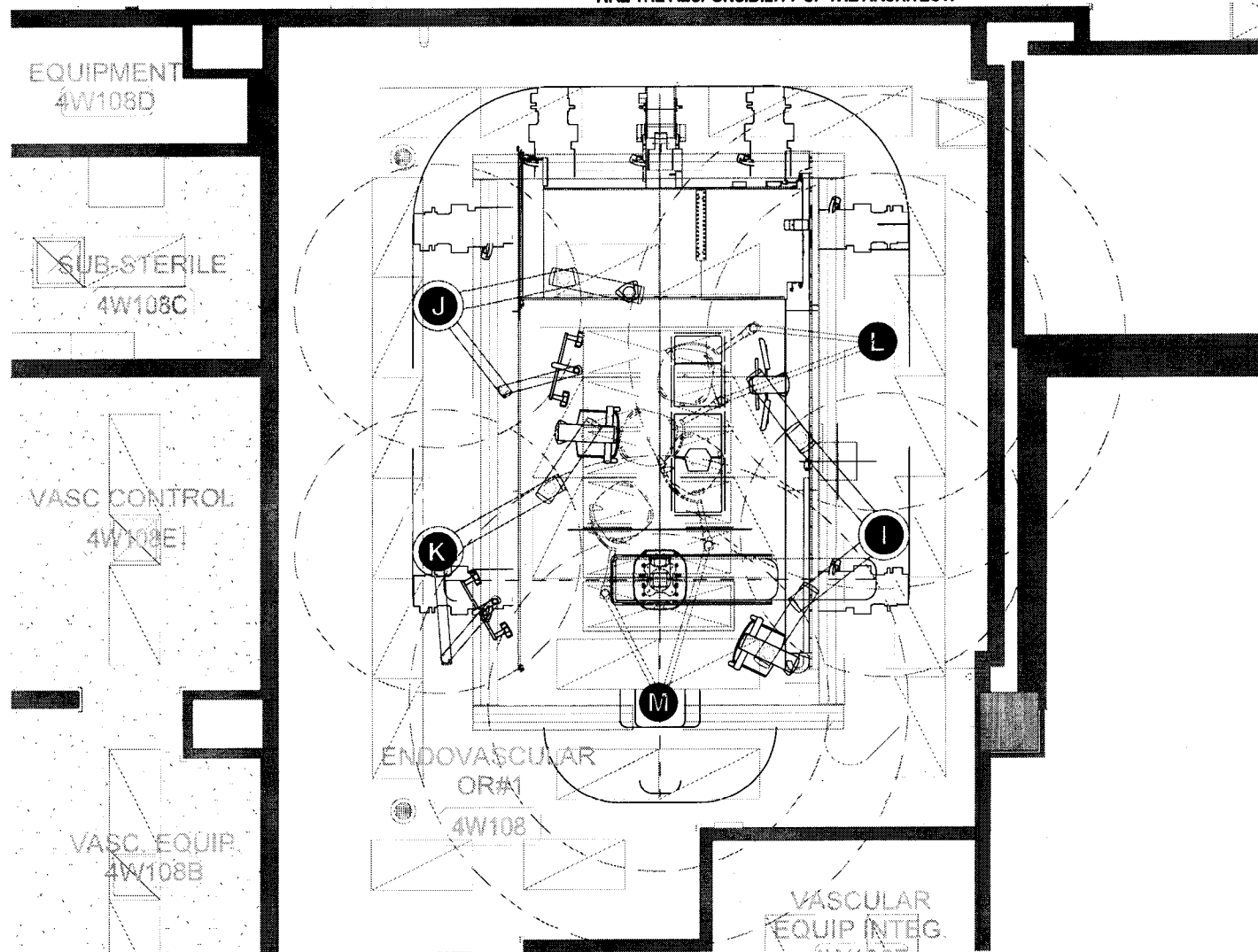
VA IOWA CITY

ROOM TYPE: EYE
REV. #: 0
DESCRIPTION: RO

SHEET
02a



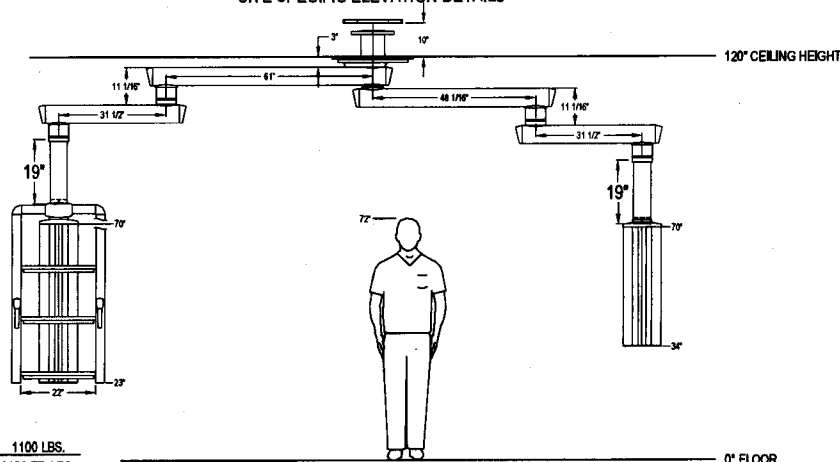
INITIAL: LRB
DATE: 1/5/12



SHEET
03a



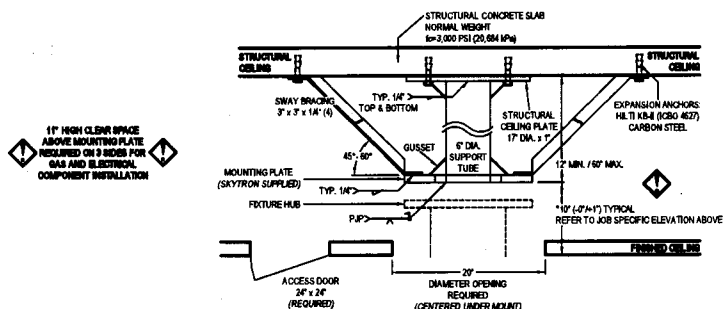
SITE SPECIFIC ELEVATION DETAILS



FIXTURE WEIGHT: 1100 LBS.
MOMENT LOAD: 6102 FT. LBS.
OPA NUMBER: 2482-07

GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: PUB
DATE: 1/5/12

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Mounting Structure Components

The fabrication of each mounting structure may be slightly different but they each require the same basic components to ensure stability.

Sway Bracing (by others)

Sway bracing is designed to rigidly affix the mounting plate to the structural ceiling. The primary purpose of sway bracing is to eliminate sway, or lateral twisting and flexing of the mounting structure as it "reacts" to dynamic load changes caused by moving the fixture radial arms. The sway bracing should be welded to the mounting plate and extend away from the center of the mount. A minimum of four sway braces place 90° apart and positioned at a 45° and 60° angle is recommended.

Minimum recommended material for sway bracing is 3" x 3" x 1/4" angle iron. It is recommended that in all applications that the sway bracing be fastened to the structural ceiling.

Structural Ceiling Plate (by others)

The structural ceiling plate rigidly attaches the mount to the structural ceiling using structural anchors appropriate for the ceiling construction. The structural ceiling plate should be a minimum of, 1" ASTM A36 steel plate, 17" diameter with (6) 5/8" diameter holes for structural anchors and is fabricated by others.

Expansion Anchors

Test 50% of the anchors at 2,000 pounds (907 kg) tension, or 50 ft. lb. (68 N•m) torque per CBC 1925A.3.5. Installed anchors must meet the following criteria:

1. **Hydraulic Ram Method:** The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
2. **Torque Wrench Method (Wedge or Sleeve Type):** The applicable test torque must be reached within one-half (1/2) turn of the nut. Testing should occur no sooner than 24 hours after installation of anchors. If any anchor fails testing, test all anchors until 20 consecutive anchors pass, then resume the initial testing frequency. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

Support Tube (by others)

The support tube required to attach the mounting plate to the structural ceiling plate is ASTM 500 Grade B, 6" diameter tube. Support tube is to be welded to structural ceiling plate and mounting plate. A minimum of 6 gussets placed 60° apart should be welded to support tube at the structural ceiling plate and the mounting plate.

Mounting Plate (SKYTRON supplied)

The 17.5" x 17.5" x 1" ASTM A36 steel mounting plate is a SKYTRON supplied item. The Support tube and sway bracing are welded to the mounting plate. The mounting plate contains the corresponding bolt pattern for attaching the fixture and provides the mounting areas for the junction box and gas riser plates.

Mounting Structure Design

Seismic structural applications may differ. Please contact your local SKYTRON distributor for specific calculations. The mounting structure must be designed and fabricated to position the bottom of the SKYTRON mounting plate 10" (-0", +1") above the finished ceiling. This is a critical dimension in order to accommodate proper clearance required for ceiling cover function. The mounting plate must be perfectly level (+/- 0.1") and allow no more than two-tenths of a degree (0.2") of rotation at the mounting plate when the specified load is applied. The mounting structure must be tested for strength and stiffness prior to installation of the fixture. Please contact your SKYTRON representative to schedule testing.

Please consult your SKYTRON representative during early stages of construction to facilitate this process. The testing process is a required, documented function prior to closing of the finished ceiling.

Ceiling Requirements

A 24" x 24" access door must be mounted adjacent to the mounting structure for entry by service personnel for service access.

SKYTRON provides a 24" ceiling cover designed to cover 20" diameter ceiling hole cutout.

Additional Skytron Supplied Items

In addition to the pre-installation kit, SKYTRON provides the following items:
(6) 1-1/4" x 10" threaded rods, (24) 1-1/4" hex nuts, pump enclosure (if applicable)

PROJECT #: 11-130-RG
SUBMITTAL

PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: ETM2FPM48/2FVBM36
QTY.: 3
REV. #: 0

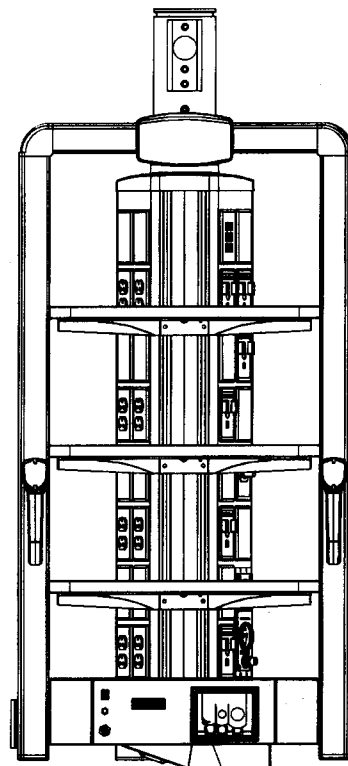
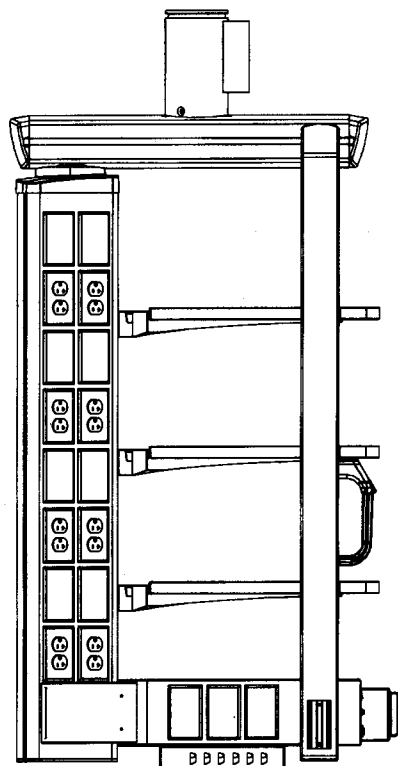
DESCRIPTION: ELEVATION DETAILS

SHEET
A1

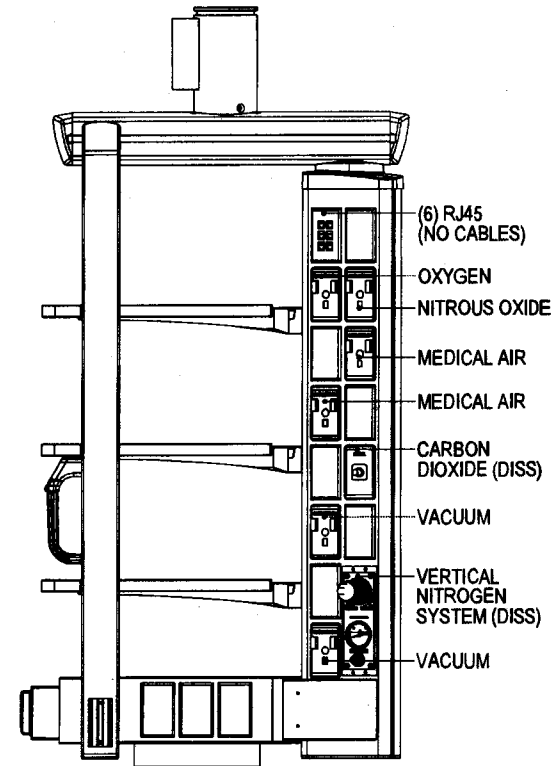


ACCESSORY LIST

- (1) MOUNTING BLOCK FOR VST MOUNT
- (1) BASE UTILITY BOX 22"
- (1) BACK COVER (NOT SHOWN)
- (2) BOLT-ON VACUUM SLIDES
- (3) PMSH SHELF 22"



SKYVAC



INITIAL: NUB
DATE: 1/5/12

CARRIER
DIMENSIONS: 54"H x 27.5"W x 30"D

GAS OUTLETS: CHEMETRON

ELECTRICAL: (8) 125V, 20A DUPLEX - RED

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

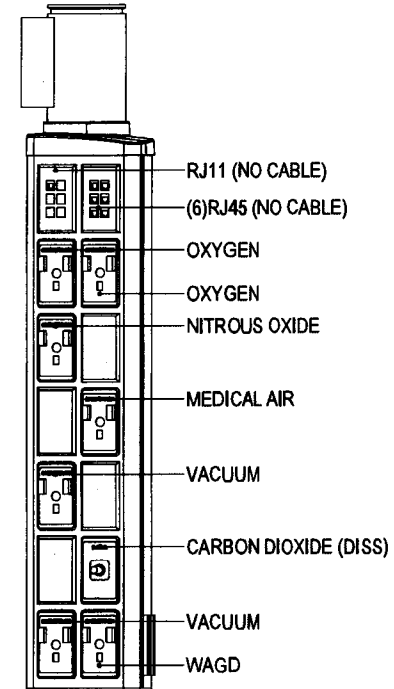
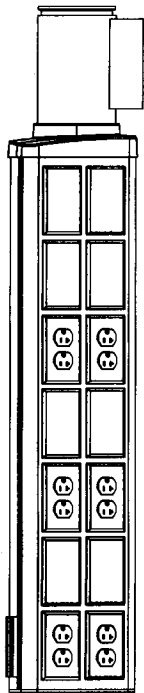
MODEL #: ETM2FPM48/2FVBM36
QTY: 3
DESCRIPTION: CARRIER DETAILS

SHEET
A2a



ACCESSORY LIST

- (1) MOUNTING BLOCK FOR VST MOUNT
- (2) BOLT-ON VACUUM SLIDE



INITIAL: *PLB*
DATE: *1/5/12*

CARRIER
DIMENSIONS: 37"H x 11.5"W x 8"D

GAS OUTLETS: CHEMETRON

ELECTRICAL: (6) 125V, 20A DUPLEX - RED

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

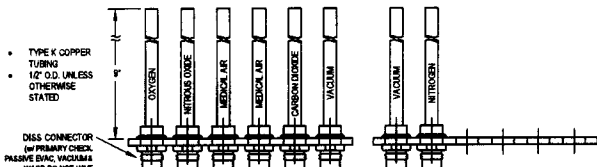
MODEL #: ETM2FPM48/2FVBM36
QTY: 3
REV #: 0
DESCRIPTION: CARRIER DETAILS

SHEET
A2b

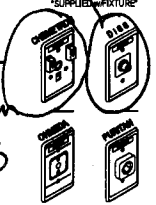


SITE SPECIFIC GAS DETAILS

PM48



GAS CONNECTOR ASSEMBLY
(w/ SECONDARY CHECK)
SUPPLIED w/ FIXTURE



**VERIFY AND INITIAL
GAS FACEPLATE
STYLE REQUESTED**

Test Gas	ASH Color Standard	Gas Color Standard	Abbreviated Name	Standard Pressure	Minimum Pressure	Allowable Pressure Drop	Minimum Flow Rates
H ₂ IF	Medium Blue (Yellow)	Medium Blue (Blue)	MedAir	64-65 psig	64 psig	5 psig	2.5 SCFH per outlet (100% air)
H ₂ IF	Charcoal Black (Gray)	Charcoal Black (Gray)	CO ₂	64-65 psig	64 psig	5 psig	2.5 SCFH per outlet (100% air)
H ₂ IF	Brown (Brown)	Brown (Brown)	Heater	64-65 psig	64 psig	5 psig	2.5 SCFH per outlet (100% air)
H ₂ IF	Black (Black)	Black (Black)	Hot Air (H ₂ O)	180-185 psig	200 psig	5 psig	2.5 SCFH per outlet (100% air)
H ₂ IF	Black (Black)	Black (Black)	N ₂ O	64-65 psig	64 psig	5 psig	2.5 SCFH per outlet (100% air)
H ₂ IF	Variable (Variable)	Variable (Variable)	MedVac	64-65 psig	64 psig	5 psig	2.5 SCFH per outlet (100% air)
H ₂ IF	Variable (Variable)	Variable (Variable)	MedVac	120psi (200psi)	N/A	5 psig	2.5 SCFH per outlet (100% air)
Waste Anesthetic Gas Disposal (Purge)	Waste Anesthetic Gas (Purge)	Waste Anesthetic Gas (Purge)	WAGD	Values vary with valve type			3 SCFH per outlet (50% air) do not use this test for tests to determine if a system is leak-free (10 SCFH through the system)

Note #1: Any room (Critical Care Area) designed for a permanently located respiratory ventilator or anesthesia machine shall have an outlet capable of a transient flow rate of 12 SCFH.

Note #2: For testing and certification purposes, individual station inlets shall be capable of a flow rate of 3 SCFH, while maintaining a system pressure of not less than 12" WAGD (the nearest adjacent vacuum line). Facility supply must be 115 PSI MMHG (vacuum D.L.S. covers most primary check valves for optimal flow).

Note #3: WAGD (Waste Anesthetic Gas Disposal; system employing a design where the WAGD line is "wet" to MedVac; line must provide the same flow rates as the MedVac line).

Note #4: Nitrogen gas in medical machines supplied directly from facility supply line rated at 185psi MIN to 250psi MAX. Avoid designs which feature multiple-in-line nitrogen control systems in order to avoid loss of flow capability.

Additional references: Health Care Facilities Handbook 2002, Section 5.1.1.1, page 211 and section 5.1.12.10.1 and 5.1.12.10.5, page 224
 NFPA 99, 2007 guidelines page A.5.1.6

Note #1 - Any room (Critical Care Area) designed for a permanently located respiratory ventilator or anesthesia machine shall have an outlet capable of a transient flow rate of 170 L/min at 200 Pa for 2 seconds at the station outlet.

Note #2 - For testing and certification purposes, individual station inlets shall be capable of a flow rate of: **3 SCFM**, while maintaining a system pressure of not less than 17

(300mm) at the nearest adjacent vacuum inlet. Facility supply must be 115 LPM nitrogen. (vacuum U.S.S. contractors must primary check valves for optimal flow). 12n/4G.

Notes #3 - WAGO (Waste Anesthetic Gas Disposal) systems employing a design where the WAGO inlet are "tied in" to MedVac inlet must produce the same flow rates as the MedVac inlets.

Note #4 - Nitrogen system requires nitrogen supplied directly from facility supply line rated at 185psi MIN to 200psi MAX. Avoid designs which feature multiple-in-line Nitrogen control systems in order to avoid loss of flow capability.

Additional references: Health Care Facilities Handbook 2002, Section 5.1.11, page 211 and section 5.1.12.13.10.1 thru 5.1.12.3.10.5, page 224
NFPA 99, 2002 guideline figure A.5.1.6.

MEDICAL GAS REQUIREMENTS - Medical Gas / Piping Engineer

Notes:

- Medical gas riser plates comply with NFPA 99-2005 Edition Cleanliness of gas outlets must be maintained through installation.
- Purge gas lines and test at least 24 hrs. prior to installation.
- Test results must be made available to SKYTRON for verification & comparison.

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The configuration drawings supplied by SKYTRON will indicate the type and quantity of gas supply lines required. D.I.S.S. connection medical grade hoses connect the fixture to the riser plate connectors. The customer is responsible to deliver the appropriate medical gas from the facility supply to the riser plate connectors and for the design of a medical gas system with adequate flow capacity capable of compensating for the accumulative flow restrictions associated with conventional construction methods i.e. flex gas hoses. SKYTRON provides medical gas riser plate(s) and the appropriate connectors for attachment to the Mounting Plate. The riser plate attaches to the mounting plate and will accommodate up to 12 gas connectors. The connectors are D.I.S.S. type medical gas connectors with single check valves and provide a 1/2" copper tube for attachment to facility supply lines. Caps are provided with Vacuum & WAGD gas connectors to facilitate testing procedures.

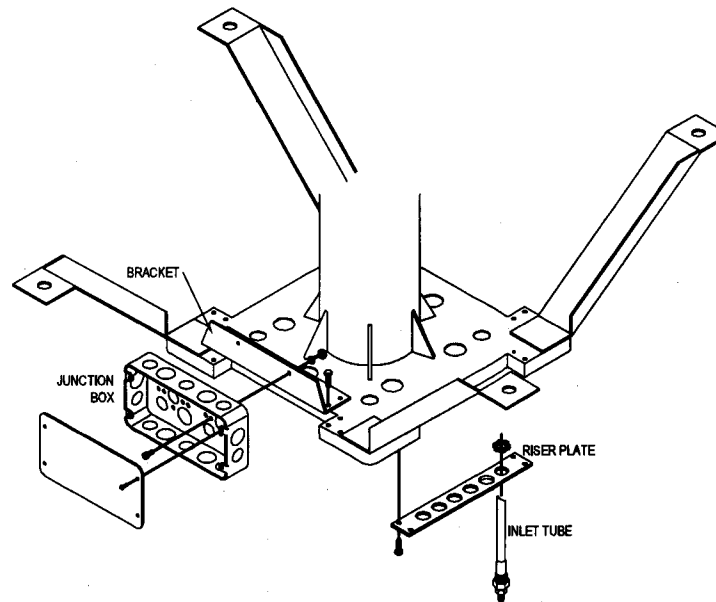
All connection and testing of medical gas piping to be performed in accordance with NFPA 9-2005 Edition-5.1.6 requirements.

Recommended Gas Riser Placement

When mount is in center of room, riser plate should face head end of room, when mount is near walls, riser plate should be adjacent to wall. If more than one riser plate is required they should be placed next to each other.

INITIAL: KLH
DATE: 1/5/12

GENERIC RISER PLATE INSTALLATION



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Mounting bolts and nuts shipped with fixture.

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: ETM2FPM48/2FVBM36

REV. #: 0

DESCRIPTION: MEDICAL GAS DETAILS

**SHEET
A3a**

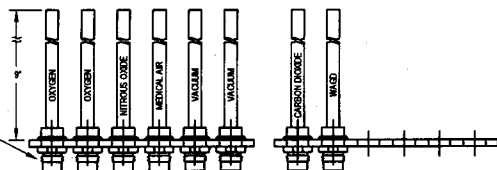
SKYTRON® VBM36

SITE SPECIFIC GAS DETAILS

For high pressure nitrogen only
For all high pressure nitrogen gas

- TYPE K COPPER TUBING
- 1/2" O.D. UNLESS OTHERWISE STATED

D.S.S. CONNECTOR (w/ PRIMARY CHECK VALVE)
PASSIVE EVAC. VACUUM & WAGD DO NOT HAVE PRIMARY CHECK VALVE
SUPPLIED w/ MOUNTING KIT



*REQUIRES
REMOTE MOUNTED
RISER PLATE*

Test Gas	CGA Color Standard	CGA Color Standard	Abbreviated Name	Standard Pressure	Maximum Pressure	Allowable Pressure Drop	Maximum Flow Rate	
N ₂ O	Yellow	Yellow	MedAir	50 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1000 L/min)	see note #1
N ₂	Gray	Gray	O ₂	50 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1000 L/min)	
N ₂	Green	Green	H ₂ O	50 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1000 L/min)	
N ₂	Blue	Blue	N ₂ + H ₂ O	100 - 150 psig	200 psig	5 psig	3.5 SCFM per outlet (1000 L/min)	see note #4
N ₂	White	White	NO	50 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1000 L/min)	
N ₂	White	White	O ₂	50 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1000 L/min)	see note #1
N ₂	White	White	CO ₂	50 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1000 L/min)	see note #2
N ₂	White	White	MedVac	130 psig (2000 mmHg)	N/A		3.5 SCFM per outlet (1000 L/min)	see note #3
N ₂	White	White	WAGD	Varies with system type			3.5 SCFM per outlet (1000 L/min)	see note #5

Note #1 - Any room (Critical Care Area) designed for a permanently located respiratory ventilator or anesthesia machine shall have an outlet capable of a transient flow rate of 175 LPM (6 SCFM) for 2 seconds at the station outlet.
Note #2 - For testing and certification purposes, individual station inlets shall be capable of a flow rate of 3 SCFM, while maintaining a system pressure of not less than 12" (300mm) at the nearest adjacent vacuum inlet. Facility supply must be 115 LPM MINIMUM. (Vacuum D.S.S. connectors omit primary check valves for optional flow 1200mmHg.)
Note #3 - WAGD (Waste Anesthetic Gas Disposal) systems employing a design where the WAGD lines are "tied in" to MedVac lines must produce the same flow rates as the MedVac inlets.
Note #4 - Nitrogen system requires nitrogen applied directly from facility supply line rated at 185 psig MIN to 200 psig MAX. Avoid designs which feature multiple in-line nitrogen control systems in order to avoid loss of flow capability.
Additional references: Health Care Facilities Handbook 2002, Section 5.1.11, page 211 and section 5.1.12.13.10.1 thru 5.1.12.3.10.5, page 224.
NFPA 99, 2002 guideline figure A.5.1.6.

MEDICAL GAS REQUIREMENTS - Medical Gas / Piping Engineer

Notes:

- Medical gas riser plates comply with NFPA 99-2005 Edition Cleanliness of gas outlets must be maintained through installation.
- Purge gas lines and test at least 24 hrs. prior to installation.
- Test results must be made available to SKYTRON for verification & comparison.

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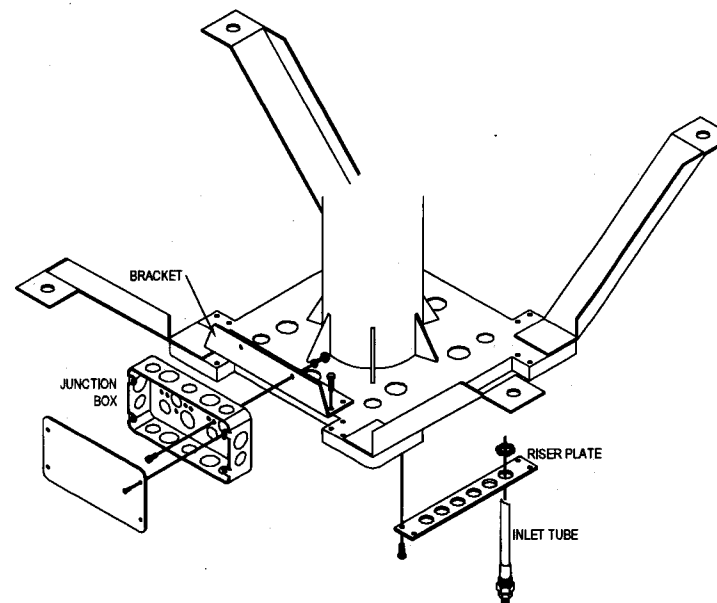
All connection and testing of medical gas piping to be performed in accordance with NFPA 9-2005 Edition-5.1.6 requirements.

Recommended Gas Riser Placement

When mount is in center of room, riser plate should face head end of room, when mount is near walls, riser plate should be adjacent to wall. If more than one riser plate is required they should be placed next to each other.

INITIAL: FLUB
DATE: 1/5/12

GENERIC RISER PLATE INSTALLATION



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Mounting bolts and nuts shipped with fixture.

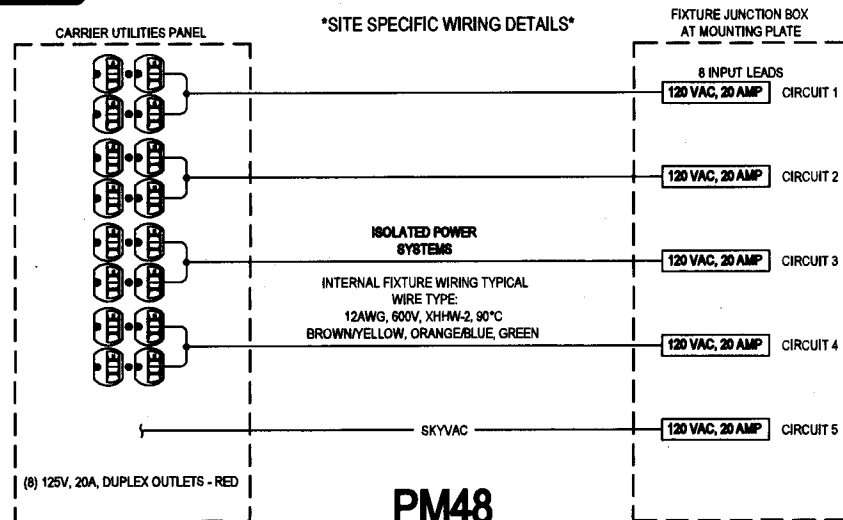
PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: ETM2FPM48/2FVBM36
QTY.: 1
REV. #: 0

DESCRIPTION: MEDICAL GAS DETAILS

SHEET
A3b



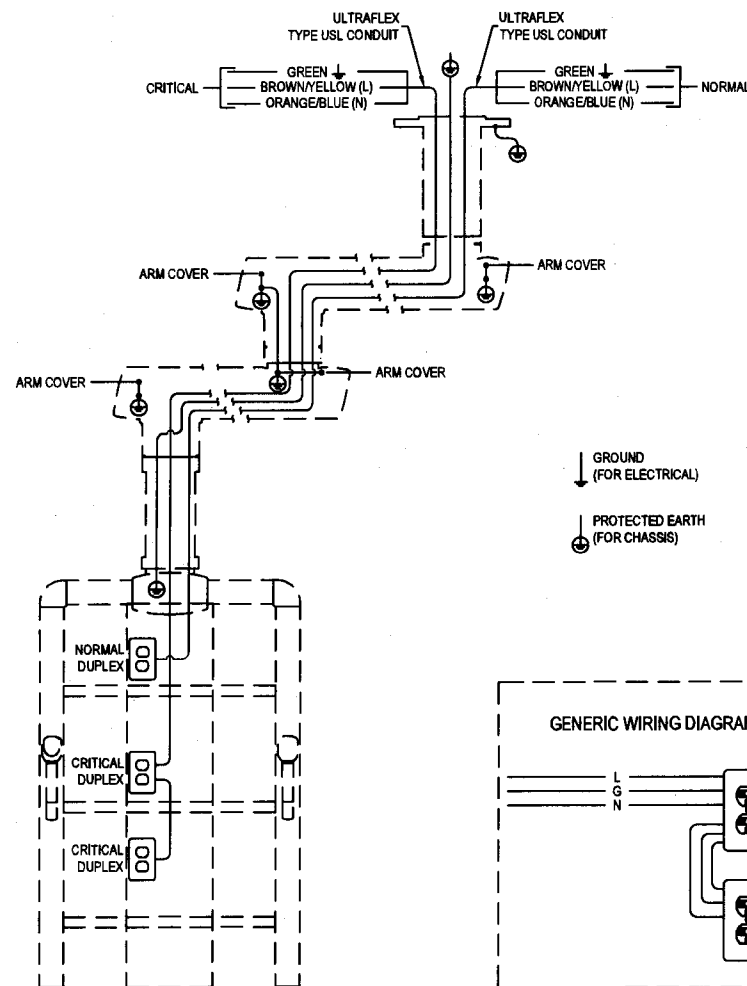
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: *PMB*
DATE: *1/5/12*

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



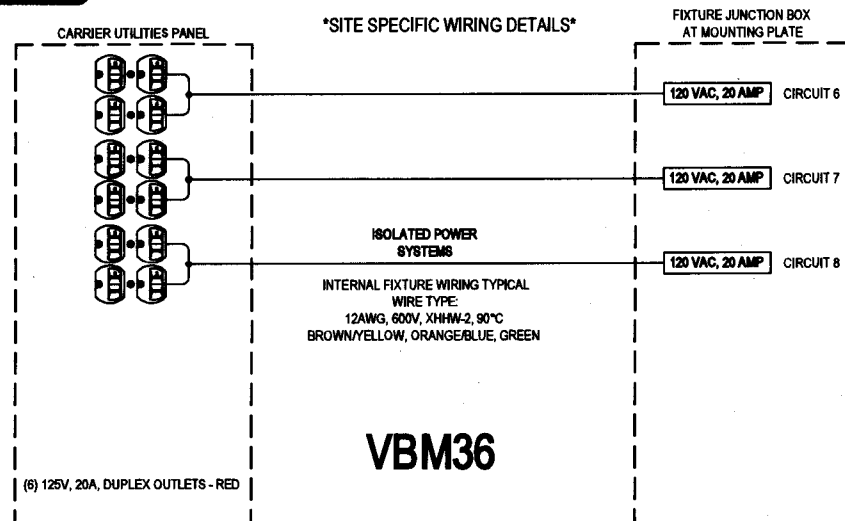
PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: ETM2FPM48/2FVBM36
QTY.: 3
REV. #: 1

DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
A4a



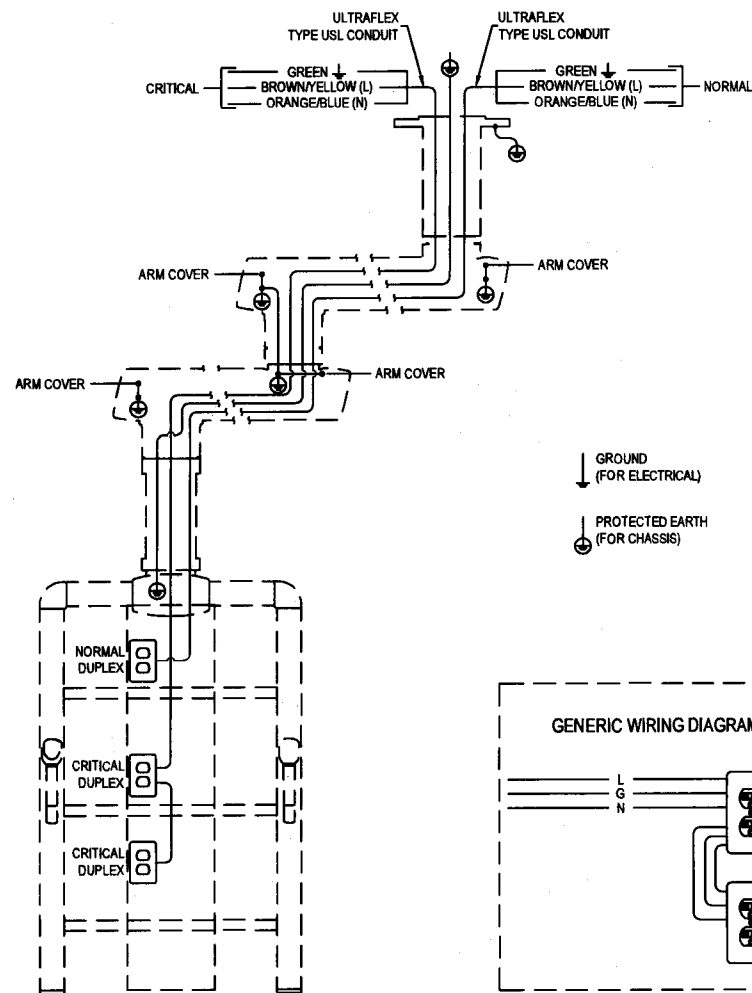
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: WUB
DATE: 1/5/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL

PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: ETM2FPM48/2FVBM36
QTY.: 3
REV. #: 1

DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
A4b



SITE SPECIFIC COMMUNICATION DETAILS

MOUNTING HUB
(male connectors)

PM48

ALL CABLING TO BE
PROVIDED BY OTHERS

UTILITIES CARRIER
(female connectors)

- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)

VBM36

ALL CABLING TO BE
PROVIDED BY OTHERS

- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ11 (NO CABLE)

COMMUNICATIONS REQUIREMENTS - Communication/Mideo/Data Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of cables required. The customer is responsible for the appropriate communication cable routing to the fixture. Special arrangements can be coordinated for custom cable sets to be installed at the time of installation. Contact your SKYTRON representative.

SKYVISION REQUIREMENTS - Communication/Mideo/Data Engineer

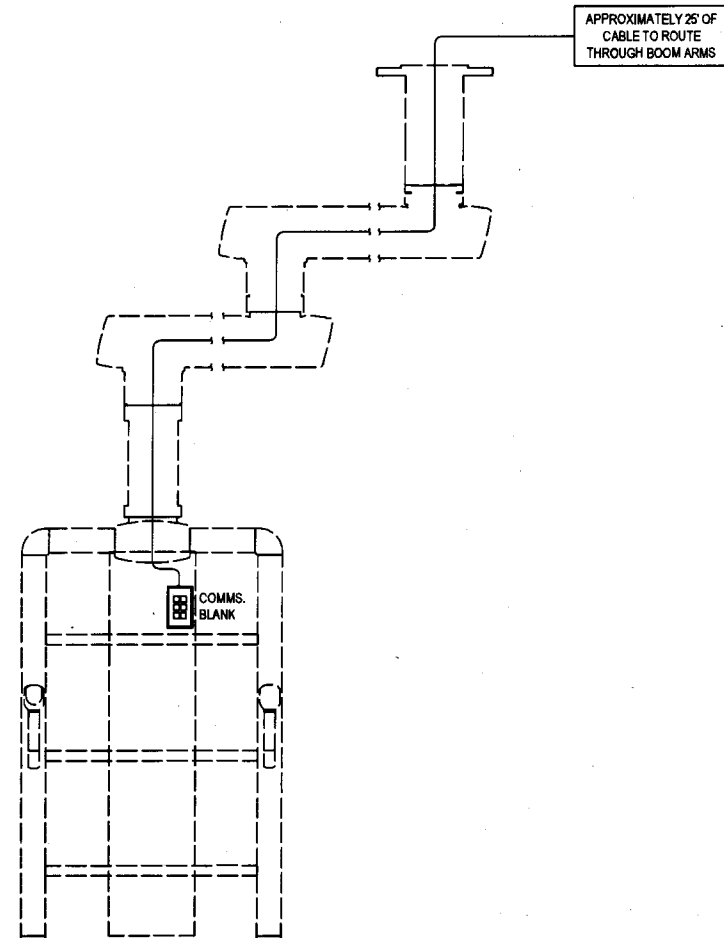
The conversion boxes are installed in the boom arm equipment carriers. The conversion boxes convert a copper wire signal (digital or analog) to a fiber-optic digital signal and vice-versa. Low voltage power lines are the only other type of connection utilized to and from the SkyVision system.

Notes:

- Customer will be responsible for supply and installation of all conduit and electrical junction boxes.
- Customer will provide SKYTRON with all customer provided equipment source signal specifications including signal output type, power requirements and cable connector types.
- At time of installation, customer provided systems and equipment must be in place and working in order for SKYTRON to complete system installation and testing. If customer provided systems are not in place and working during the SKYTRON installation delays may occur.

INITIAL: MLB
DATE: 1/5/12

GENERIC BOOM COMMUNICATIONS WIRING DIAGRAM



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

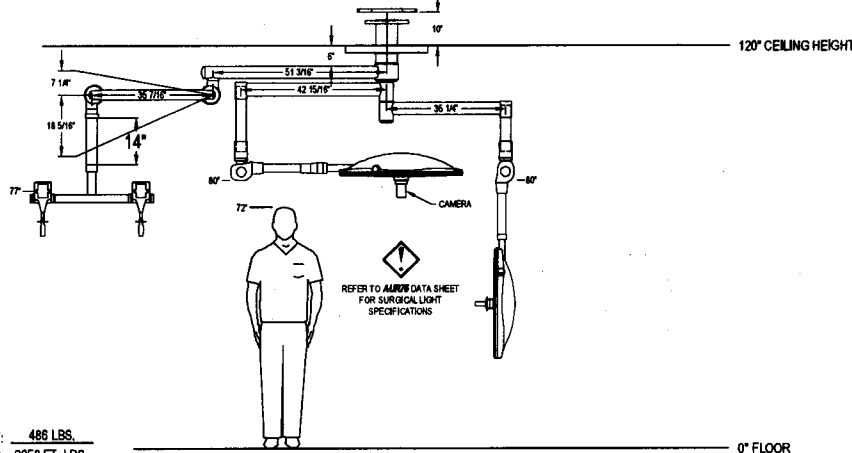
VA IOWA CITY

MODEL #: ETM2FPM48/2FVBM36
QTY.: 3
REV. #: 0
DESCRIPTION: COMMUNICATIONS DETAILS

SHEET
A5

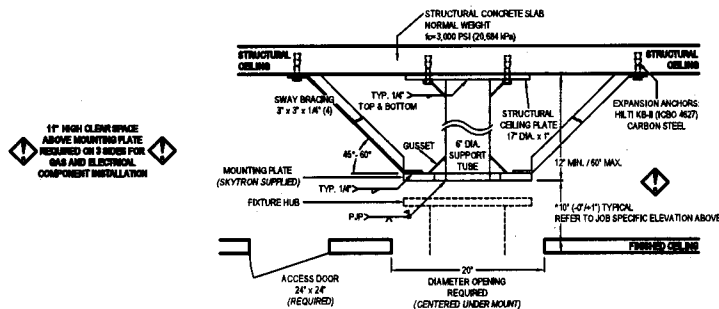


SITE SPECIFIC ELEVATION DETAILS



GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: PHB
DATE: 1/5/12

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Mounting Structure Components

The fabrication of each mounting structure may be slightly different but they each require the same basic components to ensure stability.

Sway Bracing (by others)

Sway bracing is designed to rigidly affix the mounting plate to the structural ceiling. The primary purpose of sway bracing is to eliminate sway, or lateral twisting and flexing of the mounting structure as it "reacts" to dynamic load changes caused by moving the fixture radial arms. The sway bracing should be welded to the mounting plate and extend away from the center of the mount. A minimum of four sway braces place 90° apart and positioned at a 45° and 60° angle is recommended.

Minimum recommended material for sway bracing is 3" x 3" x 1/4" angle iron. It is recommended that in all applications that the sway bracing be fastened to the structural ceiling.

Structural Ceiling Plate (by others)

The structural ceiling plate rigidly attaches the mount to the structural ceiling using structural anchors appropriate for the ceiling construction. The structural ceiling plate should be a minimum of, 1" ASTM A36 steel plate, 17" diameter with (6) 5/8" diameter holes for structural anchors and is fabricated by others.

Expansion Anchors

Test 50% of the anchors at 2,000 pounds (907 kg) tension, or 50 ft. lb. (68 N-m) torque per CBC 1925A.3.5. Installed anchors must meet the following criteria:

1. **Hydraulic Ram Method:** The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
2. **Torque Wrench Method (Wedge or Sleeve Type):** The applicable test torque must be reached within one-half (1/2) turn of the nut. Testing should occur no sooner than 24 hours after installation of anchors. If any anchor fails testing, test all anchors until 20 consecutive anchors pass, then resume the initial testing frequency. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

Support Tube (by others)

The support tube required to attach the mounting plate to the structural ceiling plate is ASTM 500 Grade B, 6" diameter tube. Support tube is to be welded to structural ceiling plate and mounting plate. A minimum of 6 gussets placed 60° apart should be welded to support tube at the structural ceiling plate and the mounting plate.

Mounting Plate (SKYTRON supplied)

The 17.5" x 17.5" x 1" ASTM A36 steel mounting plate is a SKYTRON supplied item. The Support tube and sway bracing are welded to the mounting plate. The mounting plate contains the corresponding bolt pattern for attaching the fixture and provides the mounting areas for the junction box and gas riser plates.

Mounting Structure Design

Seismic structural applications may differ. Please contact your local SKYTRON distributor for specific calculations. The mounting structure must be designed and fabricated to position the bottom of the SKYTRON mounting plate 10" (-0", +1") above the finished ceiling. This is a critical dimension in order to accommodate proper clearance required for ceiling cover function. The mounting plate must be perfectly level (+/- 0.1") and allow no more than two-tenths of a degree (0.2") of rotation at the mounting plate when the specified load is applied. The mounting structure must be tested for strength and stiffness prior to installation of the fixture. Please contact your SKYTRON representative to schedule testing.

Please consult your SKYTRON representative during early stages of construction to facilitate this process. The testing process is a required, documented function prior to closing of the finished ceiling.

Ceiling Requirements

A 24" x 24" access door must be mounted adjacent to the mounting structure for entry by service personnel for service access.

SKYTRON provides a 24" ceiling cover designed to cover 20" diameter ceiling hole cutout.

Additional Skytron Supplied Items

In addition to the pre-installation kit, SKYTRON provides the following items:
(6) 1-1/4" x 10" threaded rods, (24) 1-1/4" hex nuts, pump enclosure (if applicable)

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: LC2AFC2IAUR7TV5
QTY.: 3
REV. #: 0
DESCRIPTION: ELEVATION DETAILS

SHEET
B1



CARRIER UTILITIES PANEL

SITE SPECIFIC WIRING DETAILS

FIXTURE JUNCTION BOX
AT MOUNTING PLATE

1 INPUT LEAD

ISOLATED POWER
SYSTEMS

INTERNAL FIXTURE WIRING TYPICAL
WIRE TYPE
12AWG, 600V, XHHW-2, 90°C
BROWN/YELLOW, ORANGE/BLUE, GREEN

LIGHT CIRCUIT
TO WALL CONTROL
SEE PAGE 8

120 VAC, 15 AMP
AURORA LIGHT

CIRCUIT 1

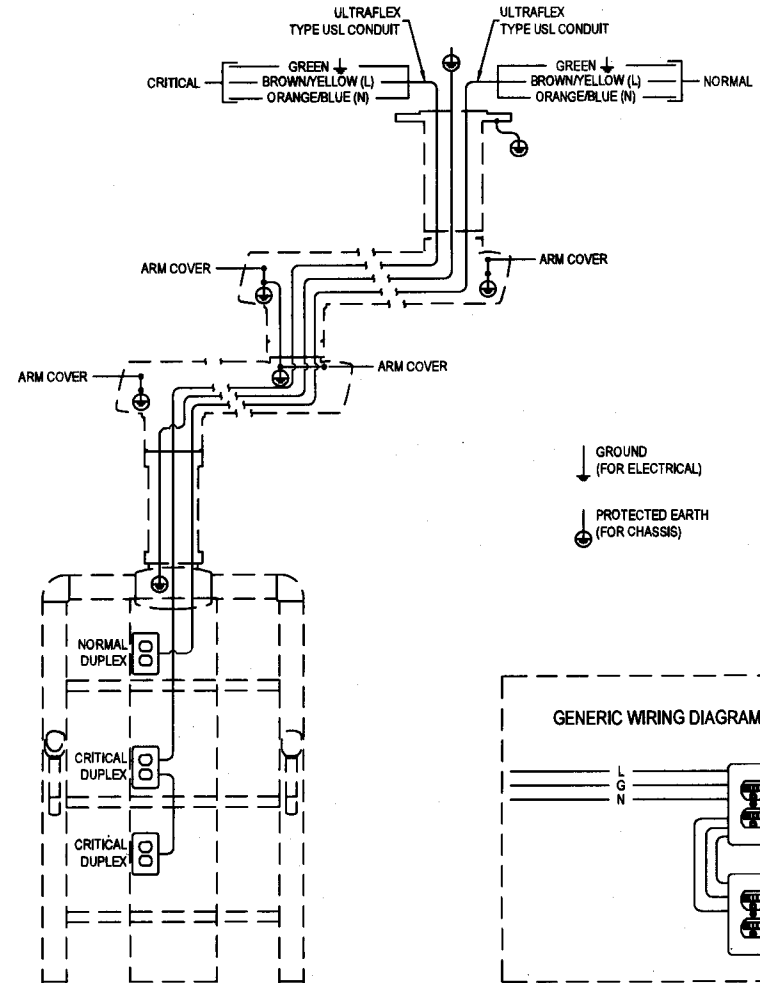
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: PLUB
DATE: 1/5/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: LC2AFC2/AUR7TV5
QTY.: 3
REV. #: 1

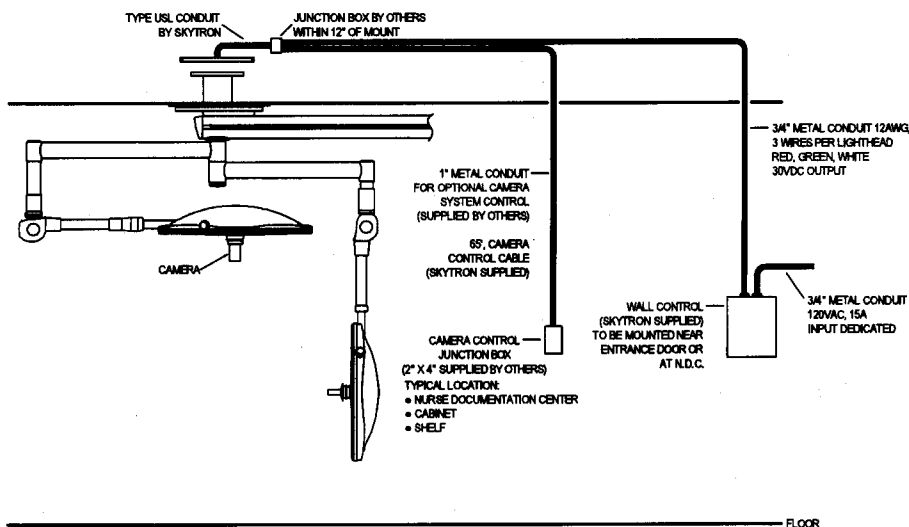
DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
B4



GENERIC LIGHT FIXTURE DETAILS

THIS DIAGRAM IS FOR INFORMATIONAL PURPOSES ONLY.
THIS WILL NOT MATCH YOUR EXACT MODEL.



SPECIAL GROUNDING REQUIREMENTS - Electrical Engineer

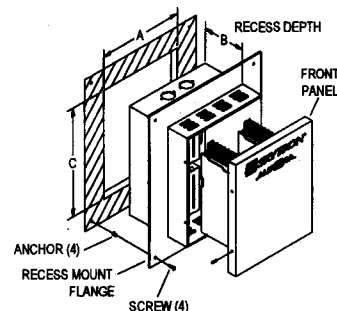
Proper performance and safety of this fixture can only be achieved by an adequate grounding system. Fixture ground must be a dedicated ground point ultimately bonded to the facilities grounding system to prevent the migration of electrical interference generated by other devices.

Notes:

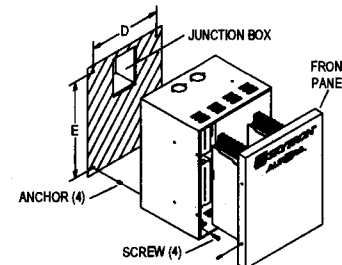
- 2 Dedicated conduit runs required at wall control to separate 120VAC input lines from 30VDC output lines to light fixture to prevent migration of electrical magnetic interference which will disrupt the operation of the light.
- **No shared ground.** Each light head must have separate individual ground.

INITIAL: *PLB*
DATE: *1/5/12*

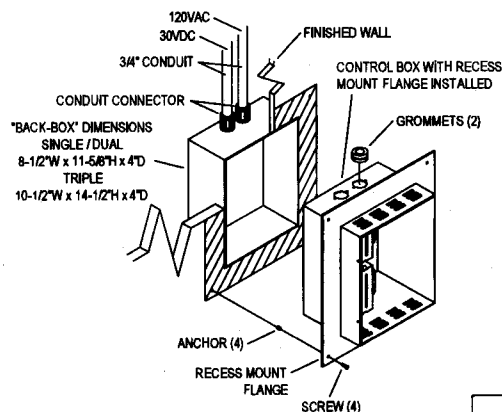
GENERIC AURORA WALL CONTROL MOUNTING DETAILS



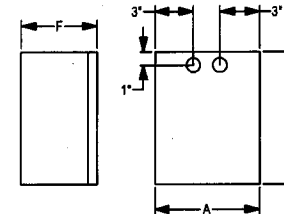
RECESSED MOUNT



SURFACE MOUNT



OPTIONAL BACK-BOX INSTALLATION



DIMENSION		
	SINGLE / DUAL	TRIPLE
A	8"	10"
B	4"	4"
C	10"	13 - 1/2"
D	6 - 7/8"	8 - 5/8"
E	7 - 5/8"	11"
F	6 - 7/8"	6 - 3/8"
RECESS MOUNT FLANGE		
	11 - 3/4"W x 14"H	13 - 3/4"W x 17 - 1/4"H
OPA #: OPA-1807-07		

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: LC2AF2C2AUR7TV5
QTY.: 3

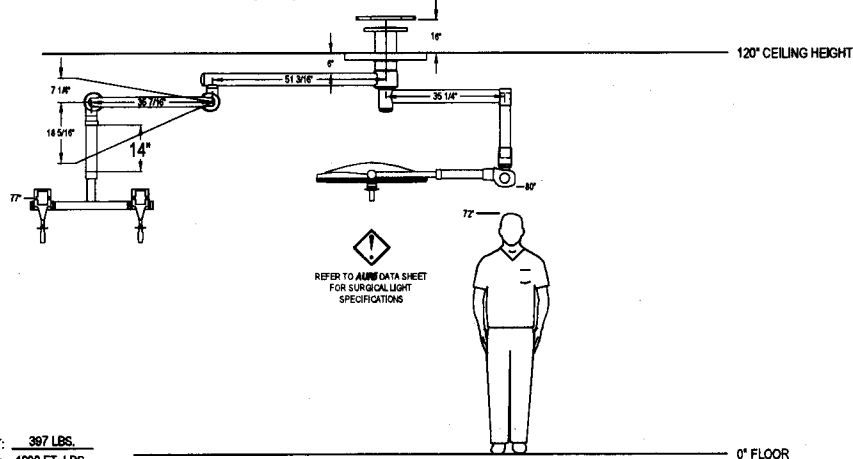
REV. #: 0

DESCRIPTION: LIGHT FIXTURE DETAILS

SHEET
B6



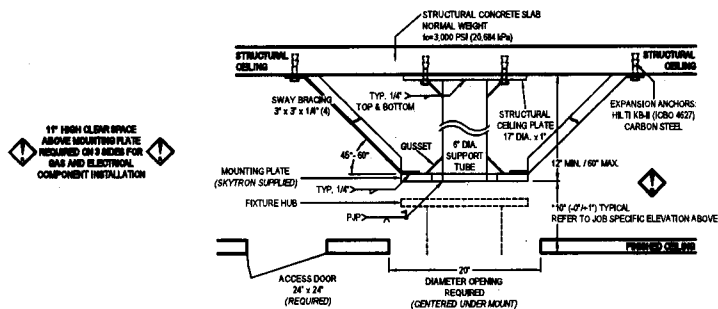
SITE SPECIFIC ELEVATION DETAILS



FIXTURE WEIGHT: 397 LBS.
MOMENT LOAD: 1690 FT. LBS.
OPA NUMBER: 2510-07

GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: *PLB*
DATE: *1/5/12*

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Mounting Structure Components

The fabrication of each mounting structure may be slightly different but they each require the same basic components to ensure stability.

Sway Bracing (by others)

Sway bracing is designed to rigidly affix the mounting plate to the structural ceiling. The primary purpose of sway bracing is to eliminate sway, or lateral twisting and flexing of the mounting structure as it "reacts" to dynamic load changes caused by moving the fixture radial arms. The sway bracing should be welded to the mounting plate and extend away from the center of the mount. A minimum of four sway braces place 90° apart and positioned at a 45° and 60° angle is recommended.

Minimum recommended material for sway bracing is 3" x 3" x 1/4" angle iron. It is recommended that in all applications that the sway bracing be fastened to the structural ceiling.

Structural Ceiling Plate (by others)

The structural ceiling plate rigidly attaches the mount to the structural ceiling using structural anchors appropriate for the ceiling construction. The structural ceiling plate should be a minimum of, 1" ASTM A36 steel plate, 17" diameter with (6) 5/8" diameter holes for structural anchors and is fabricated by others.

Expansion Anchors

Test 50% of the anchors at 2,000 pounds (907 kg) tension, or 50 ft. lb. (68 Nm) torque per CBC 1925A.3.5. Installed anchors must meet the following criteria:

1. **Hydraulic Ram Method:** The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
2. **Torque Wrench Method (Wedge or Sleeve Type):** The applicable test torque must be reached within one-half (1/2) turn of the nut. Testing should occur no sooner than 24 hours after installation of anchors. If any anchor fails testing, test all anchors until 20 consecutive anchors pass, then resume the initial testing frequency. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

Support Tube (by others)

The support tube required to attach the mounting plate to the structural ceiling plate is ASTM 500 Grade B, 6" diameter tube. Support tube is to be welded to structural ceiling plate and mounting plate. A minimum of 6 gussets placed 60° apart should be welded to support tube at the structural ceiling plate and the mounting plate.

Mounting Plate (SKYTRON supplied)

The 17.5" x 17.5" x 1" ASTM A36 steel mounting plate is a SKYTRON supplied item. The Support tube and sway bracing are welded to the mounting plate. The mounting plate contains the corresponding bolt pattern for attaching the fixture and provides the mounting areas for the junction box and gas riser plates.

Mounting Structure Design

Seismic structural applications may differ. Please contact your local SKYTRON distributor for specific calculations. The mounting structure must be designed and fabricated to position the bottom of the SKYTRON mounting plate 10" (-0", +1") above the finished ceiling. This is a critical dimension in order to accommodate proper clearance required for ceiling cover function. The mounting plate must be perfectly level (+/- 0.1") and allow no more than two-tenths of a degree (0.2") of rotation at the mounting plate when the specified load is applied. The mounting structure must be tested for strength and stiffness prior to installation of the fixture. Please contact your SKYTRON representative to schedule testing.

Please consult your SKYTRON representative during early stages of construction to facilitate this process. The testing process is a required, documented function prior to closing of the finished ceiling.

Ceiling Requirements

A 24" x 24" access door must be mounted adjacent to the mounting structure for entry by service personnel for service access.

SKYTRON provides a 24" ceiling cover designed to cover 20" diameter ceiling hole cutout.

Additional Skytron Supplied Items

In addition to the pre-installation kit, SKYTRON provides the following items:
(6) 1-1/4" x 10" threaded rods, (24) 1-1/4" hex nuts, pump enclosure (if applicable)

PROJECT #: 11-130-RG
SUBMITTAL

PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: LC2AF-C2/AUR5
QTY.: 3

REV. #: 0

DESCRIPTION: ELEVATION DETAILS

SHEET
C1



CARRIER UTILITIES PANEL

SITE SPECIFIC WIRING DETAILS

FIXTURE JUNCTION BOX
AT MOUNTING PLATE

ISOLATED POWER
SYSTEMS

INTERNAL FIXTURE WIRING TYPICAL
WIRE TYPE:
12AWG, 600V, XHHW-2, 90°C
BROWN/YELLOW, ORANGE/BLUE, GREEN

LIGHT CIRCUIT
TO WALL CONTROL
SEE PAGE 6

120 VAC, 15 AMP
AURORA LIGHT

*REFER TO B4
CIRCUIT DIAGRAM*

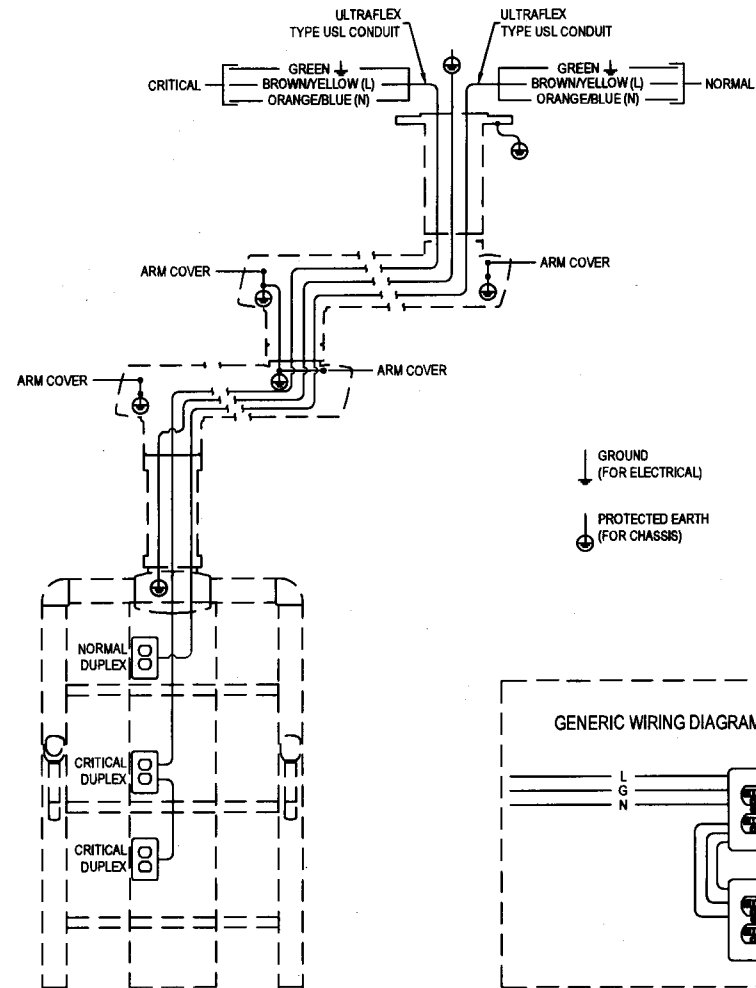
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: PUB
DATE: 1/5/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

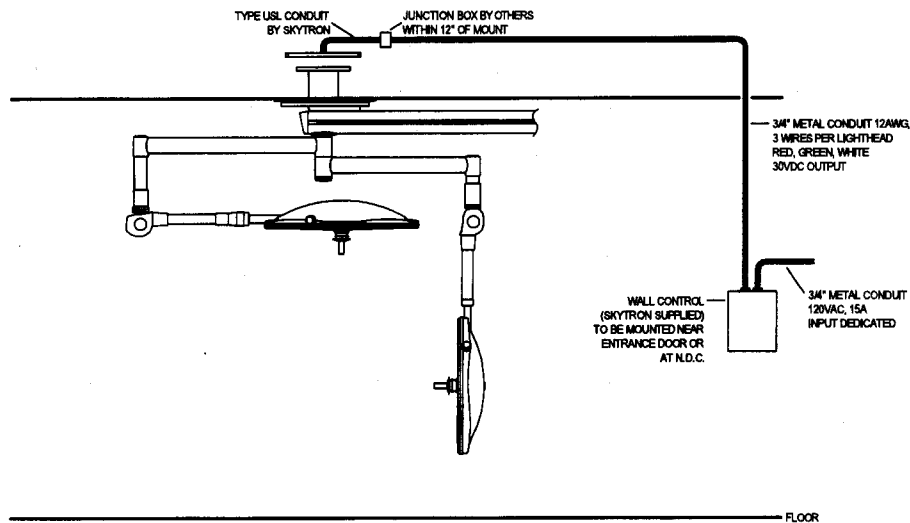
MODEL #: LC2AFC2AUR5
QTY.: 3
REV. #: 1
DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
C4



GENERIC LIGHT FIXTURE DETAILS

THIS DIAGRAM IS FOR INFORMATIONAL PURPOSES ONLY.
THIS WILL NOT MATCH YOUR EXACT MODEL.



SPECIAL GROUNDING REQUIREMENTS - Electrical Engineer

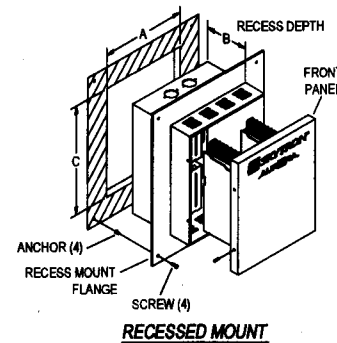
Proper performance and safety of this fixture can only be achieved by an adequate grounding system. Fixture ground must be a dedicated ground point ultimately bonded to the facilities grounding system to prevent the migration of electrical interference generated by other devices.

Notes:

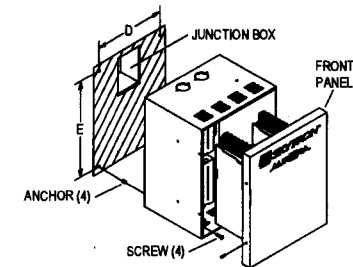
- 2 Dedicated conduit runs required at wall control to separate 120VAC input lines from 30VDC output lines to light fixture to prevent migration of electrical magnetic interference which will disrupt the operation of the light.
- **No shared ground.** Each light head must have separate individual ground.

INITIAL: *NMB*
DATE: *1/5/12*

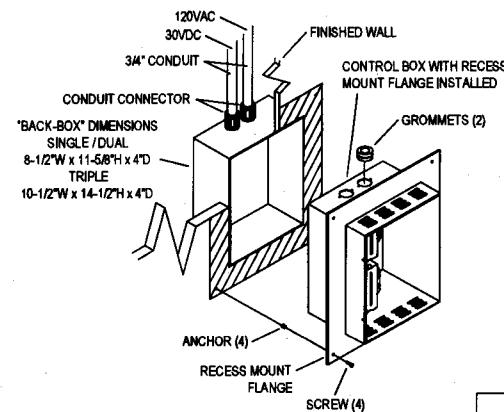
GENERIC AURORA WALL CONTROL MOUNTING DETAILS



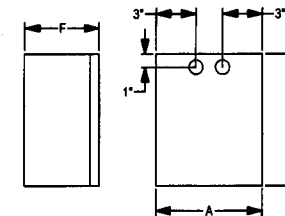
RECESSED MOUNT



SURFACE MOUNT



OPTIONAL BACK-BOX INSTALLATION



	DIMENSION	
	SINGLE / DUAL	TRIPLE
A	8"	10"
B	4"	4"
C	10"	13 - 1/2"
D	6 - 7/8"	6 - 5/8"
E	7 - 5/8"	11"
F	6 - 7/8"	6 - 3/8"
RECESS MOUNT FLANGE		
	11 - 3/4" W x 14" H	13 - 3/4" W x 17 - 1/4" H
OPA #: OPA-1807-07		

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

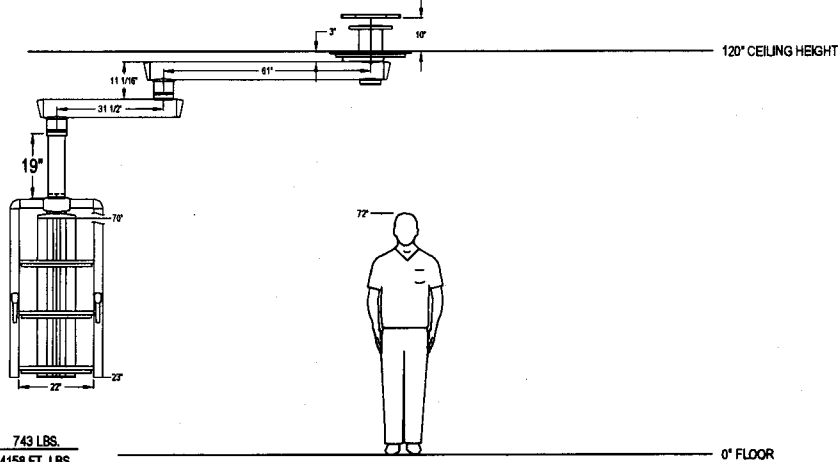
VA IOWA CITY

MODEL #: LC2AFC2/AUR5
QTY.: 3
REV. #: 0
DESCRIPTION: LIGHT FIXTURE DETAILS

SHEET
C6



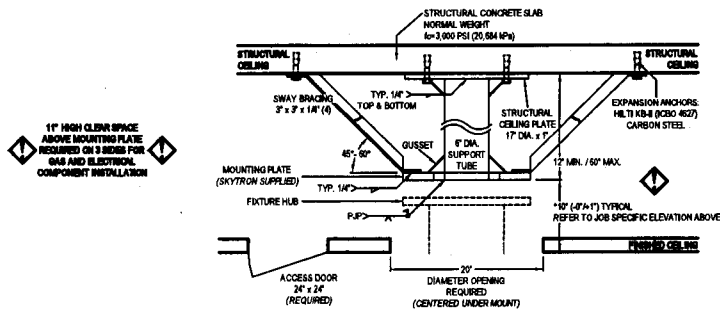
SITE SPECIFIC ELEVATION DETAILS



FIXTURE WEIGHT: 743 LBS.
MOMENT LOAD: 4158 FT. LBS.
OPA NUMBER: 2510-07

GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: WUB
DATE: 1/5/12

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Mounting Structure Components

The fabrication of each mounting structure may be slightly different but they each require the same basic components to ensure stability.

Sway Bracing (by others)

Sway bracing is designed to rigidly affix the mounting plate to the structural ceiling. The primary purpose of sway bracing is to eliminate sway, or lateral twisting and flexing of the mounting structure as it "reacts" to dynamic load changes caused by moving the fixture radial arms. The sway bracing should be welded to the mounting plate and extend away from the center of the mount. A minimum of four sway braces place 90° apart and positioned at a 45° and 60° angle is recommended.

Minimum recommended material for sway bracing is 3" x 3" x 1/4" angle iron. It is recommended that in all applications that the sway bracing be fastened to the structural ceiling.

Structural Ceiling Plate (by others)

The structural ceiling plate rigidly attaches the mount to the structural ceiling using structural anchors appropriate for the ceiling construction. The structural ceiling plate should be a minimum of, 1" ASTM A36 steel plate, 17" diameter with (6) 5/8" diameter holes for structural anchors and is fabricated by others.

Expansion Anchors

Test 50% of the anchors at 2,000 pounds (907 kg) tension, or 50 ft. lb. (68 N•m) torque per CBC 1925A.3.5. Installed anchors must meet the following criteria:

1. **Hydraulic Ram Method:** The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
2. **Torque Wrench Method (Wedge or Sleeve Type):** The applicable test torque must be reached within one-half (1/2) turn of the nut. Testing should occur no sooner than 24 hours after installation of anchors. If any anchor fails testing, test all anchors until 20 consecutive anchors pass, then resume the initial testing frequency. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

Support Tube (by others)

The support tube required to attach the mounting plate to the structural ceiling plate is ASTM 500 Grade B, 6" diameter tube. Support tube is to be welded to structural ceiling plate and mounting plate. A minimum of 6 gussets placed 60° apart should be welded to support tube at the structural ceiling plate and the mounting plate.

Mounting Plate (SKYTRON supplied)

The 17.5" x 17.5" x 1" ASTM A36 steel mounting plate is a SKYTRON supplied item. The Support tube and sway bracing are welded to the mounting plate. The mounting plate contains the corresponding bolt pattern for attaching the fixture and provides the mounting areas for the junction box and gas riser plates.

Mounting Structure Design

Seismic structural applications may differ. Please contact your local SKYTRON distributor for specific calculations. The mounting structure must be designed and fabricated to position the bottom of the SKYTRON mounting plate 10" (-0", +1") above the finished ceiling. This is a critical dimension in order to accommodate proper clearance required for ceiling cover function. The mounting plate must be perfectly level (+/- 0.1") and allow no more than two-tenths of a degree (0.2") of rotation at the mounting plate when the specified load is applied. The mounting structure must be tested for strength and stiffness prior to installation of the fixture. Please contact your SKYTRON representative to schedule testing.

Please consult your SKYTRON representative during early stages of construction to facilitate this process. The testing process is a required, documented function prior to closing of the finished ceiling.

Ceiling Requirements

A 24" x 24" access door must be mounted adjacent to the mounting structure for entry by service personnel for service access.

SKYTRON provides a 24" ceiling cover designed to cover 20" diameter ceiling hole cutout.

Additional Skytron Supplied Items

In addition to the pre-installation kit, SKYTRON provides the following items:
(6) 1-1/4" x 10" threaded rods. (24) 1-1/4" hex nuts, pump enclosure (if applicable)

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

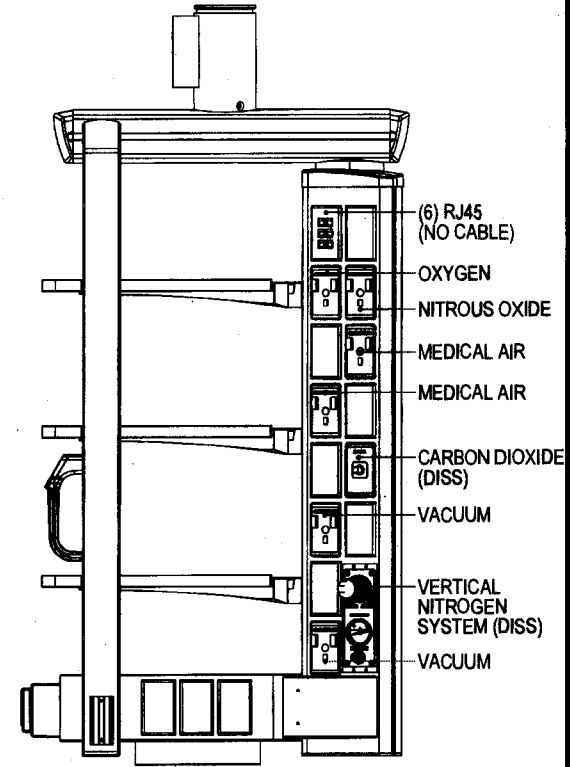
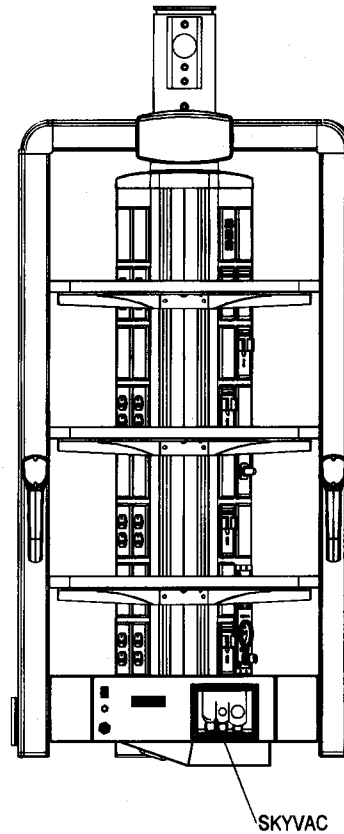
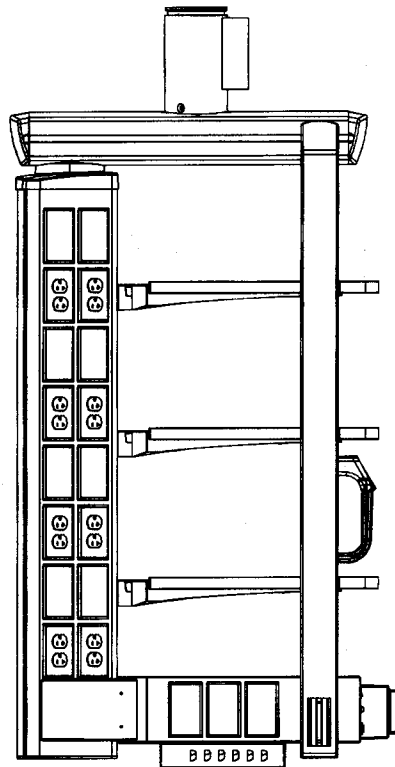
MODEL #: EC2FPM48/NL
QTY.: 3
DESCRIPTION: ELEVATION DETAILS
REV. #: 0

SHEET
D1



ACCESSORY LIST

- (1) MOUNTING BLOCK FOR VST MOUNT
- (1) BASE UTILITY BOX 22"
- (1) BACK COVER (NOT SHOWN)
- (2) BOLT-ON VACUUM SLIDE
- (3) PMSH SHELF 22"



- (6) RJ45 (NO CABLE)
- OXYGEN
- NITROUS OXIDE
- MEDICAL AIR
- MEDICAL AIR
- CARBON DIOXIDE (DISS)
- VACUUM
- VERTICAL NITROGEN SYSTEM (DISS)
- VACUUM

INITIAL: KUB
DATE: 1/5/12

CARRIER DIMENSIONS: 54"H x 27.5"W x 30"D

GAS OUTLETS: CHEMETRON

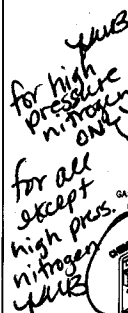
ELECTRICAL: (8) 125V, 20A DUPLEX - RED

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

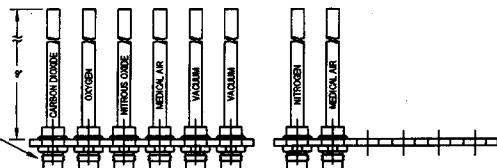
MODEL #: EC2FPM48NL
QTY: 3
DESCRIPTION: CARRIER DETAILS

SHEET
D2



- TYPE K COPPER TUBING
- 1/2" O.D. UNLESS OTHERWISE STATED

DISS CONNECTOR
(w/ PRIMARY CHECK)
PASSIVE EVAC, VACUUM &
WAGO DO NOT HAVE
PRIMARY CHECK



Test Gas	DGA Color Standard	Chemical Color Standard	Aluminumized Items	Standard Pressure	Maximum Pressure	Alternate Pressure Drop	Maximum Flow Rates
HMF	Medicinal Yellow	Medicinal Yellow	Medial	54 - 55 gpa	65 gpa	5 gpa	3.5 SCFM per outlet (1000 lbs.)
HMF	Orange	Orange	CO	54 - 55 gpa	65 gpa	5 gpa	3.5 SCFM per outlet (1000 lbs.)
HMF	Green	Green	CO	54 - 55 gpa	65 gpa	5 gpa	3.5 SCFM per outlet (1000 lbs.)
HMF	Yellow	Yellow	Hydro	54 - 55 gpa	55 gpa	5 gpa	3.5 SCFM per outlet (1000 lbs.)
HMF	Orange	Orange	HC or HFC	100 - 105 gpa	200 gpa	5 gpa	3.5 SCFM per outlet (1000 lbs.) flow air per outlet
HMF	Medicinal Yellow	Medicinal Yellow	HC	54 - 55 gpa	65 gpa	5 gpa	3.5 SCFM per outlet (1000 lbs.)
HMF	Orange	Orange	HC	54 - 55 gpa	65 gpa	5 gpa	3.5 SCFM per outlet (1000 lbs.)
HMF	Yellow	Yellow	HC	54 - 55 gpa	65 gpa	5 gpa	3.5 SCFM per outlet (1000 lbs.)
WAGD	One Drop (Purple)	One Drop (Purple)	WAGD	Various system types		2 SCFM per outlet (2000 lbs.) or, maximum, each 1000 lbs. tank to be connected to less than 1.5 SCFM, per inch this interface	see note #1 see note #2
<p>Note #1 - Any room (Critical Care Area) designed for a permanently located respiratory ventilator or anesthetic machine shall have an outlet capable of a transient flow rate of 170 LPM (6 SCFM) for 30 seconds at the station outlet.</p> <p>Note #2 - For sealed or certified individual system units shall be capable of a flow rate of 8 SCFM, while maintaining a system pressure of not less than 12" (300mm) at the nearest adjacent vacuum inlet. Facility supply must be 115 LPM (MMWD), Vacuum D.S.S. connects unit primary check valve for optimal flow. 120W4G.</p> <p>Note #3 - WAGD (One Drop) units employing a design where the MMWD lines are tied "in" to MedVox lines must provide the same flow rates as the MMWD inlets.</p> <p>Note #4 - Nitrogen system requires nitrogen supplied directly from facility supply line rated at 185psi MM to 250psi MM. Avoid designs which feature multiple-line nitrogen control systems in order to avoid loss of line capability.</p>							

Additional references: Health Care Facilities Handbook 2002, Section 5.1.1, page 211 and section 5.1.12, 10.1, 9.6, 1.2, 3.10, 5.0, page 224.
NFPA 2002, including NFPA 95A.

Note #1 - Any room (Offical Code Area) used for a permanently located respiratory ventilator or anesthetic machine will have an outlet capable of a transient flow rate of 170 LPM (SCFM) for 3 seconds at the station located.

Note #2 - For testing and correction purposes, individual station inlets shall be capable of a flow rate of _____ (SCFM), while maintaining a system pressure of not less than 12" (300mm) at the nearest adjacent vacuum inlet. Facility supply must be 115 LPM (MCM), 800mm D.I.S. connectors and primary check valves for 12" (300mm) lines.

Note #3 - WAXED (Hans Anesthetic Gas Disposal) systems employing a design where the WAXED lines are "tied in" to Med-Vac lines must produce the same flow rate as the Med-Vac lines.

Note #4 - Nitrogen system requires nitrogen supplied directly from facility supply line rated at 150 PSI up to 250 PSI MAX. Avoid designs which feature multiple-to-the-Nitrogen control systems in order to avoid line flow difficulty.

Notes:

- Medical gas riser plates comply with NFPA 99-2005 Edition Cleanliness of gas outlets must be maintained through installation.
- Purge gas lines and test at least 24 hrs. prior to installation.
- Test results must be made available to SKYTRON for verification & comparison.

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The configuration drawings supplied by SKYTRON will indicate the type and quantity of gas supply lines required. D.I.S.S. connection medical grade hoses connect the fixture to the riser plate connectors. The customer is responsible to deliver the appropriate medical gas from the facility supply to the riser plate connectors and for the design of a medical gas system with adequate flow capacity capable of compensating for the accumulative flow restrictions associated with conventional construction methods i.e. flex gas hoses. SKYTRON provides medical gas riser plate(s) and the appropriate connectors for attachment to the Mounting Plate. The riser plate attaches to the mounting plate and will accommodate up to 12 gas connectors. The connectors are D.I.S.S. type medical gas connectors with single check valves and provide a 1/2" copper tube for attachment to facility supply lines. Caps are provided with Vacuum & WAGD gas connectors to facilitate testing procedures.

All connection and testing of medical gas piping to be performed in accordance with NFPA 9-2005 Edition-5.1.6 requirements.

Recommended Gas Riser Placement

When mount is in center of room, riser plate should face head end of room, when mount is near walls, riser plate should be adjacent to wall. If more than one riser plate is required they should be placed next to each other.

INITIAL: KLH
DATE: 1/5/12

This diagram illustrates the exploded view of a junction box assembly. The components shown include:

- BRACKET**: A long, thin metal plate with mounting holes, positioned to be attached to the side of the junction box.
- JUNCTION BOX**: The central rectangular component with multiple circular ports on its top and side faces.
- RISER PLATE**: A rectangular plate with a series of circular holes, designed to be mounted on top of the junction box.
- INLET TUBE**: A vertical tube with a flared base, intended to be inserted into one of the side ports of the junction box.

Arrows indicate the assembly path for each component.

NOTES:

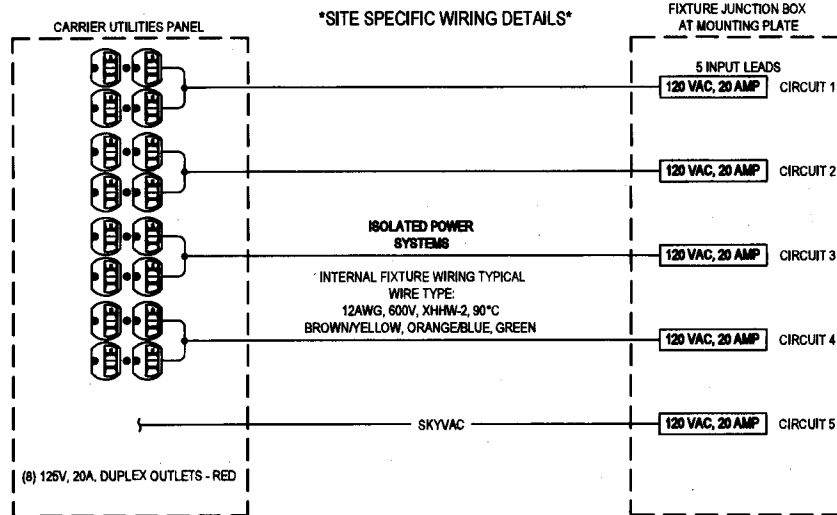
- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Mounting bolts and nuts shipped with fixture.

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: EC2FPM48/INL
QTY.: 3
REV. #: 0
DESCRIPTION: MEDICAL GAS D

SHEET
D3



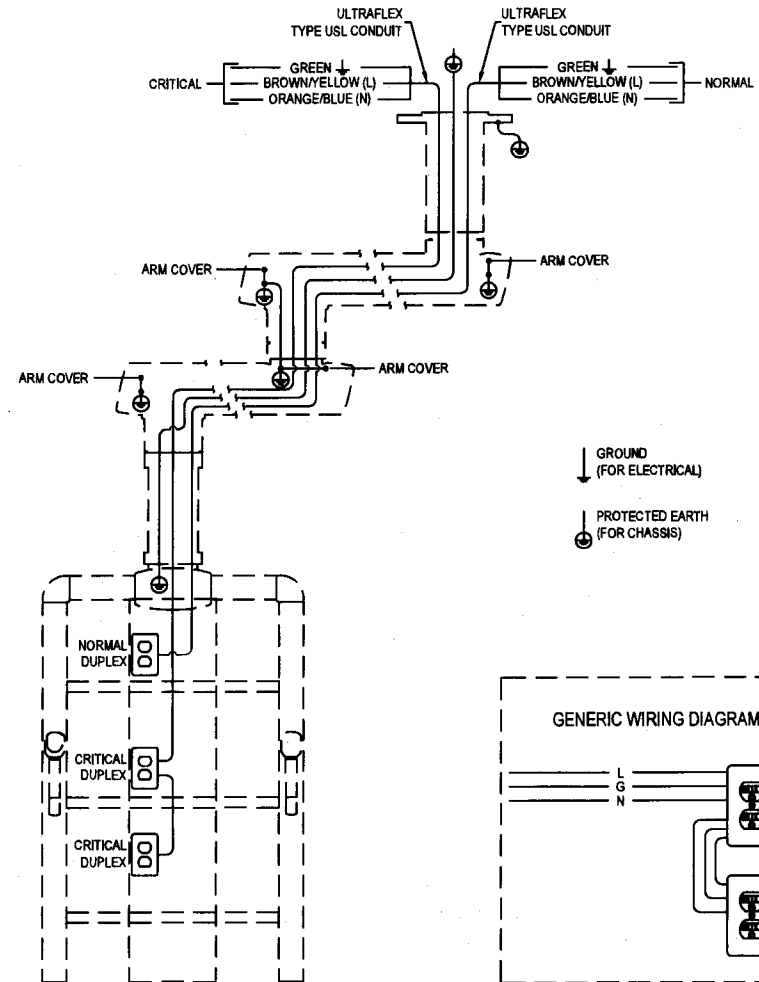
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: RUB
DATE: 1/5/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: EC2FPM48NL
QTY.: 3
REV. #: 1
DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
D4



SITE SPECIFIC COMMUNICATION DETAILS

MOUNTING HUB
(male connectors)

UTILITIES CARRIER
(female connectors)

ALL CABLING TO BE
PROVIDED BY OTHERS

- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)

COMMUNICATIONS REQUIREMENTS - Communication/Video/Data Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of cables required. The customer is responsible for the appropriate communication cable routing to the fixture. Special arrangements can be coordinated for custom cable sets to be installed at the time of installation. Contact your SKYTRON representative.

SKYVISION REQUIREMENTS - Communication/Video/Data Engineer

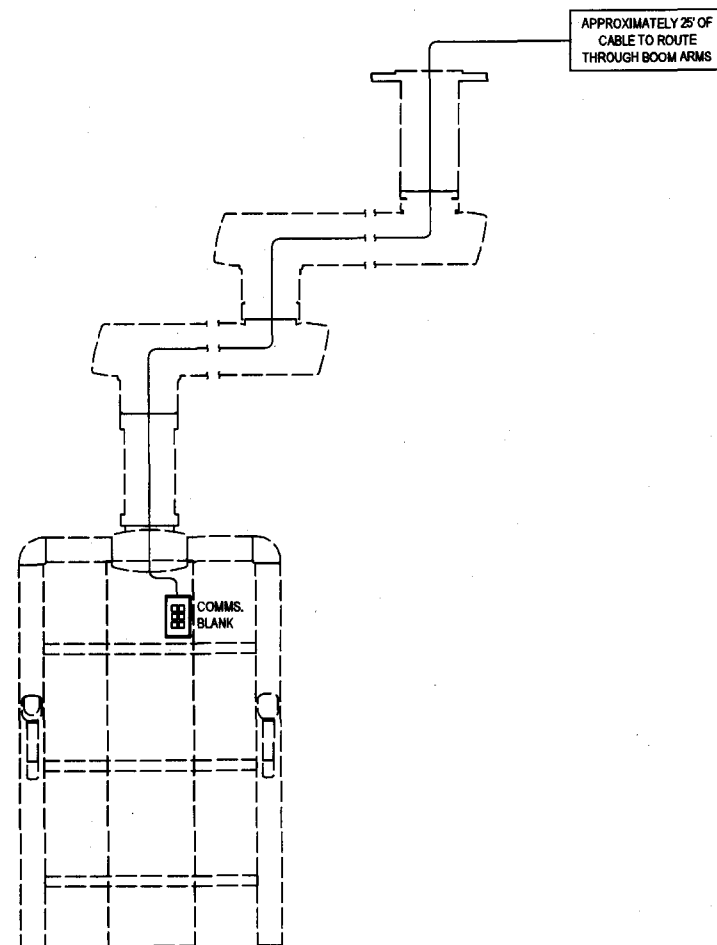
The conversion boxes are installed in the boom arm equipment carriers. The conversion boxes convert a copper wire signal (digital or analog) to a fiber-optic digital signal and vice-versa. Low voltage power lines are the only other type of connection utilized to and from the SkyVision system.

Notes:

- Customer will be responsible for supply and installation of all conduit and electrical junction boxes.
- Customer will provide SKYTRON with all customer provided equipment source signal specifications including signal output type, power requirements and cable connector types.
- At time of installation, customer provided systems and equipment must be in place and working in order for SKYTRON to complete system installation and testing. If customer provided systems are not in place and working during the SKYTRON installation delays may occur.

INITIAL: WUB
DATE: 1/5/12

GENERIC BOOM COMMUNICATIONS WIRING DIAGRAM



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: EC2FPM48/NL
QTY.: 3

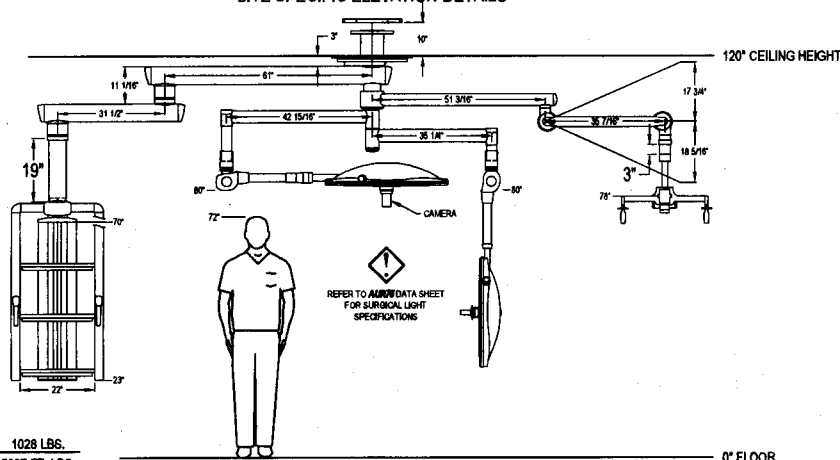
REV. #: 0

DESCRIPTION: COMMUNICATIONS DETAILS

SHEET
D5



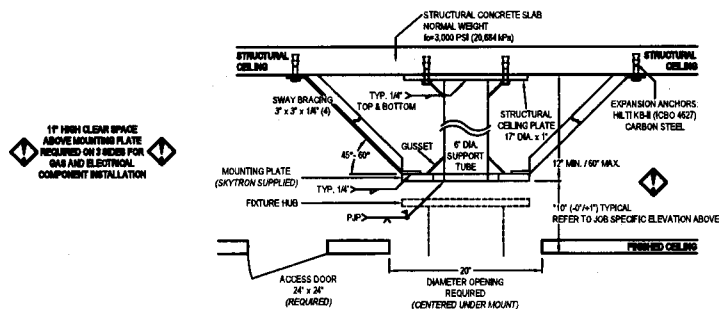
SITE SPECIFIC ELEVATION DETAILS



FIXTURE WEIGHT: 1028 LBS.
MOMENT LOAD: 5607 FT. LBS.
OPA NUMBER: 2510-07

GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: *PHB*
DATE: 1/5/12

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Mounting Structure Components

The fabrication of each mounting structure may be slightly different but they each require the same basic components to ensure stability.

Sway Bracing (by others)

Sway bracing is designed to rigidly affix the mounting plate to the structural ceiling. The primary purpose of sway bracing is to eliminate sway, or lateral twisting and flexing of the mounting structure as it "reacts" to dynamic load changes caused by moving the fixture radial arms. The sway bracing should be welded to the mounting plate and extend away from the center of the mount. A minimum of four sway braces place 90° apart and positioned at a 45° and 60° angle is recommended.

Minimum recommended material for sway bracing is 3" x 3" x 1/4" angle iron. It is recommended that in all applications that the sway bracing be fastened to the structural ceiling.

Structural Ceiling Plate (by others)

The structural ceiling plate rigidly attaches the mount to the structural ceiling using structural anchors appropriate for the ceiling construction. The structural ceiling plate should be a minimum of, 1" ASTM A36 steel plate, 17" diameter with (6) 5/8" diameter holes for structural anchors and is fabricated by others.

Expansion Anchors

Test 50% of the anchors at 2,000 pounds (907 kg) tension, or 50 ft. lb. (68 N•m) torque per CBC 1925A.3.5. Installed anchors must meet the following criteria:

1. **Hydraulic Ram Method:** The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
2. **Torque Wrench Method (Wedge or Sleeve Type):** The applicable test torque must be reached within one-half (1/2) turn of the nut. Testing should occur no sooner than 24 hours after installation of anchors. If any anchor fails testing, test all anchors until 20 consecutive anchors pass, then resume the initial testing frequency. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

Support Tube (by others)

The support tube required to attach the mounting plate to the structural ceiling plate is ASTM 500 Grade B, 6" diameter tube. Support tube is to be welded to structural ceiling plate and mounting plate. A minimum of 6 gussets placed 60° apart should be welded to support tube at the structural ceiling plate and the mounting plate.

Mounting Plate (SKYTRON supplied)

The 17.5" x 17.5" x 1" ASTM A36 steel mounting plate is a SKYTRON supplied item. The Support tube and sway bracing are welded to the mounting plate. The mounting plate contains the corresponding bolt pattern for attaching the fixture and provides the mounting areas for the junction box and gas riser plates.

Mounting Structure Design

Seismic structural applications may differ. Please contact your local SKYTRON distributor for specific calculations. The mounting structure must be designed and fabricated to position the bottom of the SKYTRON mounting plate 10" (-0", +1") above the finished ceiling. This is a critical dimension in order to accommodate proper clearance required for ceiling cover function. The mounting plate must be perfectly level (+/- 0.1") and allow no more than two-tenths of a degree (0.2°) of rotation at the mounting plate when the specified load is applied. The mounting structure must be tested for strength and stiffness prior to installation of the fixture. Please contact your SKYTRON representative to schedule testing.

Please consult your SKYTRON representative during early stages of construction to facilitate this process. The testing process is a required, documented function prior to closing of the finished ceiling.

Ceiling Requirements

A 24" x 24" access door must be mounted adjacent to the mounting structure for entry by service personnel for service access.

SKYTRON provides a 24" ceiling cover designed to cover 20" diameter ceiling hole cutout.

Additional Skytron Supplied Items

In addition to the pre-installation kit, SKYTRON provides the following items:

- (6) 1-1/4" x 10" threaded rods. (24) 1-1/4" hex nuts, pump enclosure (if applicable)

PROJECT #: 11-130-RG

SUBMITTAL

PLOT DATE: 12/5/2011

VA IOWA CITY

MODEL #: ECT2FPM48/2AFC2/AUR7TV5

REV. #: 0

QTY.: 4

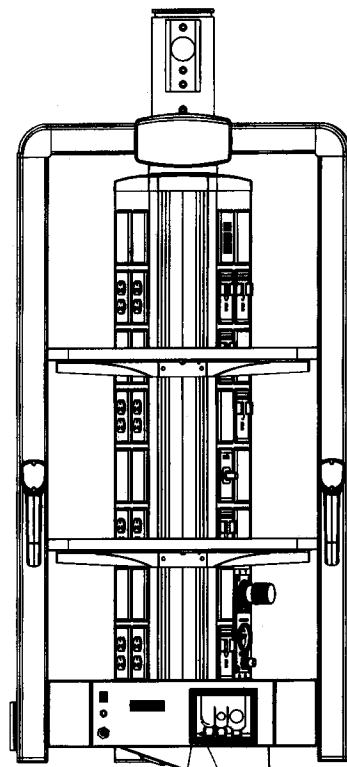
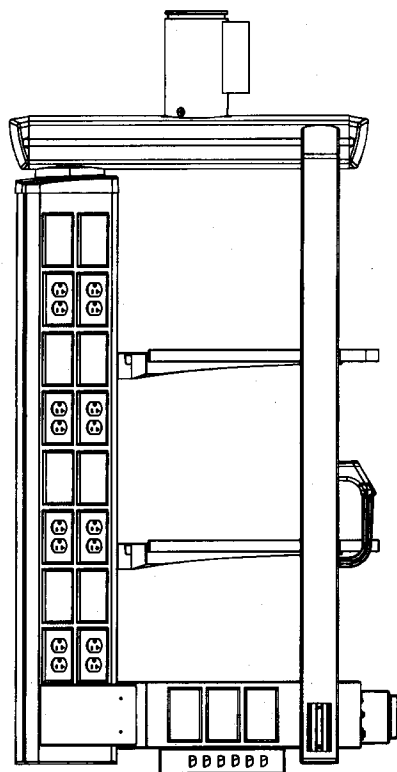
DESCRIPTION: ELEVATION DETAILS

SHEET
E1

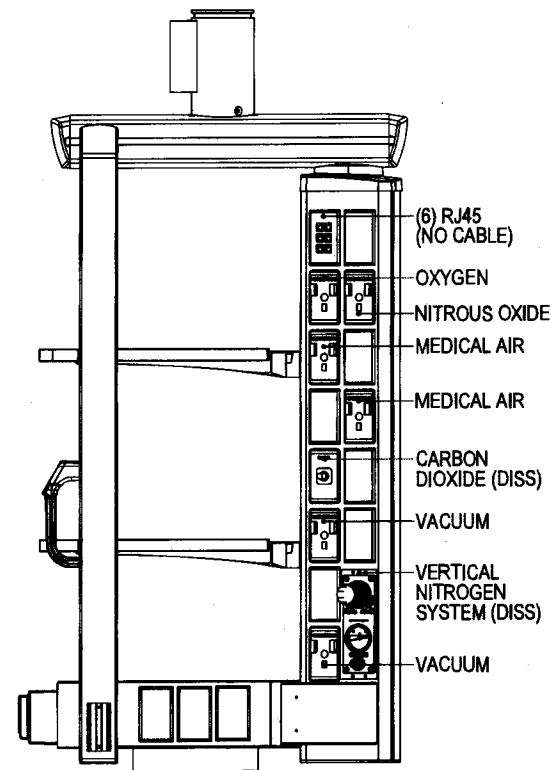


ACCESSORY LIST

- (1) MOUNTING BLOCK FOR VST MOUNT
- (1) BASE UTILITY BOX 22"
- (1) BACK COVER (NOT SHOWN)
- (2) BOLT-ON VACUUM SLIDE
- (2) PMSH SHELF 22"



SKYVAC



INITIAL: *PMB*
DATE: *1/5/12*

CARRIER
DIMENSIONS: 54"H x 27.5"W x 30"D

GAS OUTLETS: CHEMETRON

ELECTRICAL: (8) 125V, 20A DUPLEX - RED

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 12/5/2011

VA IOWA CITY

MODEL #: ECT2FPM48/2AFC2/AUR7TV5
QTY: 4
REV #: 0
DESCRIPTION: CARRIER DETAILS

SHEET
E2

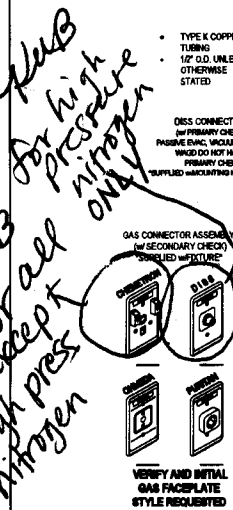


Diagram illustrating a multi-gas manifold assembly. The assembly consists of a common manifold line with check valves and a pressure gauge. The gases connected are:

- Oxygen
- Nitrous Oxide
- Medical Air
- Medical Air
- Carbon Dioxide
- Vacuum
- Vacuum
- Nitrogen

Labels and notes include:

- TYPE K COPPER TUBING
- 1/2" O.D. UNLESS OTHERWISE STATED
- DISS CONNECTOR FOR SUPPLY CHECK VALVE
- PRIMARY CHECK VALVE DO NOT HAVE PRIMARY CHECK VALVE
- PLUDED MANIFOLDING SET

Note #1: Any other (Critical Care) design for a permanently located respiratory ventilator or alternative hardware shall have an outlet capable of a transient flow rate of 75% LPM (at 30°C) for 3 seconds, at the design flow rate.

Note #2: For the purpose of this rule, shall also include a flow rate of 3.0 GPM, while maintaining a system pressure of not less than 12" (300mm) at the nearest adjacent vertical riser. Facility supply must be 115 LPM/Min (MCAVON) (1.5 L/min) to provide the pressure for optimal flow. 120kPa.

Note #3: WAGO Direct Connect (DC) Dispensing Systems employing a design where the WAGO lines are "fed in" to the MedVac line must produce the same flow rates as the MedVac lines.

Note #4: Nitrogen system negative nitrogen supplied directly from facility supply line rated at 185psi MBH to 250psi MBH. Avoid designs which feature multiple-line Nitrogen control systems in order to avoid flow line instability.

Additional references: Health Care Facilities Handbook, Section 5.1.11, page 211 and section 5.1.12.13.10.1 and 5.1.12.13.10.2, page 224.
NFPA 99, 2002 guideline, Article A.5.1.6.

Notes:

- Medical gas riser plates comply with NFPA 99-2005 Edition Cleanliness of gas outlets must be maintained through installation.
- Purge gas lines and test at least 24 hrs. prior to installation.
- Test results must be made available to SKYTRON for verification & comparison.

Each Skybloom fixture is fabricated in accordance to the specifications required by the customer. The configuration drawings supplied by SKYTRON will indicate the type and quantity of gas supply lines required. D.I.S.S. connection medical grade hoses connect the fixture to the riser plate connectors. The customer is responsible to deliver the appropriate medical gas from the facility supply to the riser plate connectors and for the design of a medical gas system with adequate flow capacity capable of compensating for the accumulative flow restrictions associated with conventional construction methods i.e. flex gas hoses. SKYTRON provides medical gas riser plate(s) and the appropriate connectors for attachment to the Mounting Plate. The riser plate attaches to the mounting plate and will accommodate up to 12 gas connectors. The connectors are D.I.S.S. type medical gas connectors with single check valves and provide a 1/2" copper tube for attachment to facility supply lines. Caps are provided with Vacuum & WAGD gas connectors to facilitate testing procedures.

All connection and testing of medical gas piping to be performed in accordance with NFPA 9-2005 Edition-5.1.6 requirements.

When mount is in center of room, riser plate should face head end of room, when mount is near walls, riser plate should be adjacent to wall. If more than one riser plate is required they should be placed next to each other.

INITIAL: KUB
DATE: 1/5/12

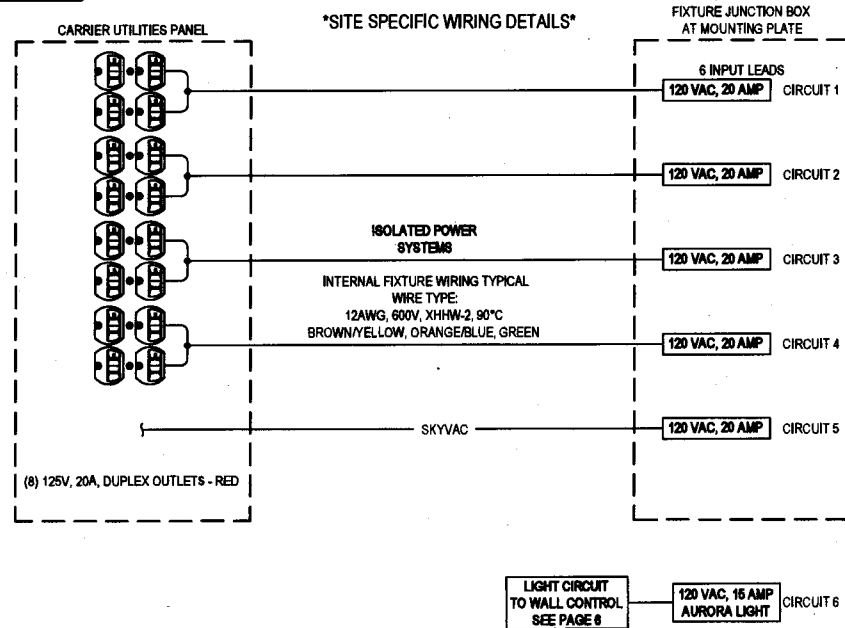
Diagram illustrating the assembly components for the inlet:

- BRACKET
- JUNCTION BOX
- RISER PLATE
- INLET TUBE

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Mounting bolts and nuts shipped with fixture.

MODEL #: ECT2FPM48/2AFC2/AUR/TV5
REV. # 0
QTY.: 4
DESCRIPTION: MEDICAL GAS DETAILS

SHEET
E3



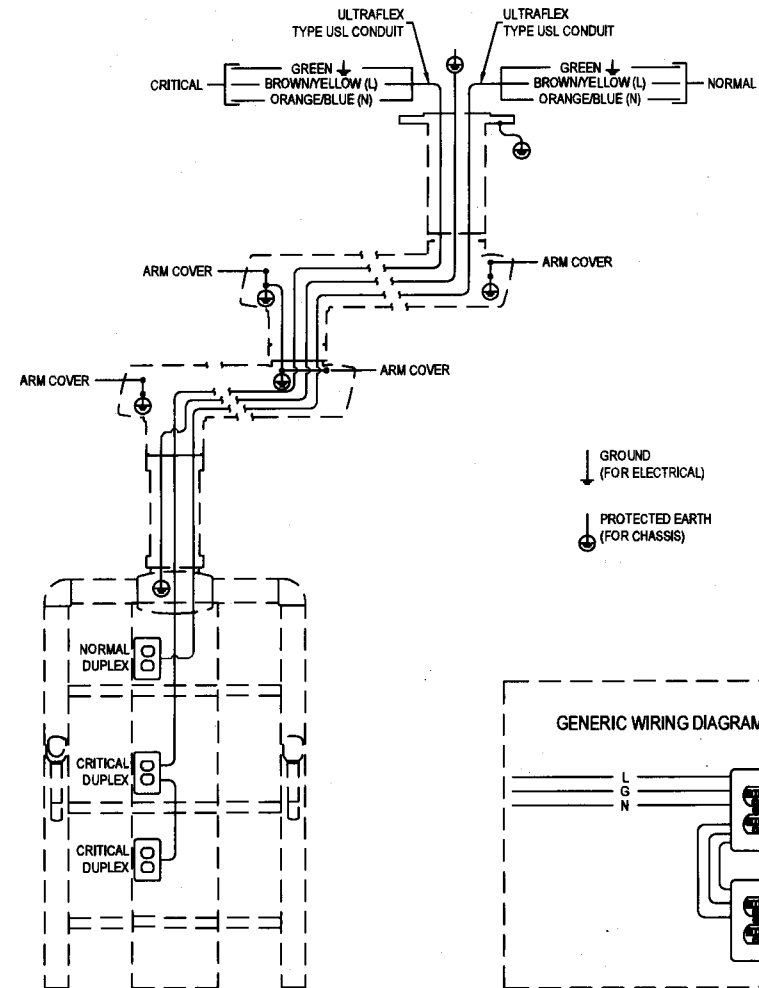
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: RLB
DATE: 1/5/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: ECT2FPM48/2AFC2/AUR7TV5
QTY.: 4
REV. #: 2
DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
E4



SITE SPECIFIC COMMUNICATION DETAILS

MOUNTING HUB
(male connectors)

UTILITIES CARRIER
(female connectors)

ALL CABLING TO BE
PROVIDED BY OTHERS

- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)

COMMUNICATIONS REQUIREMENTS - Communication/Video/Data Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of cables required. The customer is responsible for the appropriate communication cable routing to the fixture. Special arrangements can be coordinated for custom cable sets to be installed at the time of installation. Contact your SKYTRON representative.

SKYVISION REQUIREMENTS - Communication/Video/Data Engineer

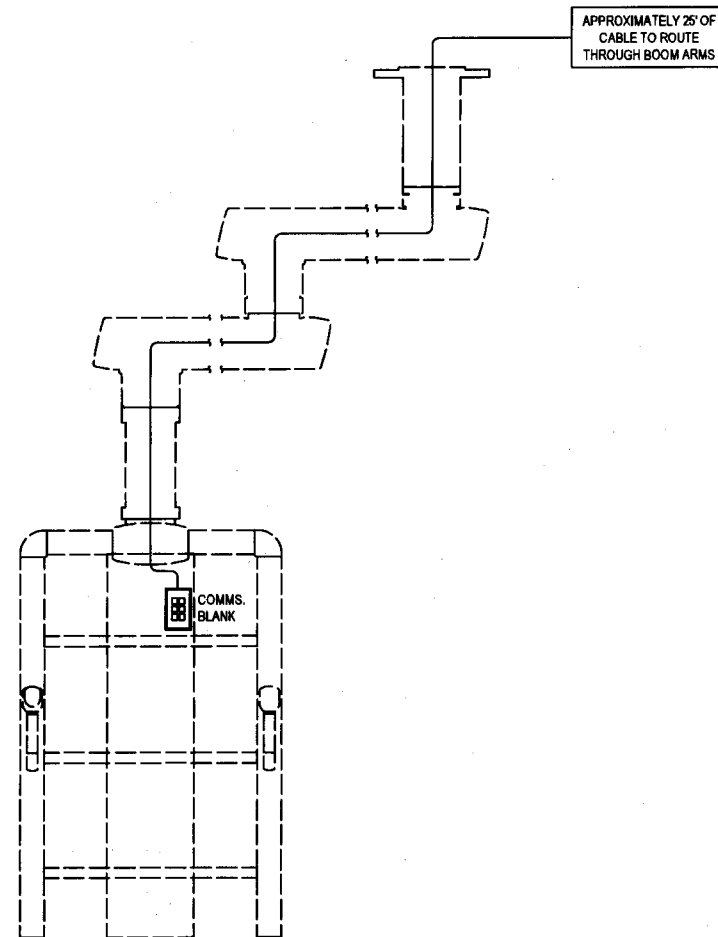
The conversion boxes are installed in the boom arm equipment carriers. The conversion boxes convert a copper wire signal (digital or analog) to a fiber-optic digital signal and vice-versa. Low voltage power lines are the only other type of connection utilized to and from the SkyVision system.

Notes:

- Customer will be responsible for supply and installation of all conduit and electrical junction boxes.
- Customer will provide SKYTRON with all customer provided equipment source signal specifications including signal output type, power requirements and cable connector types.
- At time of installation, customer provided systems and equipment must be in place and working in order for SKYTRON to complete system installation and testing. If customer provided systems are not in place and working during the SKYTRON installation delays may occur.

INITIAL: KUB
DATE: 1/5/12

GENERIC BOOM COMMUNICATIONS WIRING DIAGRAM



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 12/5/2011

VA IOWA CITY

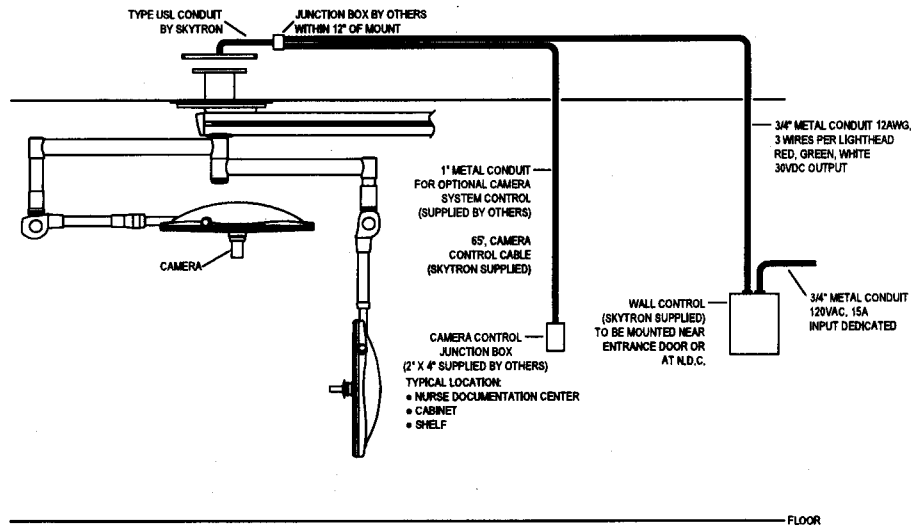
MODEL #: ECT2FPM48/2AFC2/AUR7TV5
QTY.: 4
REV. #: 0
DESCRIPTION: COMMUNICATIONS DETAILS

SHEET
E3



GENERIC LIGHT FIXTURE DETAILS

THIS DIAGRAM IS FOR INFORMATIONAL PURPOSES ONLY.
THIS WILL NOT MATCH YOUR EXACT MODEL.



SPECIAL GROUNDING REQUIREMENTS - Electrical Engineer

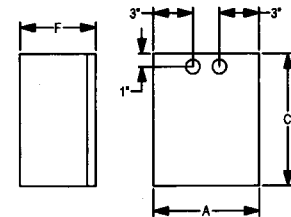
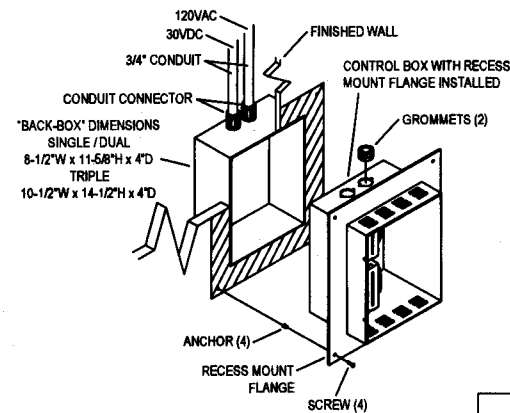
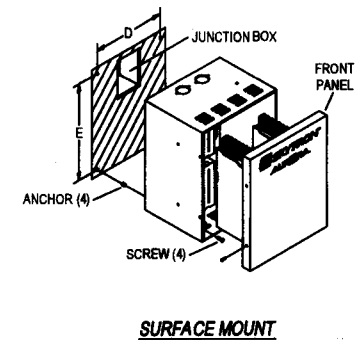
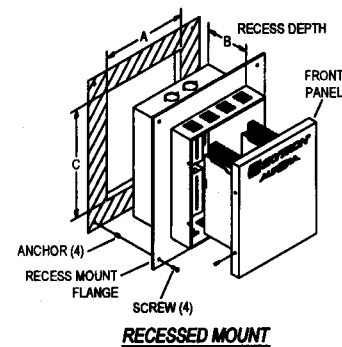
Proper performance and safety of this fixture can only be achieved by an adequate grounding system. Fixture ground must be a dedicated ground point ultimately bonded to the facilities grounding system to prevent the migration of electrical interference generated by other devices.

Notes:

- 2 Dedicated conduit runs required at wall control to separate 120VAC input lines from 30VDC output lines to light fixture to prevent migration of electrical magnetic interference which will disrupt the operation of the light.
- "No shared ground." Each light head must have separate individual ground.

INITIAL: *YUB*
DATE: *1/5/12*

GENERIC AURORA WALL CONTROL MOUNTING DETAILS



	DIMENSION	
	SINGLE / DUAL	TRIPLE
A	8"	10"
B	4"	4"
C	10"	13 - 1/2"
D	6 - 7/8"	8 - 5/8"
E	7 - 5/8"	11"
F	5 - 7/8"	6 - 3/8"
RECESS MOUNT FLANGE		
	11 - 3/4" W x 1 1/4" H	13 - 3/4" W x 1 7/8" H
OPA #: OPA-1007-07		

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 12/5/2011

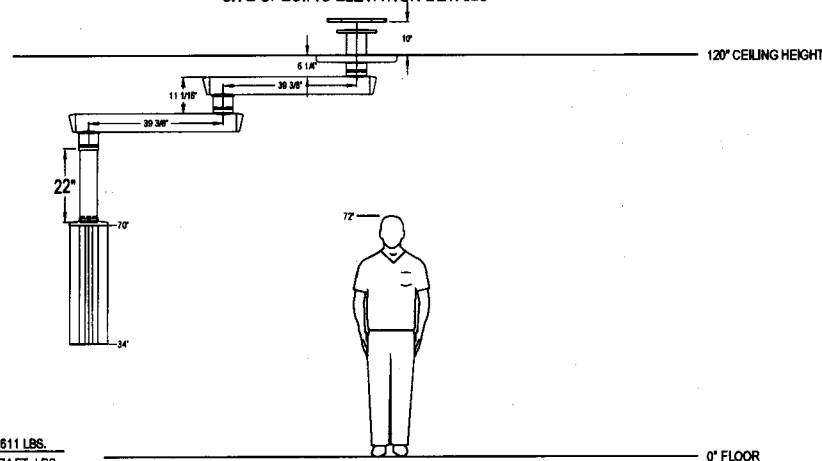
VA IOWA CITY

MODEL #: ECT2FPM48/2AFC2/AUR7TV5
QTY: 4
REV: # 0
DESCRIPTION: LIGHT FIXTURE DETAILS

SHEET
E6

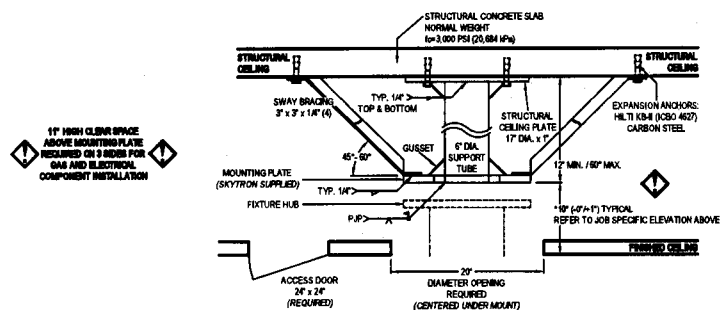


SITE SPECIFIC ELEVATION DETAILS



FIXTURE WEIGHT: 811 LBS.
MOMENT LOAD: 3074 FT. LBS.
OPA NUMBER: 2480-07

GENERIC MOUNTING STRUCTURE DETAILS
ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: *PHB*
DATE: *1/5/12*

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Mounting Structure Components

The fabrication of each mounting structure may be slightly different but they each require the same basic components to ensure stability.

Sway Bracing (by others)

Sway bracing is designed to rigidly affix the mounting plate to the structural ceiling. The primary purpose of sway bracing is to eliminate sway, or lateral twisting and flexing of the mounting structure as it "reacts" to dynamic load changes caused by moving the fixture radial arms. The sway bracing should be welded to the mounting plate and extend away from the center of the mount. A minimum of four sway braces place 90° apart and positioned at a 45° and 60° angle is recommended.

Minimum recommended material for sway bracing is 3" x 3" x 1/4" angle iron. It is recommended that in all applications that the sway bracing be fastened to the structural ceiling.

Structural Ceiling Plate (by others)

The structural ceiling plate rigidly attaches the mount to the structural ceiling using structural anchors appropriate for the ceiling construction. The structural ceiling plate should be a minimum of, 1" ASTM A36 steel plate, 17" diameter with (6) 5/8" diameter holes for structural anchors and is fabricated by others.

Expansion Anchors

Test 50% of the anchors at 2,000 pounds (907 kg) tension, or 50 ft. lb. (68 N-m) torque per CBC 1925A.3.5. Installed anchors must meet the following criteria:

1. **Hydraulic Ram Method:** The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
2. **Torque Wrench Method (Wedge or Sleeve Type):** The applicable test torque must be reached within one-half (1/2) turn of the nut. Testing should occur no sooner than 24 hours after installation of anchors. If any anchor fails testing, test all anchors until 20 consecutive anchors pass, then resume the initial testing frequency. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

Support Tube (by others)

The support tube required to attach the mounting plate to the structural ceiling plate is ASTM 500 Grade B, 6" diameter tube. Support tube is to be welded to structural ceiling plate and mounting plate. A minimum of 6 gussets placed 60° apart should be welded to support tube at the structural ceiling plate and the mounting plate.

Mounting Plate (SKYTRON supplied)

The 17.5" x 17.5" x 1" ASTM A36 steel mounting plate is a SKYTRON supplied item. The Support tube and sway bracing are welded to the mounting plate. The mounting plate contains the corresponding bolt pattern for attaching the fixture and provides the mounting areas for the junction box and gas riser plates.

Mounting Structure Design

Seismic structural applications may differ. Please contact your local SKYTRON distributor for specific calculations. The mounting structure must be designed and fabricated to position the bottom of the SKYTRON mounting plate 10" (-0", +1") above the finished ceiling. This is a critical dimension in order to accommodate proper clearance required for ceiling cover function. The mounting plate must be perfectly level (+/- 0.1") and allow no more than two-tenths of a degree (0.2") of rotation at the mounting plate when the specified load is applied. The mounting structure must be tested for strength and stiffness prior to installation of the fixture. Please contact your SKYTRON representative to schedule testing.

Please consult your SKYTRON representative during early stages of construction to facilitate this process. The testing process is a required, documented function prior to closing of the finished ceiling.

Ceiling Requirements

A 24" x 24" access door must be mounted adjacent to the mounting structure for entry by service personnel for service access.

SKYTRON provides a 24" ceiling cover designed to cover 20" diameter ceiling hole cutout.

Additional Skytron Supplied Items

In addition to the pre-installation kit, SKYTRON provides the following items:
(6) 1-1/4" x 10" threaded rods, (24) 1-1/4" hex nuts, pump enclosure (if applicable)

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

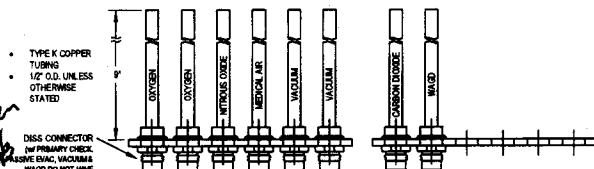
MODEL #: E2VBM36
QTY.: 1

REV. #: 0

DESCRIPTION: ELEVATION DETAILS

SHEET
F1

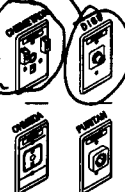
SITE SPECIFIC GAS DETAILS



- TYPE K COPPER TUBING
- 1/2" O.D. UNLESS OTHERWISE STATED

DISS CONNECTOR
(w/ PRIMARY CHECK)
PASSIVE EVAC, VACUUM &
WAGO DO NOT HAVE
PRIMARY CHECK.
*SUPPLIED w/ MOUNTING KIT

CONNECTOR ASSEMBLY
w/ SECONDARY CHECK
SUPPLIED w/ FIXTURE



VERIFY AND INITIAL
GAS FACEPLATE
STYLE REQUESTED

Test Gas	OSA Order Standard	Gasnote Order Standard	Alternative Name	Standard Pressure	Minimum Pressure	Alternative Pressure Drop	Minimum Flow Rates	
MAP	Medical Air (Yellow)	Medical Air (No Nitrogen)	MedAir	54 - 55 psig	55 psig	5 psig	3.5 SCFH per outlet (100% O ₂)	see note 01
MAP	Medical Air (Orange)	Medical Air (Orange)	CO ₂	54 - 55 psig	55 psig	5 psig	3.5 SCFH per outlet (100% O ₂)	
MAP	Medical Air (Green)	Medical Air (Green)	HabAir	54 - 55 psig	55 psig	5 psig	2.5 SCFH per outlet (100% O ₂) 5 SCFH per outlet (100% N ₂)	see note 04
MAP	Medical Air (Blue)	Medical Air (Blue)	N ₂ or HFC	100 - 105 psig	200 psig	5 psig	3.5 SCFH per outlet (100% O ₂)	
MAP	Medical Air (Grey)	Medical Air (Grey)	O ₂	54 - 55 psig	55 psig	5 psig	3.5 SCFH per outlet (100% O ₂)	see note 05
MAP	Medical Air (White)	Medical Air (White)	MedAir	120 psig (200mm)	N/A		3.5 SCFH per outlet (100% O ₂) If not available, tested flow rates for 2 outlets are 8 psig (1.5 SCFH)	see note 06

Note #1 - Any room (Critical Care Area) designed for a permanently located respiratory ventilator or anesthesia machine shall have an outlet capable of a transient flow rate of 100 L/min at 100 mmHg for 2 seconds at the static outlet.

Note #2 - For testing and certification purposes, individual station inlets shall be capable of a flow rate of: **8 SCFM**, while maintaining a system pressure of not less than 12" (300mm) at the nearest adjacent vacuum inlet. Facility supply must be **115 LPM MINIMUM** (Vacuum D.I.S.S. connectors omit primary check valves for optimal flow). 12" NPS.

Note #3 - WAGD (Waste Anesthetic Gas Disposal) systems employing a design where the WAGD lines are "tied in" to Med/Vac lines must produce the same flow rates as the Med/Vac lines.

Note #4 - Nitrogen system supplies nitrogen supplied directly from facility supply line rated at 185psig MIN to 200psig MAX. Avoid designs which feature multiple-in-line Nitrogen control systems in order to avoid loss of flow capability.

Additional references: Health Care Facilities Handbook 2002, Section 5.1.11, page 211 and section 5.1.12.13.10.1 thru 6.1.12.3.10.5, page 224
NEPA 98, 2002 guideline figure A.5.1.6.

MEDICAL GAS REQUIREMENTS - Medical Gas / Piping Engineer

Notes:

- Medical gas riser plates comply with NFPA 99-2005 Edition Cleanliness of gas outlets must be maintained through installation.
- Purge gas lines and test at least 24 hrs. prior to installation.
- Test results must be made available to SKYTRON for verification & comparison.

Each Skybloom fixture is fabricated in accordance to the specifications required by the customer. The configuration drawings supplied by SKYTRON will indicate the type and quantity of gas supply lines required. D.I.S.S. connection medical grade hoses connect the fixture to the riser plate connectors. The customer is responsible to deliver the appropriate medical gas from the facility supply to the riser plate connectors and for the design of a medical gas system with adequate flow capacity capable of compensating for the accumulative flow restrictions associated with conventional construction methods i.e. flex gas hoses. SKYTRON provides medical gas riser plate(s) and the appropriate connectors for attachment to the Mounting Plate. The riser plate attaches to the mounting plate and will accommodate up to 12 gas connectors. The connectors are D.I.S.S. type medical gas connectors with single check valves and provide a 1/2" copper tube for attachment to facility supply lines. Caps are provided with Vacuum & WAGD gas connectors to facilitate testing procedures.

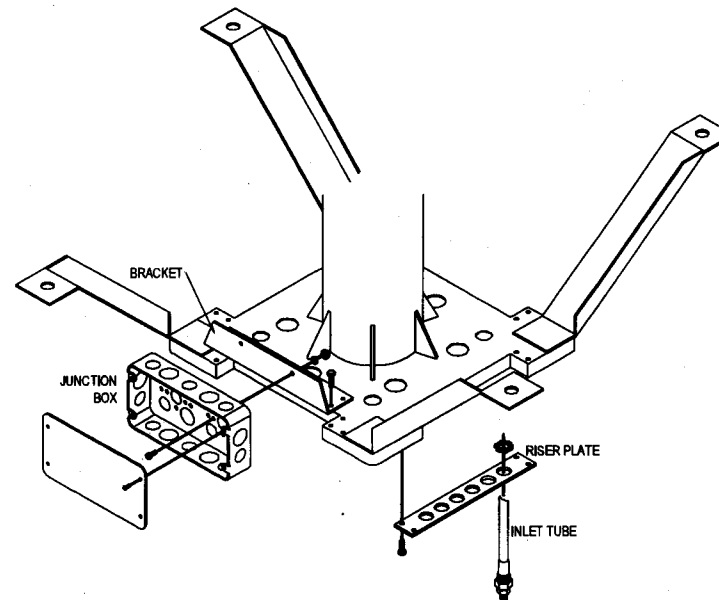
All connection and testing of medical gas piping to be performed in accordance with NFPA 9-2005 Edition-5.1.6 requirements.

Recommended Gas Riser Placement

When mount is in center of room, riser plate should face head end of room, when mount is near walls, riser plate should be adjacent to wall. If more than one riser plate is required they should be placed next to each other.

INITIAL: KMB
DATE: 1/5/12

GENERIC RISER PLATE INSTALLATION



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Mounting bolts and nuts shipped with fixture.

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

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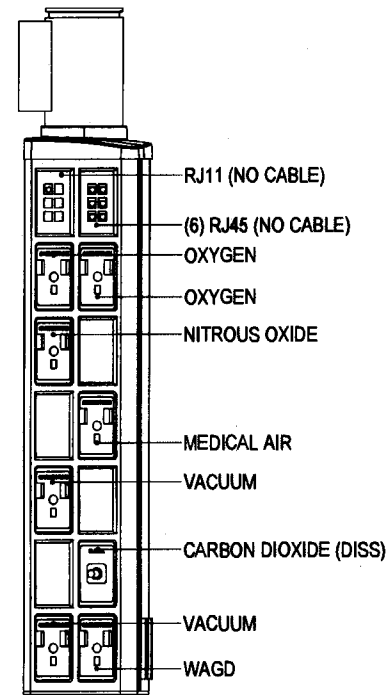
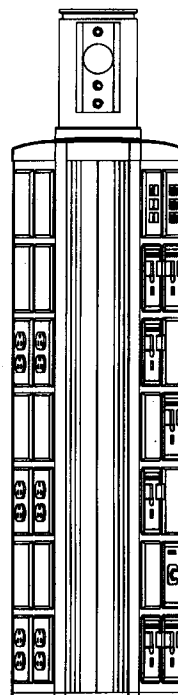
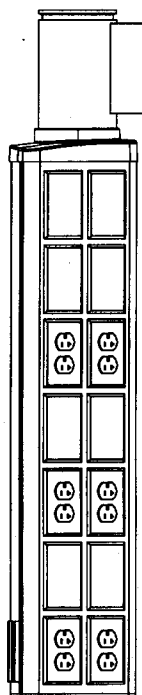
MODEL #: E2VBM36
QTY.: 1 REV. #: 0
DESCRIPTION: MEDICAL GAS DETAILS

**SHEET
F3**



ACCESSORY LIST

- (1) MOUNTING BLOCK FOR VST MOUNT
- (2) BOLT-ON VACUUM SLIDE



PROJECT #: 11-130-RG
 SUBMITTAL
 PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: E2VBM36
 QTY: 1
 DESCRIPTION: CARRIER DETAILS

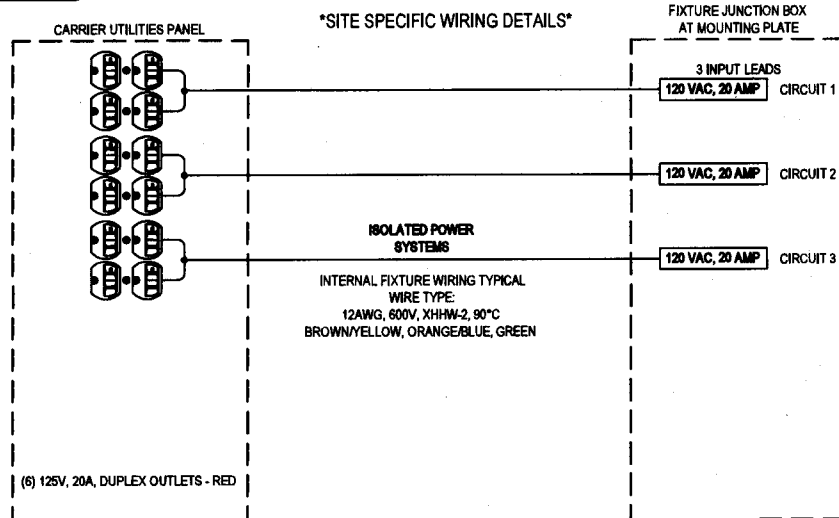
SHEET
F2

INITIAL: *RMB*
 DATE: *1/5/12*

CARRIER
 DIMENSIONS: 37"H x 11.5"W x 8"D

GAS OUTLETS: CHEMETRON

ELECTRICAL: (6) 125V, 20A DUPLEX - RED



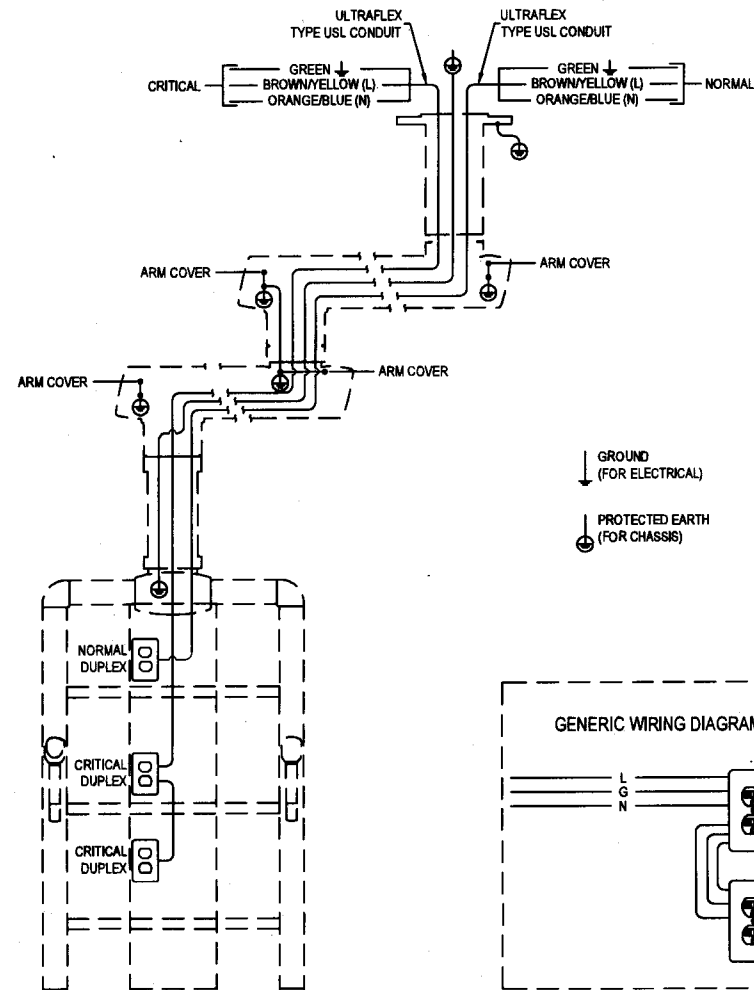
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: MB
DATE: 1/5/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

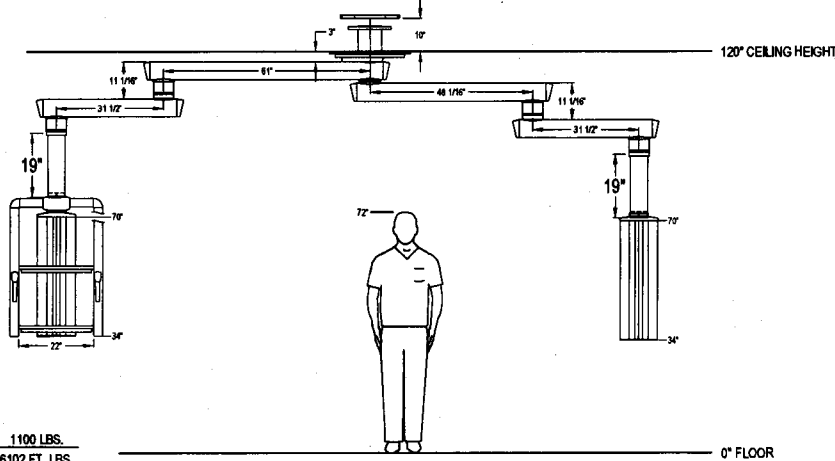
VA IOWA CITY

MODEL #: E2VBM36
QTY.: 1
REV. #: 1
DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
F4



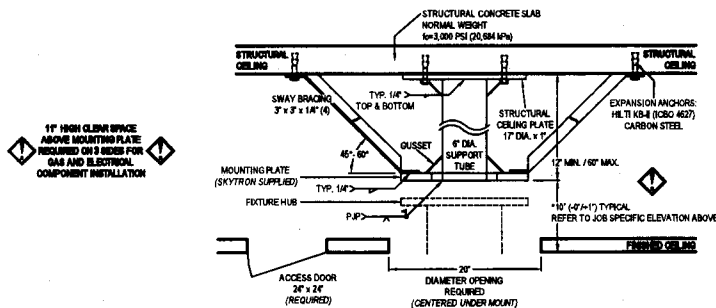
SITE SPECIFIC ELEVATION DETAILS



FIXTURE WEIGHT: 1100 LBS.
MOMENT LOAD: 6102 FT. LBS.
OPA NUMBER: 2510-07

GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: KUB
DATE: 1/5/12

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Mounting Structure Components

The fabrication of each mounting structure may be slightly different but they each require the same basic components to ensure stability.

Sway Bracing (by others)

Sway bracing is designed to rigidly affix the mounting plate to the structural ceiling. The primary purpose of sway bracing is to eliminate sway, or lateral twisting and flexing of the mounting structure as it "reacts" to dynamic load changes caused by moving the fixture radial arms. The sway bracing should be welded to the mounting plate and extend away from the center of the mount. A minimum of four sway braces place 90° apart and positioned at a 45° and 60° angle is recommended.

Minimum recommended material for sway bracing is 3" x 3" x 1/4" angle iron. It is recommended that in all applications that the sway bracing be fastened to the structural ceiling.

Structural Ceiling Plate (by others)

The structural ceiling plate rigidly attaches the mount to the structural ceiling using structural anchors appropriate for the ceiling construction. The structural ceiling plate should be a minimum of, 1" ASTM A36 steel plate, 17" diameter with (6) 5/8" diameter holes for structural anchors and is fabricated by others.

Expansion Anchors

Test 50% of the anchors at 2,000 pounds (907 kg) tension, or 50 ft. lb. (68 N-m) torque per CBC 1925A.3.5. Installed anchors must meet the following criteria:

1. **Hydraulic Ram Method:** The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
2. **Torque Wrench Method (Wedge or Sleeve Type):** The applicable test torque must be reached within one-half (1/2) turn of the nut. Testing should occur no sooner than 24 hours after installation of anchors. If any anchor fails testing, test all anchors until 20 consecutive anchors pass, then resume the initial testing frequency. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

Support Tube (by others)

The support tube required to attach the mounting plate to the structural ceiling plate is ASTM 500 Grade B, 6" diameter tube. Support tube is to be welded to structural ceiling plate and mounting plate. A minimum of 6 gussets placed 60° apart should be welded to support tube at the structural ceiling plate and the mounting plate.

Mounting Plate (SKYTRON supplied)

The 17.5" x 17.5" x 1" ASTM A36 steel mounting plate is a SKYTRON supplied item. The Support tube and sway bracing are welded to the mounting plate. The mounting plate contains the corresponding bolt pattern for attaching the fixture and provides the mounting areas for the junction box and gas riser plates.

Mounting Structure Design

Seismic structural applications may differ. Please contact your local SKYTRON distributor for specific calculations. The mounting structure must be designed and fabricated to position the bottom of the SKYTRON mounting plate 10" (-0", +1") above the finished ceiling. This is a critical dimension in order to accommodate proper clearance required for ceiling cover function. The mounting plate must be perfectly level (+/- 0.1") and allow no more than two-tenths of a degree (0.2°) of rotation at the mounting plate when the specified load is applied. The mounting structure must be tested for strength and stiffness prior to installation of the fixture. Please contact your SKYTRON representative to schedule testing.

Please consult your SKYTRON representative during early stages of construction to facilitate this process. The testing process is a required, documented function prior to closing of the finished ceiling.

Ceiling Requirements

A 24" x 24" access door must be mounted adjacent to the mounting structure for entry by service personnel for service access.

SKYTRON provides a 24" ceiling cover designed to cover 20" diameter ceiling hole cutout.

Additional Skytron Supplied Items

In addition to the pre-installation kit, SKYTRON provides the following items:
(6) 1-1/4" x 10" threaded rods. (24) 1-1/4" hex nuts, pump enclosure (if applicable)

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

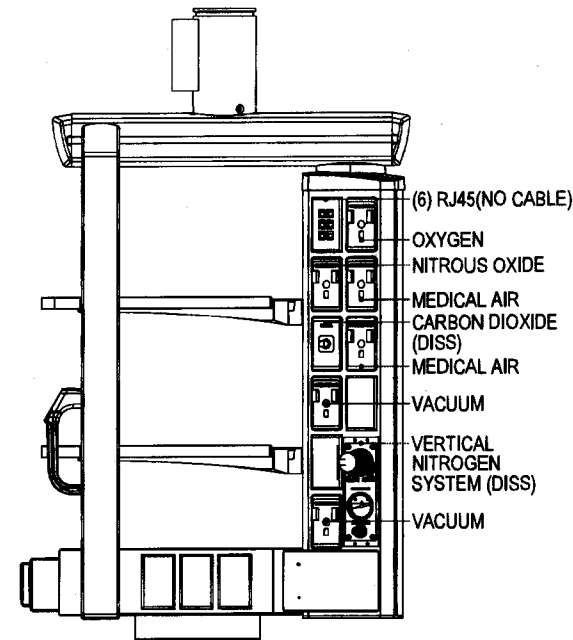
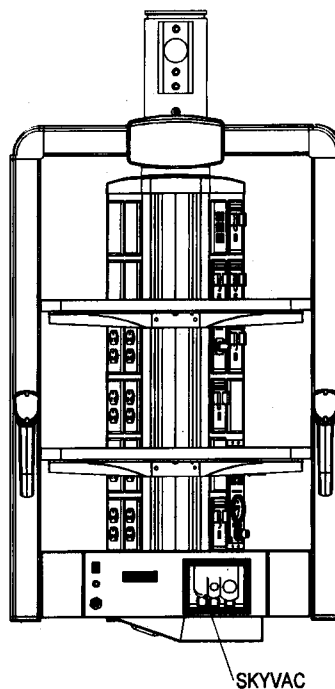
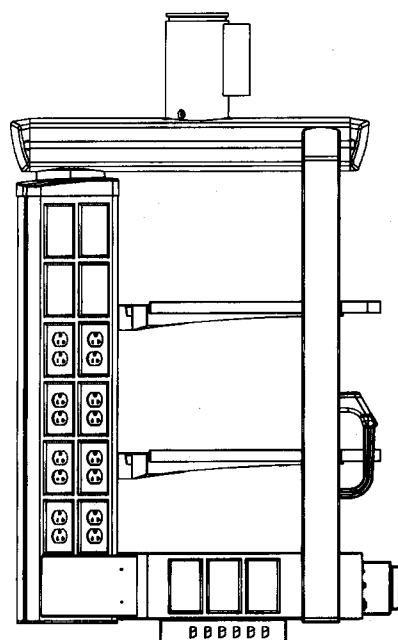
MODEL #: ETM2FPM36/2FVBM36
QTY.: 1
REV. #: 0
DESCRIPTION: ELEVATION DETAILS

SHEET
G1



ACCESSORY LIST

- (1) MOUNTING BLOCK FOR VST MOUNT
- (1) BASE UTILITY BOX 22"
- (1) BACK COVER (NOT SHOWN)
- (2) PMSH SHELF 22"



INITIAL: *KUB*
DATE: *1/5/12*

CARRIER
DIMENSIONS: 42"H x 27.5"W x 30"D

GAS OUTLETS: CHEMETRON

ELECTRICAL: (8) 125V, 20A DUPLEX - RED

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

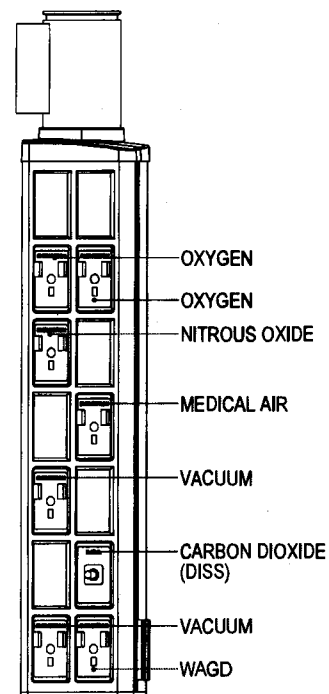
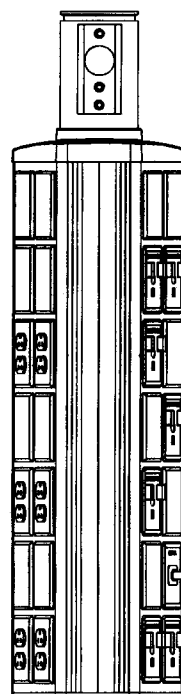
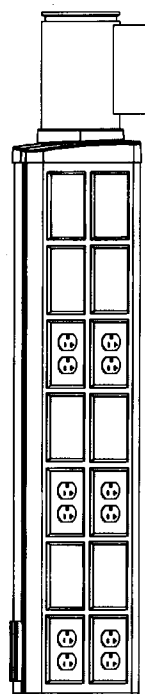
MODEL #: ETM2FPM36/2FVBM36
QTY: 1
REV #: 0
DESCRIPTION: CARRIER DETAILS

SHEET
G2a



ACCESSORY LIST

- (2) BOLT-ON VACUUM SLIDE
- (1) MOUNTING BLOCK FOR VST MOUNT



INITIAL: KUB
DATE: 1/5/12

CARRIER
DIMENSIONS: 37"H x 11.5"W x 8"D

GAS OUTLETS: CHEMETRON

ELECTRICAL: (6) 125V, 20A DUPLEX - RED

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

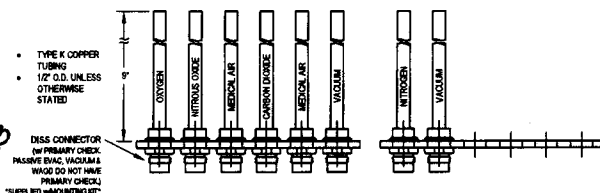
VA IOWA CITY

MODEL #: ETM2FPM36/2FVBM36
QTY: 1
REV #: 0
DESCRIPTION: CARRIER DETAILS

SHEET
G2b



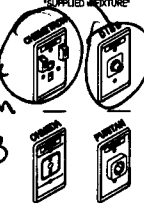
SITE SPECIFIC GAS DETAILS



- TYPE K COPPER TUBING
- 1/2" O.D. UNLESS OTHERWISE STATED

DISS CONNECTOR
(w/ PRIMARY CHECK)
PASSIVE EVAC, VACUUM &
WAG DO NOT HAVE
PRIMARY CHECK.
*SLACK, BTD, & BACK BITING KIT

~~GAS CONNECTOR ASSEMBLY
(w/ SECONDARY CHECK)~~



VERIFY AND INITIAL
GAS FACEPLATE
STYLE REQUESTED

[illegible]

Note #1 - Any room (Critical Care Area) designed for a permanently located respiratory ventilator or anesthesia machine shall have an outlet capable of a transient flow rate of 170 LPM (5 SCFM) for 3 seconds at the station outlet.

Note #2 - For testing and certification purposes, individual station inlets shall be capable of a flow rate of 3 SCFM, while maintaining a system pressure of not less than 12" (300mm) at the nearest adjacent vacuum inlet. Facility supply must be 115 LPM MINIMUM. (Vacuum D.L.S.S. connectors omit primary check valves for optimal flow). 120V-HZ.

Note #3 - WAGO (Waste Anesthetic Gas Disposal) systems employing a design where the WAGO lines are "tied in" to Med/Vac lines must produce the same flow rate as the Med/Vac inlet.

Note 14 - Nitrogen system requires nitrogen supplied directly from safety supply line listed at. Inputs were to adjust N2 flow. Avoid design to restrict pressure transmitters through control systems in order to avoid loss of flow capability.

Additional references: Health Care Facilities Handbook 2002, Section 5.1.11, page 211 and section 5.1.12.13.10.1 thru 5.1.12.3.10.5, page 224
NFPA 99, 2002 codebook figure A.5.1.6.

Notes:

- Medical gas riser plates comply with NFPA 99-2005 Edition Cleanliness of gas outlets must be maintained through installation.
- Purge gas lines and test at least 24 hrs. prior to installation.
- Test results must be made available to SKYTRON for verification & comparison.

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The configuration drawings supplied by SKYTRON will indicate the type and quantity of gas supply lines required. D.I.S.S. connection medical grade hoses connect the fixture to the riser plate connectors. The customer is responsible to deliver the appropriate medical gas from the facility supply to the riser plate connectors and for the design of a medical gas system with adequate flow capacity capable of compensating for the accumulative flow restrictions associated with conventional construction methods i.e. flex gas hoses. SKYTRON provides medical gas riser plate(s) and the appropriate connectors for attachment to the Mounting Plate. The riser plate attaches to the mounting plate and will accommodate up to 12 gas connectors. The connectors are D.I.S.S. type medical gas connectors with single check valves and provide a 1/2" copper tube for attachment to facility supply lines. Caps are provided with Vacuum & WAGD gas connectors to facilitate testing procedures.

All connection and testing of medical gas piping to be performed in accordance with NFPA 9-2005 Edition-5.1.6 requirements.

Recommended Gas Riser Placement

When mount is in center of room, riser plate should face head end of room, when mount is near walls, riser plate should be adjacent to wall. If more than one riser plate is required they should be placed next to each other.

INITIAL: MMB
DATE: 1/5/12

This diagram shows the exploded view of the junction box assembly. The components are labeled as follows:

- BRACKET**: A long, thin metal plate with a flange at one end, positioned to be mounted on the side of the junction box.
- JUNCTION BOX**: The main rectangular enclosure with a front cover and a base.
- RISER PLATE**: A long, thin metal plate with a flange at one end, positioned to be mounted on the base of the junction box.
- INLET TUBE**: A vertical tube with a flange at the top, positioned to be inserted into the base of the junction box.

Arrows indicate the assembly direction for each component.

NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Mounting bolts and nuts shipped with fixture.

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: ETM2FPM36/2FVBM36

QTY: 1 REV. # 0

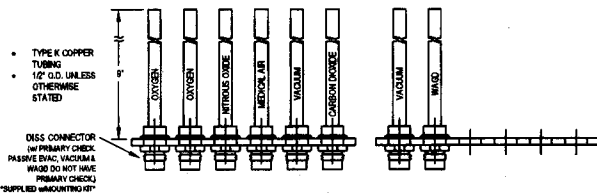
DESCRIPTION: MEDICAL GAS DETAILS

SHEET
G3a



SITE SPECIFIC GAS DETAILS

VBM36



REQUIRES REMOTE MOUNTED RISER PLATE

Test Gas	CGA Color Standard	Conn. Color Standard	Abbreviated Name	Standard Pressure	Maximum Pressure	Allowable Pressure Drop	Minimum Flow Rate	
N ₂ O	(Yellow)	(Yellow)	Nitrous Oxide	50-55 psig	55 psig	5 psig	3.5 SCFM per outlet (1000L/hr)	see note #1
N ₂	(Blue)	(Blue)	Nitrogen	50-55 psig	55 psig	5 psig	3.5 SCFM per outlet (1000L/hr)	
O ₂	(Green)	(Green)	Oxygen	50-55 psig	55 psig	5 psig	3.5 SCFM per outlet (1000L/hr)	
CO ₂	(Grey)	(Grey)	Carbon Dioxide	50-55 psig	55 psig	5 psig	3.5 SCFM per outlet (1000L/hr)	
Med Air	(White)	(White)	Medical Air	50-55 psig	55 psig	5 psig	3.5 SCFM per outlet (1000L/hr)	
Vacuum	(None)	(None)	Vacuum	180-185 psig	200 psig	5 psig	3.5 SCFM per outlet (1000L/hr)	see note #2
WAGD	(None)	(None)	Waste Anesthetic Gas Disposal	50-55 psig	55 psig	5 psig	3.5 SCFM per outlet (1000L/hr)	see note #3
WAGD	(None)	(None)	Waste Anesthetic Gas Disposal	50-55 psig	55 psig	5 psig	3.5 SCFM per outlet (1000L/hr)	see note #4

Note #1 - Any room (Critical Care Area) designed for a permanently located respiratory ventilator or anesthesia machine shall have an outlet capable of a transient flow rate of 170 LPM (3 SCFM) for 3 seconds at the station outlet.

Note #2 - For testing and verification purposes, individual station inlets shall be capable of a flow rate of 3 SCFM while maintaining a system pressure of not less than 17" (300mm) at the nearest adjacent vacuum inlet. Facility supply must be 115 LPM MINIMUM. (Vacuum D.I.S.S. connectors must primary check valves for optional flow 120LPM).

Note #3 - WAGD (Waste Anesthetic Gas Disposal) systems employing a design where the WAGD lines are "tied in" to Med/Vac lines must produce the same flow rates as the Med/Vac inlets.

Note #4 - Nitrogen system requires nitrogen supplied directly from facility supply line rated at 180psi MIN to 200psi MAX. Avoid designs which feature multiple-line Nitrogen control systems in order to avoid loss of flow capability.

Additional references: Health Care Facilities Handbook 2002, Section 5.1.11, page 211 and section 5.1.12.13.10.1 thru 5.1.12.3.10.5, page 224. NFPA 99, 2002 guideline figure A.5.1.6.

MEDICAL GAS REQUIREMENTS - Medical Gas / Piping Engineer

Notes:

- Medical gas riser plates comply with NFPA 99-2005 Edition Cleanliness of gas outlets must be maintained through installation.
- Purge gas lines and test at least 24 hrs. prior to installation.
- Test results must be made available to SKYTRON for verification & comparison.

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The configuration drawings supplied by SKYTRON will indicate the type and quantity of gas supply lines required. D.I.S.S. connection medical grade hoses connect the fixture to the riser plate connectors. The customer is responsible to deliver the appropriate medical gas from the facility supply to the riser plate connectors and for the design of a medical gas system with adequate flow capacity capable of compensating for the accumulative flow restrictions associated with conventional construction methods i.e. flex gas hoses. SKYTRON provides medical gas riser plate(s) and the appropriate connectors for attachment to the Mounting Plate. The riser plate attaches to the mounting plate and will accommodate up to 12 gas connectors. The connectors are D.I.S.S. type medical gas connectors with single check valves and provide a 1/2" copper tube for attachment to facility supply lines. Caps are provided with Vacuum & WAGD gas connectors to facilitate testing procedures.

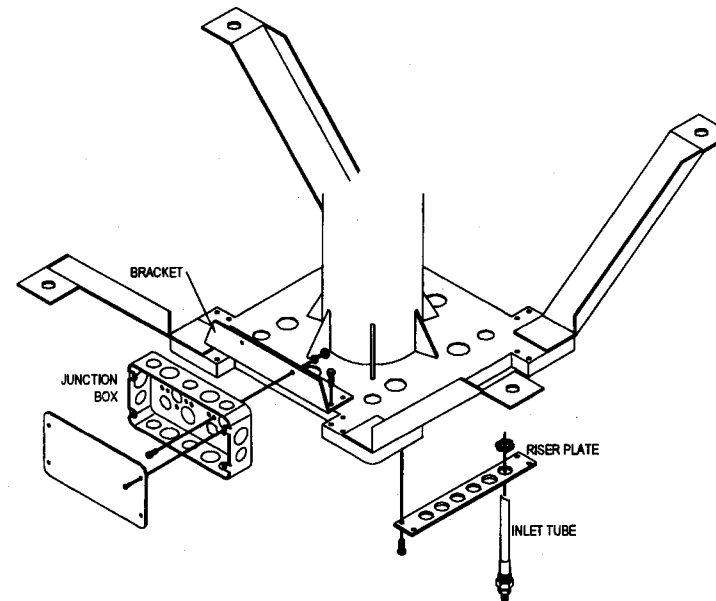
All connection and testing of medical gas piping to be performed in accordance with NFPA 9-2005 Edition-5.1.6 requirements.

Recommended Gas Riser Placement

When mount is in center of room, riser plate should face head end of room, when mount is near walls, riser plate should be adjacent to wall. If more than one riser plate is required they should be placed next to each other.

INITIAL: *PHB*
DATE: *1/5/12*

GENERIC RISER PLATE INSTALLATION



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Mounting bolts and nuts shipped with fixture.

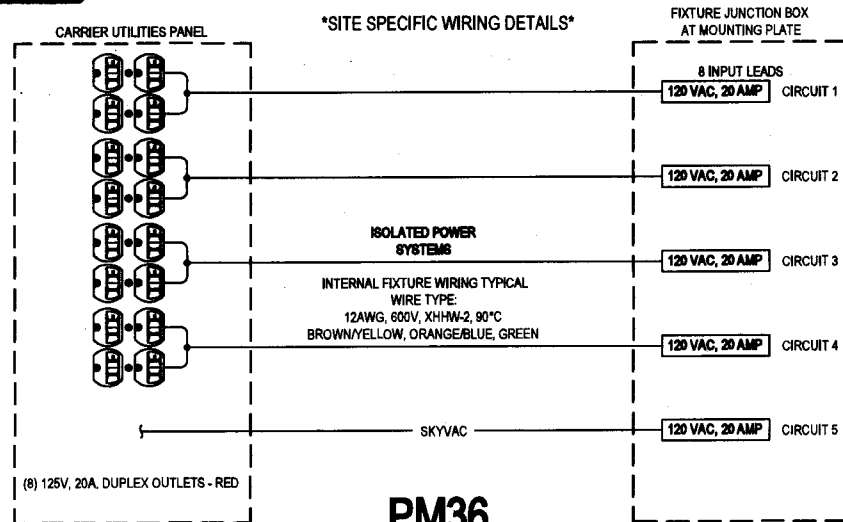
PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: ETM2FPM36/2FVBM36
QTY: 1
REV. #: 0

DESCRIPTION: MEDICAL GAS DETAILS

SHEET
G3b



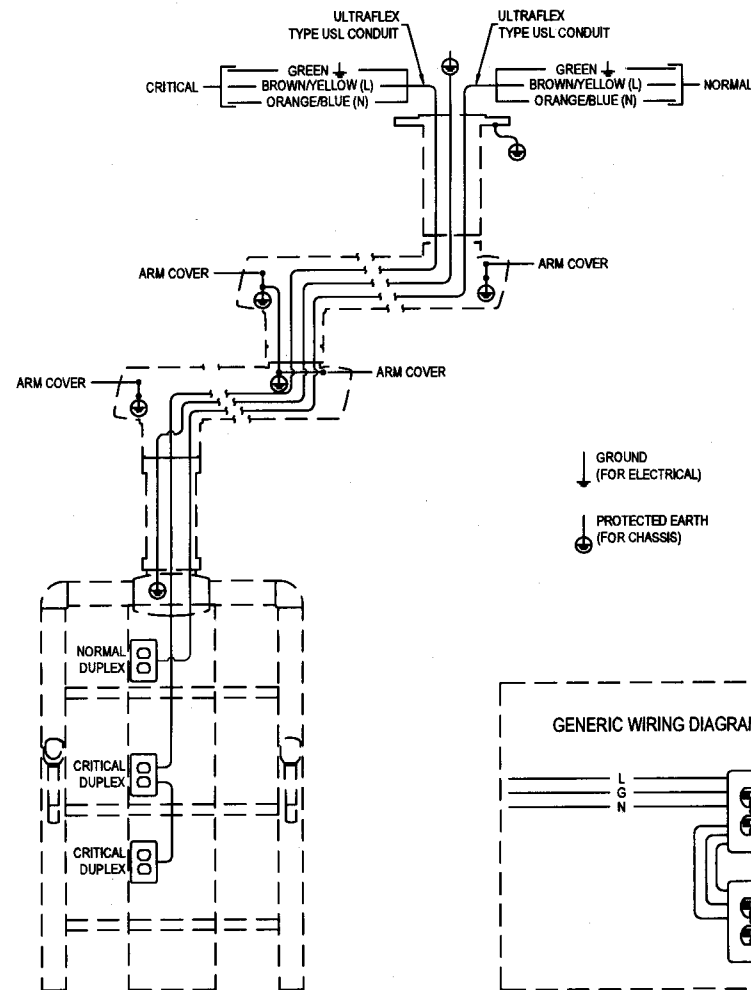
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: RUB
DATE: 1/5/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



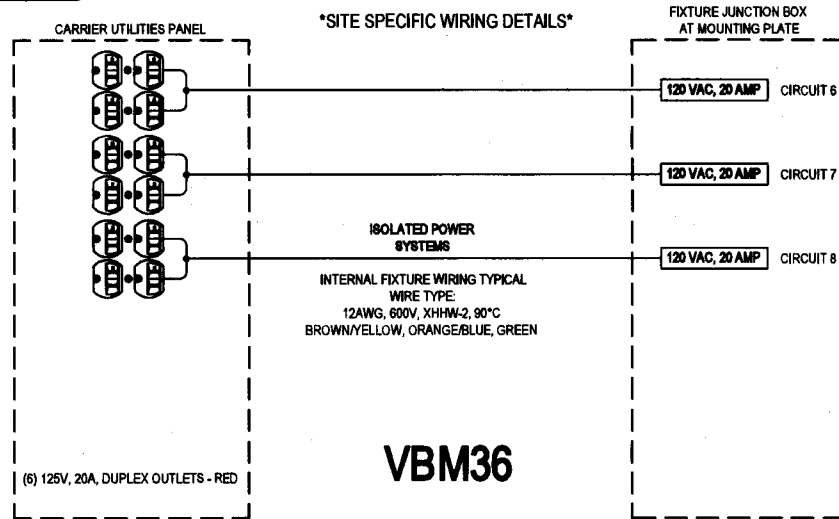
PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: ETM2FPM36/2FVBM36
QTY.: 1
REV. #: 1

DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
G4a



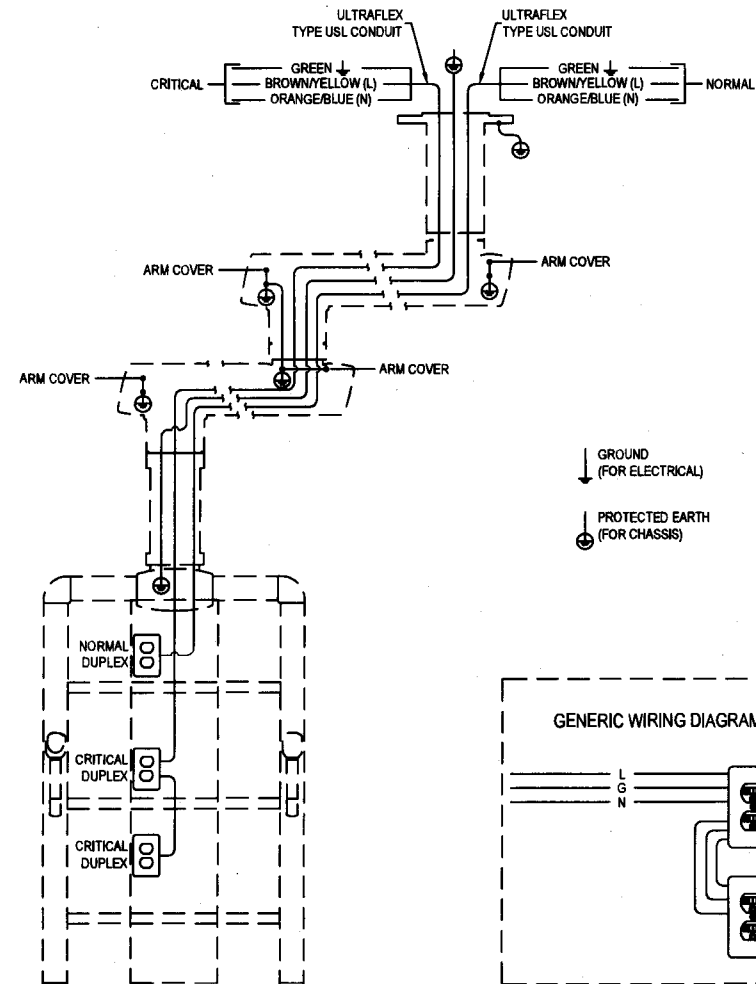
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: *KUB*
DATE: *1/5/12*

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: ETM2FPM36/2FVBM36
QTY.: 1
REV. #: 1
DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
G4b



SITE SPECIFIC COMMUNICATION DETAILS

MOUNTING HUB
(male connectors)

UTILITIES CARRIER
(female connectors)

ALL CABLING TO BE
PROVIDED BY OTHERS

- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)
- ☐ RJ45 (NO CABLE)

COMMUNICATIONS REQUIREMENTS - Communication/Mdeo/Data Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of cables required. The customer is responsible for the appropriate communication cable routing to the fixture. Special arrangements can be coordinated for custom cable sets to be installed at the time of installation. Contact your SKYTRON representative.

SKYVISION REQUIREMENTS - Communication/Mdeo/Data Engineer

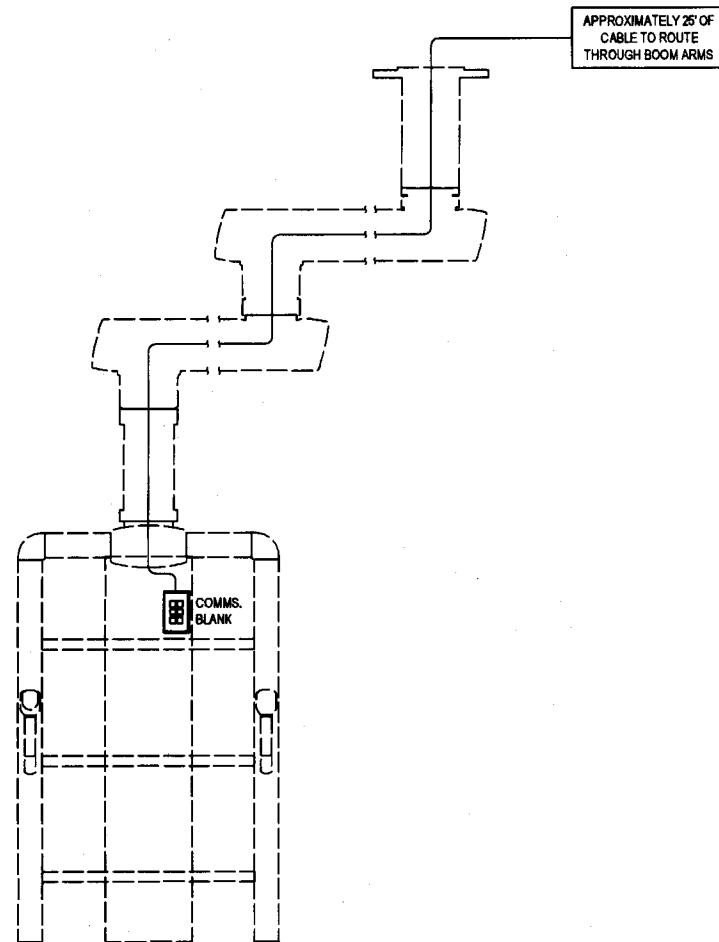
The conversion boxes are installed in the boom arm equipment carriers. The conversion boxes convert a copper wire signal (digital or analog) to a fiber-optic digital signal and vice-versa. Low voltage power lines are the only other type of connection utilized to and from the SkyVision system.

Notes:

- Customer will be responsible for supply and installation of all conduit and electrical junction boxes.
- Customer will provide SKYTRON with all customer provided equipment source signal specifications including signal output type, power requirements and cable connector types.
- At time of installation, customer provided systems and equipment must be in place and working in order for SKYTRON to complete system installation and testing. If customer provided systems are not in place and working during the SKYTRON installation delays may occur.

INITIAL: PHB
DATE: 1/5/12

GENERIC BOOM COMMUNICATIONS WIRING DIAGRAM



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

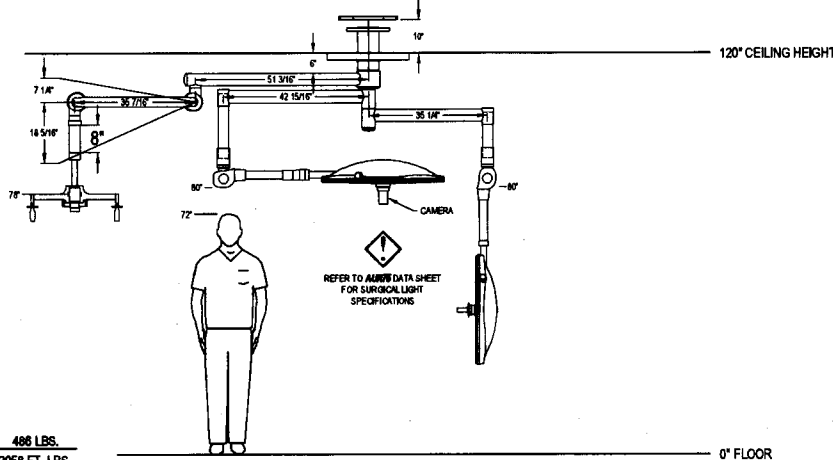
VA IOWA CITY

MODEL #: ETM2FPM36/2FVBM36
QTY.: 1
REV. #: 0
DESCRIPTION: COMMUNICATIONS DETAILS

SHEET
5

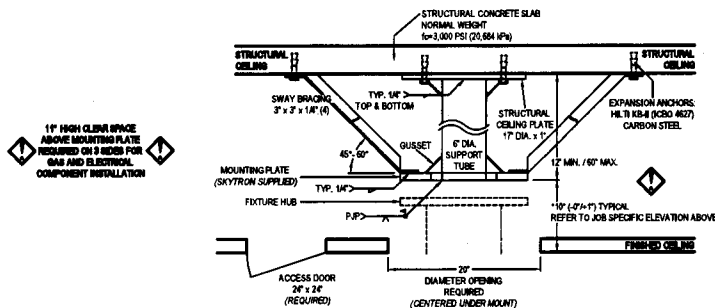


SITE SPECIFIC ELEVATION DETAILS



GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: *SPUB*

DATE: *1/5/12*

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Mounting Structure Components

The fabrication of each mounting structure may be slightly different but they each require the same basic components to ensure stability.

Sway Bracing (by others)

Sway bracing is designed to rigidly affix the mounting plate to the structural ceiling. The primary purpose of sway bracing is to eliminate sway, or lateral twisting and flexing of the mounting structure as it "reacts" to dynamic load changes caused by moving the fixture radial arms. The sway bracing should be welded to the mounting plate and extend away from the center of the mount. A minimum of four sway braces place 90° apart and positioned at a 45° and 60° angle is recommended.

Minimum recommended material for sway bracing is 3" x 3" x 1/4" angle iron. It is recommended that in all applications that the sway bracing be fastened to the structural ceiling.

Structural Ceiling Plate (by others)

The structural ceiling plate rigidly attaches the mount to the structural ceiling using structural anchors appropriate for the ceiling construction. The structural ceiling plate should be a minimum of, 1" ASTM A36 steel plate, 17" diameter with (6) 5/8" diameter holes for structural anchors and is fabricated by others.

Expansion Anchors

Test 50% of the anchors at 2,000 pounds (907 kg) tension, or 50 ft. lb. (68 Nm) torque per CBC 1925A.3.5. Installed anchors must meet the following criteria:

- Hydraulic Ram Method:** The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
- Torque Wrench Method (Wedge or Sleeve Type):** The applicable test torque must be reached within one-half (1/2) turn of the nut. Testing should occur no sooner than 24 hours after installation of anchors. If any anchor fails testing, test all anchors until 20 consecutive anchors pass, then resume the initial testing frequency. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

Support Tube (by others)

The support tube required to attach the mounting plate to the structural ceiling plate is ASTM 500 Grade B, 6" diameter tube. Support tube is to be welded to structural ceiling plate and mounting plate. A minimum of 6 gussets placed 60° apart should be welded to support tube at the structural ceiling plate and the mounting plate.

Mounting Plate (SKYTRON supplied)

The 17.5" x 17.5" x 1" ASTM A36 steel mounting plate is a SKYTRON supplied item. The Support tube and sway bracing are welded to the mounting plate. The mounting plate contains the corresponding bolt pattern for attaching the fixture and provides the mounting areas for the junction box and gas riser plates.

Mounting Structure Design

Seismic structural applications may differ. Please contact your local SKYTRON distributor for specific calculations. The mounting structure must be designed and fabricated to position the bottom of the SKYTRON mounting plate 10" (-0", +1") above the finished ceiling. This is a critical dimension in order to accommodate proper clearance required for ceiling cover function. The mounting plate must be perfectly level (+/- 0.1") and allow no more than two-tenths of a degree (0.2") of rotation at the mounting plate when the specified load is applied. The mounting structure must be tested for strength and stiffness prior to installation of the fixture. Please contact your SKYTRON representative to schedule testing.

Please consult your SKYTRON representative during early stages of construction to facilitate this process. The testing process is a required, documented function prior to closing of the finished ceiling.

Ceiling Requirements

A 24" x 24" access door must be mounted adjacent to the mounting structure for entry by service personnel for service access.

SKYTRON provides a 24" ceiling cover designed to cover 20" diameter ceiling hole cutout.

Additional Skytron Supplied Items

In addition to the pre-installation kit, SKYTRON provides the following items:
(6) 1-1/4" x 10" threaded rods, (24) 1-1/4" hex nuts, pump enclosure (if applicable)

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: LC2AFC1AUR7TV5
QTY.: 1
REV. #: 0
DESCRIPTION: ELEVATION DETAILS

SHEET
H1



CARRIER UTILITIES PANEL

SITE SPECIFIC WIRING DETAILS

FIXTURE JUNCTION BOX
AT MOUNTING PLATE

1 INPUT LEAD

ISOLATED POWER
SYSTEMS

INTERNAL FIXTURE WIRING TYPICAL
WIRE TYPE:
12AWG, 600V, XHHW-2, 90°C
BROWN/YELLOW, ORANGE/BLUE, GREEN

LIGHT CIRCUIT
TO WALL CONTROL
SEE PAGE 8

120 VAC, 15 AMP
AURORA LIGHT

CIRCUIT 1

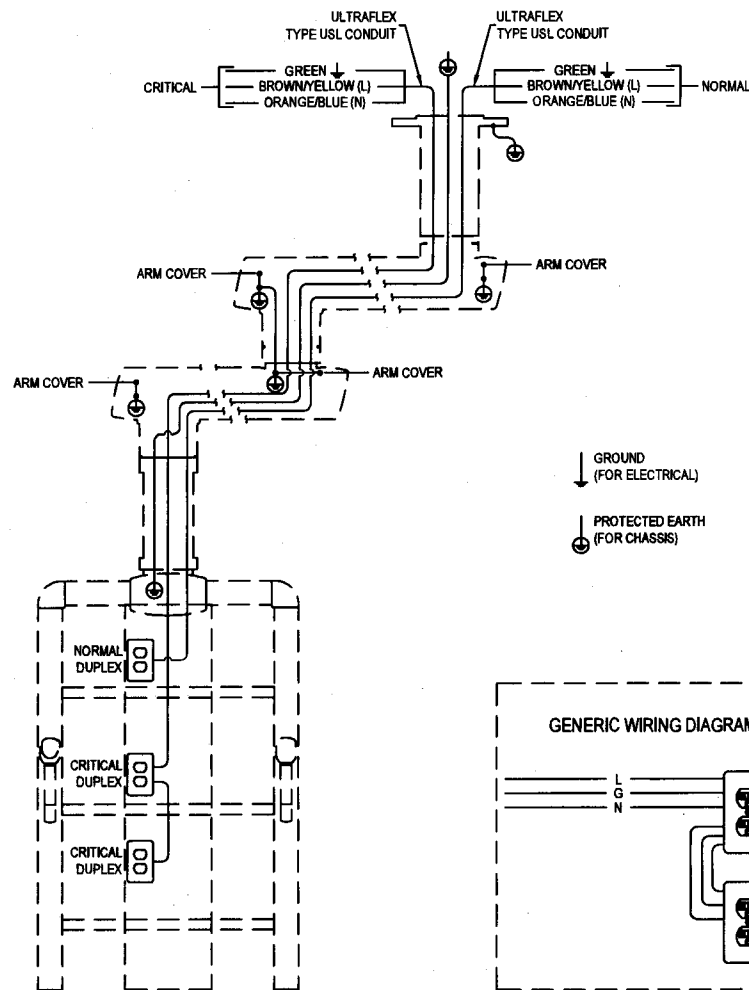
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: PLUB
DATE: 1/5/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: LC2AFC1/AUR7TV5
QTY.: 1
REV. #: 1

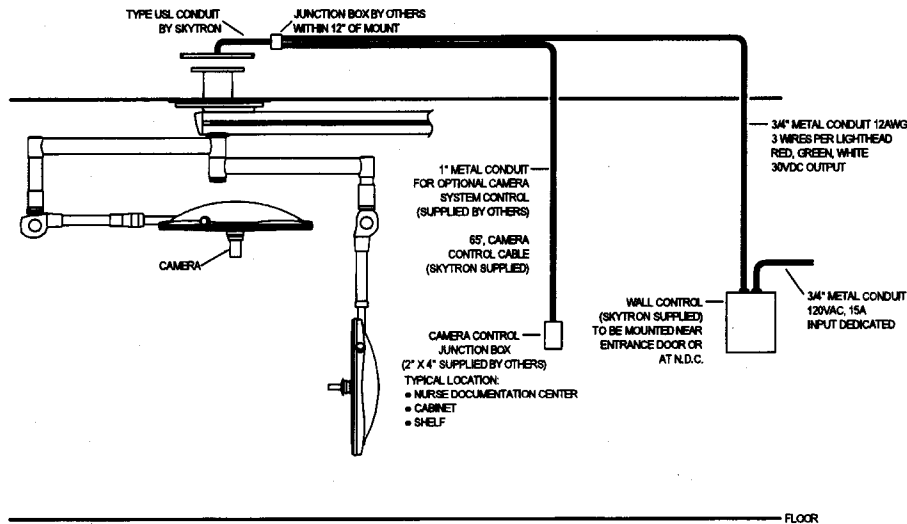
DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
H4



GENERIC LIGHT FIXTURE DETAILS

THIS DIAGRAM IS FOR INFORMATIONAL PURPOSES ONLY.
THIS WILL NOT MATCH YOUR EXACT MODEL.



SPECIAL GROUNDING REQUIREMENTS - Electrical Engineer

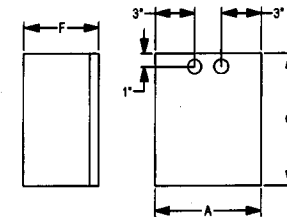
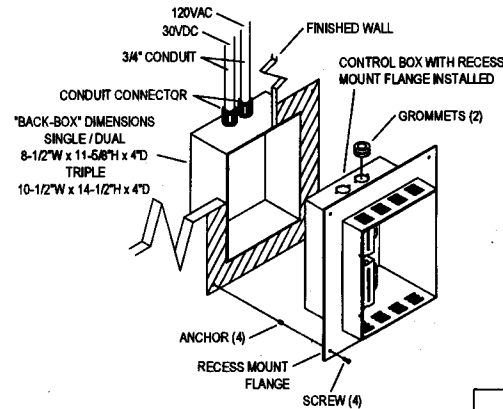
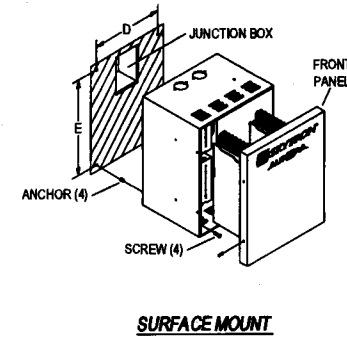
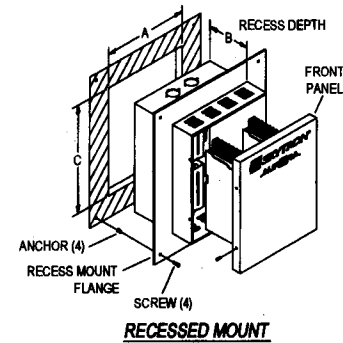
Proper performance and safety of this fixture can only be achieved by an adequate grounding system. Fixture ground must be a dedicated ground point ultimately bonded to the facilities grounding system to prevent the migration of electrical interference generated by other devices.

Notes:

- 2 Dedicated conduit runs required at wall control to separate 120VAC input lines from 30VDC output lines to light fixture to prevent migration of electrical magnetic interference which will disrupt the operation of the light.
- "No shared ground." Each light head must have separate individual ground.

INITIAL: *PUB*
DATE: *1/5/12*

GENERIC AURORA WALL CONTROL MOUNTING DETAILS



	DIMENSION	
	SINGLE / DUAL	TRIPLE
A	8"	10"
B	4"	4"
C	10"	13 - 1/2"
D	6 - 7/8"	8 - 5/8"
E	7 - 5/8"	11"
F	5 - 7/8"	6 - 3/8"
RECESS MOUNT FLANGE		
	11 - 3/4"W x 14"H	13 - 3/4"W x 17 - 1/4"H
OPA #: OPA-1807-07		

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: LC2AFC1AUR7TV5

REV. #: 0

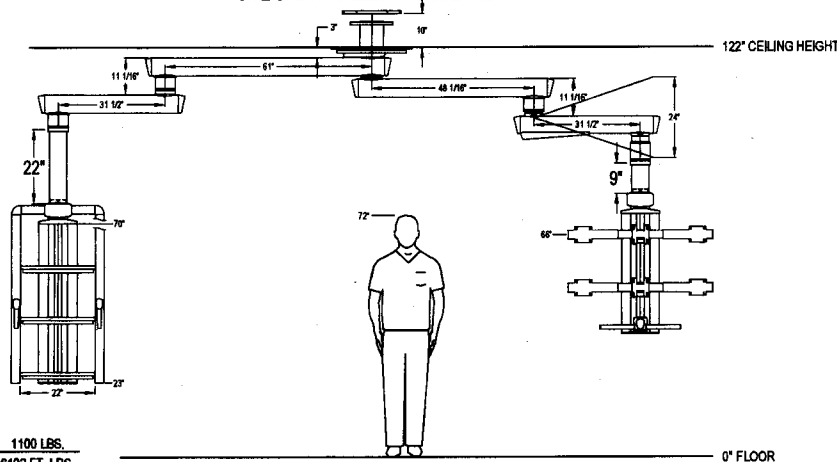
QTY.: 1

DESCRIPTION: LIGHT FIXTURE DETAILS

SHEET
H6



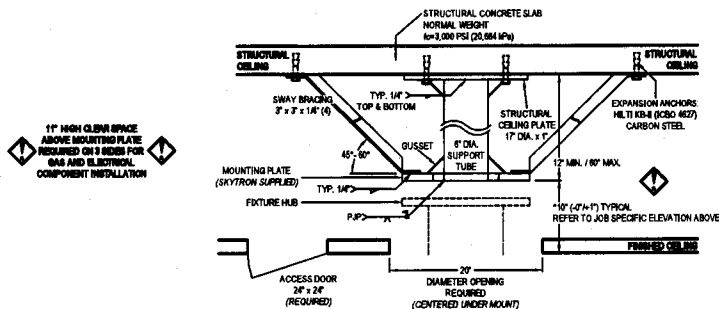
SITE SPECIFIC ELEVATION DETAILS



FIXTURE WEIGHT: 1100 LBS.
MOMENT LOAD: 8102 FT. LBS.
OPA NUMBER: 2482-07

GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: *KUB*
DATE: *1/5/12*

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Mounting Structure Components

The fabrication of each mounting structure may be slightly different but they each require the same basic components to ensure stability.

Sway Bracing (by others)

Sway bracing is designed to rigidly affix the mounting plate to the structural ceiling. The primary purpose of sway bracing is to eliminate sway, or lateral twisting and flexing of the mounting structure as it "reacts" to dynamic load changes caused by moving the fixture radial arms. The sway bracing should be welded to the mounting plate and extend away from the center of the mount. A minimum of four sway braces place 90° apart and positioned at a 45° and 60° angle is recommended.

Minimum recommended material for sway bracing is 3" x 3" x 1/4" angle iron. It is recommended that in all applications that the sway bracing be fastened to the structural ceiling.

Structural Ceiling Plate (by others)

The structural ceiling plate rigidly attaches the mount to the structural ceiling using structural anchors appropriate for the ceiling construction. The structural ceiling plate should be a minimum of, 1" ASTM A36 steel plate, 17" diameter with (6) 5/8" diameter holes for structural anchors and is fabricated by others.

Expansion Anchors

Test 50% of the anchors at 2,000 pounds (907 kg) tension, or 50 ft. lb. (68 N•m) torque per CBC 1925A.3.5. Installed anchors must meet the following criteria:

1. *Hydraulic Ram Method:* The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
2. *Torque Wrench Method (Wedge or Sleeve Type):* The applicable test torque must be reached within one-half (1/2) turn of the nut. Testing should occur no sooner than 24 hours after installation of anchors. If any anchor fails testing, test all anchors until 20 consecutive anchors pass, then resume the initial testing frequency. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

Support Tube (by others)

The support tube required to attach the mounting plate to the structural ceiling plate is ASTM 500 Grade B, 6" diameter tube. Support tube is to be welded to structural ceiling plate and mounting plate. A minimum of 6 gussets placed 60° apart should be welded to support tube at the structural ceiling plate and the mounting plate.

Mounting Plate (SKYTRON supplied)

The 17.5" x 17.5" x 1" ASTM A36 steel mounting plate is a SKYTRON supplied item. The Support tube and sway bracing are welded to the mounting plate. The mounting plate contains the corresponding bolt pattern for attaching the fixture and provides the mounting areas for the junction box and gas riser plates.

Mounting Structure Design

Seismic structural applications may differ. Please contact your local SKYTRON distributor for specific calculations. The mounting structure must be designed and fabricated to position the bottom of the SKYTRON mounting plate 10" (-0", +1") above the finished ceiling. This is a critical dimension in order to accommodate proper clearance required for ceiling cover function. The mounting plate must be perfectly level (+/- 0.1") and allow no more than two-tenths of a degree (0.2") of rotation at the mounting plate when the specified load is applied. The mounting structure must be tested for strength and stiffness prior to installation of the fixture. Please contact your SKYTRON representative to schedule testing.

Please consult your SKYTRON representative during early stages of construction to facilitate this process. The testing process is a required, documented function prior to closing of the finished ceiling.

Ceiling Requirements

A 24" x 24" access door must be mounted adjacent to the mounting structure for entry by service personnel for service access.

SKYTRON provides a 24" ceiling cover designed to cover 20" diameter ceiling hole cutout.

Additional Skytron Supplied Items

In addition to the pre-installation kit, SKYTRON provides the following items:
(6) 1-1/4" x 10" threaded rods. (24) 1-1/4" hex nuts, pump enclosure (if applicable)

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

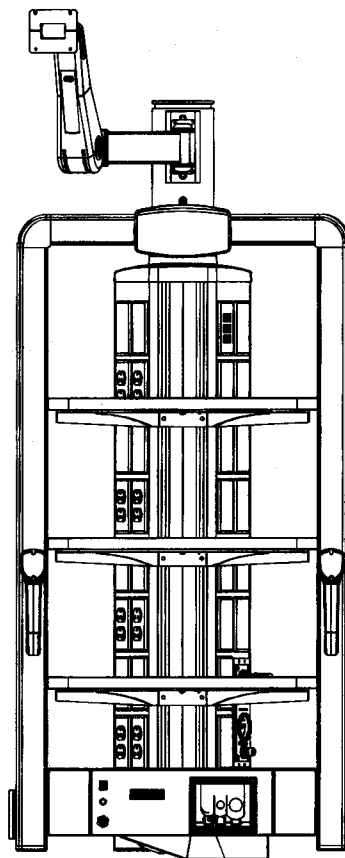
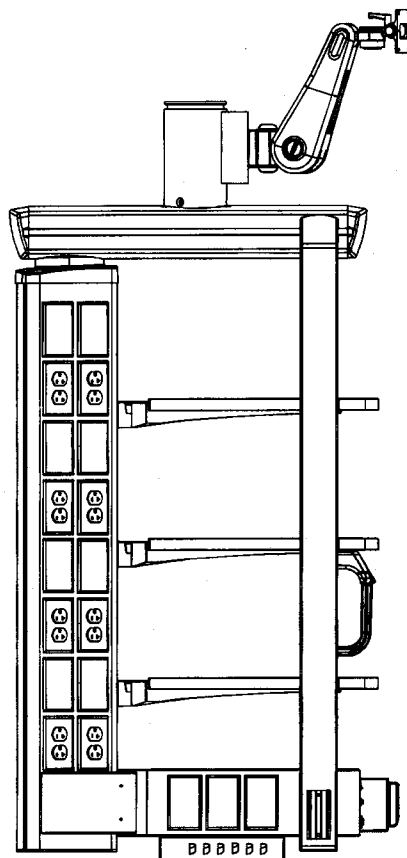
MODEL #: ETM2FPM48/2EFCM6
QTY.: 1
REV. #: 0
DESCRIPTION: ELEVATION DETAILS

SHEET
11

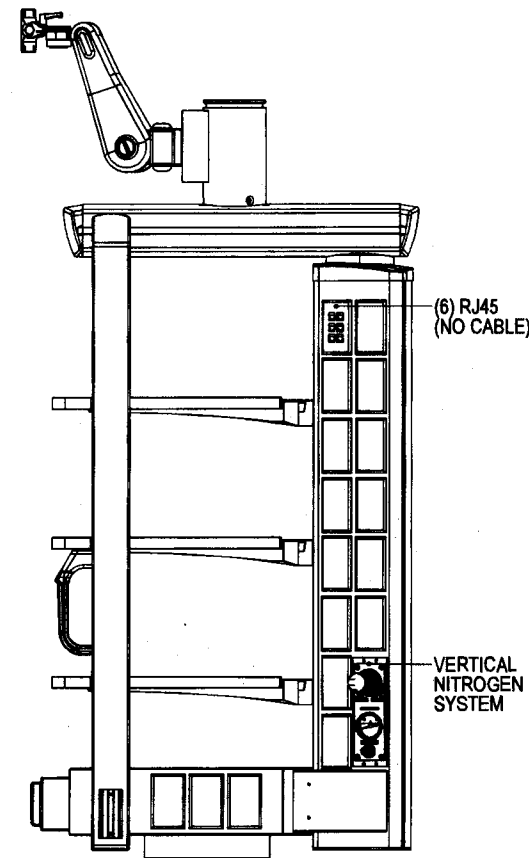


ACCESSORY LIST

- (1) HEIGHT ADJUSTABLE MONITOR MOUNT FOR VST
- (1) BASE UTILITY BOX 22"
- (1) BACK COVER (NOT SHOWN)
- (2) BOLT-ON VACUUM SLIDE
- (3) PMSH SHELF 22"



SKYVAC



(6) RJ45
(NO CABLE)

VERTICAL
NITROGEN
SYSTEM

INITIAL: *PLB*
DATE: *1/5/12*

CARRIER
DIMENSIONS: 54"H x 27.5"W x 30"D

GAS OUTLETS: DISS

ELECTRICAL: (8) 125V, 20A DUPLEX - RED

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

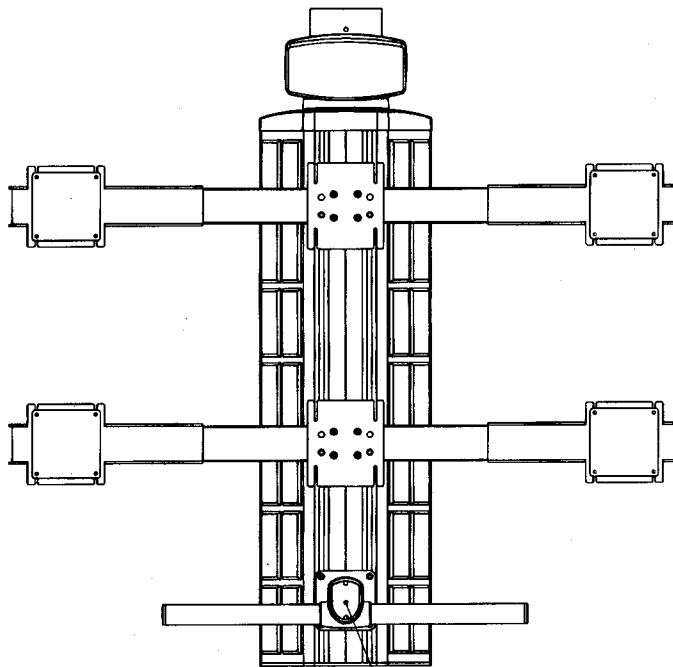
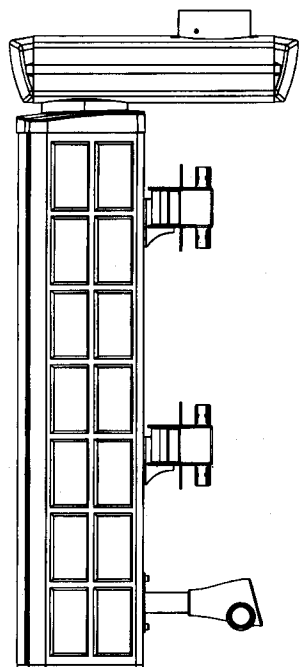
MODEL #: ETM2FPM48/2EFCM6
QTY: 1
REV #: 0
DESCRIPTION: CARRIER DETAILS

SHEET
12a

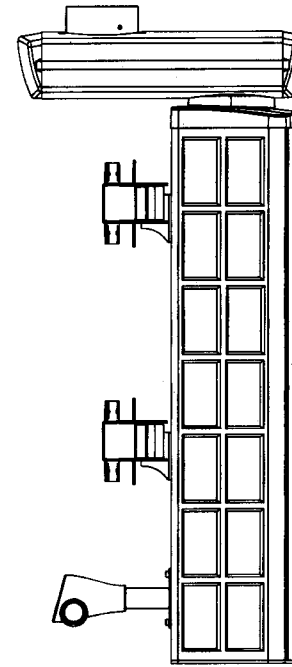


ACCESSORY LIST

NONE



UP / DOWN
CONTROLS



INITIAL: *KMB*
DATE: *1/5/12*

CARRIER
DIMENSIONS: 42"H x 55"W x 16"D

GAS OUTLETS: N/A

ELECTRICAL: N/A

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: ETM2FPM48/2EFCM-PHILIPS
QTY: 1
REV #: 0
DESCRIPTION: CARRIER DETAILS

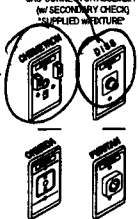
SHEET
12b



- TYPE K COPPER TUBING
- 1/2" O.D. UNLESS OTHERWISE STATED

DISS CONNECTOR
(w/ PRIMARY CHECK
PASSIVE EVAC, VACUUM &
WAGO DO NOT HAVE
PRIMARY CHECK,
*SUPPLIED w/MOUNTING KIT

GAS CONNECTOR ASSEMBLY



VERIFY AND INITIAL
GAS FACEPLATE
STYLE REQUESTED

Test Gas	COG Order Standard	Onsite Color Standard	Alternative Name	Standard Pressure	Minimum Pressure	Allowable Pressure Drop	Minimum Flow Rate	
NAP	Medicat (N) (Yellow)	Medicat (N) (Yellow)	Medicat	66 - 68 psig	65 psig	5 psig	1.5 SCFH per orifice (1000L/hr)	see table 01
NAP	Calsonic (N) (Orange)	Calsonic (N) (Orange)	CO ₂	66 - 68 psig	65 psig	5 psig	1.5 SCFH per orifice (1000L/hr)	
NAP	Calsonic (B) (Brown)	Calsonic (B) (Brown)	Hydrazine	66 - 68 psig	65 psig	5 psig	1.5 SCFH per orifice (1000L/hr)	
NAP	Napco (N) (Navy Blue)	Napco (N) (Navy Blue)	NO or H ₂ O	100 - 105 psig	200 psig	5 psig	1.5 SCFH per orifice (1000L/hr) 1000L/hr	see table 04
NAP	Napco (B) (Brown)	Napco (B) (Brown)	NO	66 - 68 psig	65 psig	5 psig	1.5 SCFH per orifice (1000L/hr)	
NAP	Onyx (N) (Navy Blue)	Onyx (N) (Navy Blue)	CO	66 - 68 psig	65 psig	5 psig	1.5 SCFH per orifice (1000L/hr)	see table 01
NAP	Onyx (B) (Brown)	Onyx (B) (Brown)	Medicat	66 - 68 psig	65 psig	5 psig	1.5 SCFH per orifice (1000L/hr)	see table 02
Water Vapor	Water Vapor (N) (Navy Blue)	Water Vapor (N) (Navy Blue)	WASCO	Varies with pressure (2000L/hr)		NA	Not a standard, consult manufacturer for details to determine flow rate for a 3 orifice flow of 30 (1.5 SCFH) through the detector	

Note #1 - Any room (Critical Care Area) designed for a permanently located respiratory ventilator or anesthesia machine shall have an outlet capable of a transient flow rate of 170 LPM (6 SCFM) for 3 seconds at the station outlet.

Note #3 - WAGD (Waste Anesthetic Gas Disposal) systems employing a design where the WAGD Inlet are "tied in" to MedVac Inlets must produce the same flow rates as the MedVac Inlets.

Note #4 - Nitrogen system requires nitrogen supplied directly from facility supply line rated at 185psi MN to 200psi MAX. Avoid designs which feature multiple-in-line Nitrogen control systems in order to avoid loss of flow capability.

Additional references: Health Care Facilities Handbook 2002, Section 5.1.11, page 211 and section 5.1.12.13.10.1 thru 5.1.12.3.10.5, page 224.
NFPA 99, 2002 guidelines figure A.5.1.6.

MEDICAL GAS REQUIREMENTS - Medical Gas / Piping Engineer

Notes:

- Medical gas riser plates comply with NFPA 99-2005 Edition Cleanliness of gas outlets must be maintained through installation.
- Purge gas lines and test at least 24 hrs. prior to installation.
- Test results must be made available to SKYTRON for verification & comparison.

Each Skytroom fixture is fabricated in accordance to the specifications required by the customer. The configuration drawings supplied by SKYTRON will indicate the type and quantity of gas supply lines required. D.I.S.S. connection medical grade hoses connect the fixture to the riser plate connectors. The customer is responsible to deliver the appropriate medical gas from the facility supply to the riser plate connectors and for the design of a medical gas system with adequate flow capacity capable of compensating for the accumulative flow restrictions associated with conventional construction methods i.e. flex gas hoses. SKYTRON provides medical gas riser plate(s) and the appropriate connectors for attachment to the Mounting Plate. The riser plate attaches to the mounting plate and will accommodate up to 12 gas connectors. The connectors are D.I.S.S. type medical gas connectors with single check valves and provide a 1/2" copper tube for attachment to facility supply lines. Caps are provided with Vacuum & WAGD gas connectors to facilitate testing procedures.

All connection and testing of medical gas piping to be performed in accordance with NFPA 9-2005 Edition-5.1.6 requirements.

Recommended Gas Riser Placement

When mount is in center of room, riser plate should face head end of room, when mount is near walls, riser plate should be adjacent to wall. If more than one riser plate is required they should be placed next to each other.

INITIAL: KUB
DATE: 1/5/12

This diagram illustrates the exploded view of a junction box assembly. The components shown include:

- BRACKET**: A long, flat metal plate with mounting holes, positioned to be attached to the side of the junction box.
- JUNCTION BOX**: The main rectangular enclosure, shown in an exploded view with its front cover plate.
- RISER PLATE**: A vertical plate that will be mounted to the top of the junction box.
- INLET TUBE**: A vertical tube that will be inserted into the bottom of the junction box.

Arrows indicate the assembly path for each component.

NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Mounting bolts and nuts shipped with fixture.

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

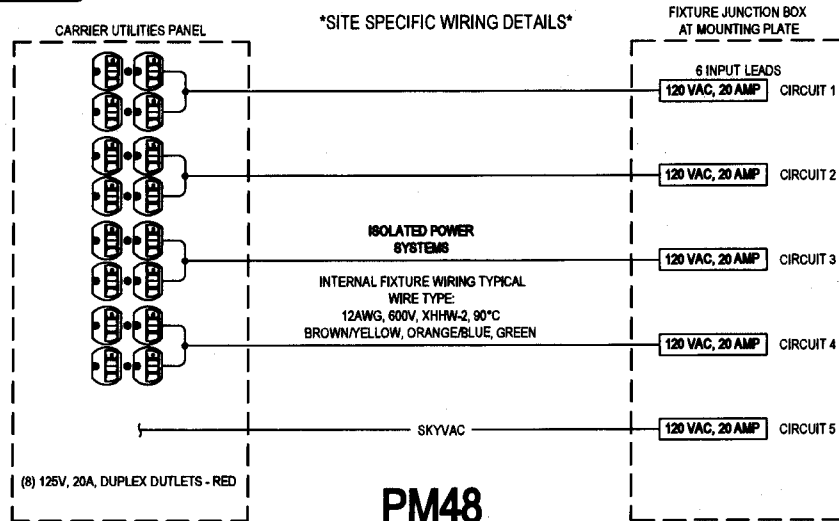
VA IOWA CITY

MODEL #: ETM2FPM48/2EFCM6

REV. # 0

DESCRIPTION: MEDICAL GAS DETAILS

SHEET
13



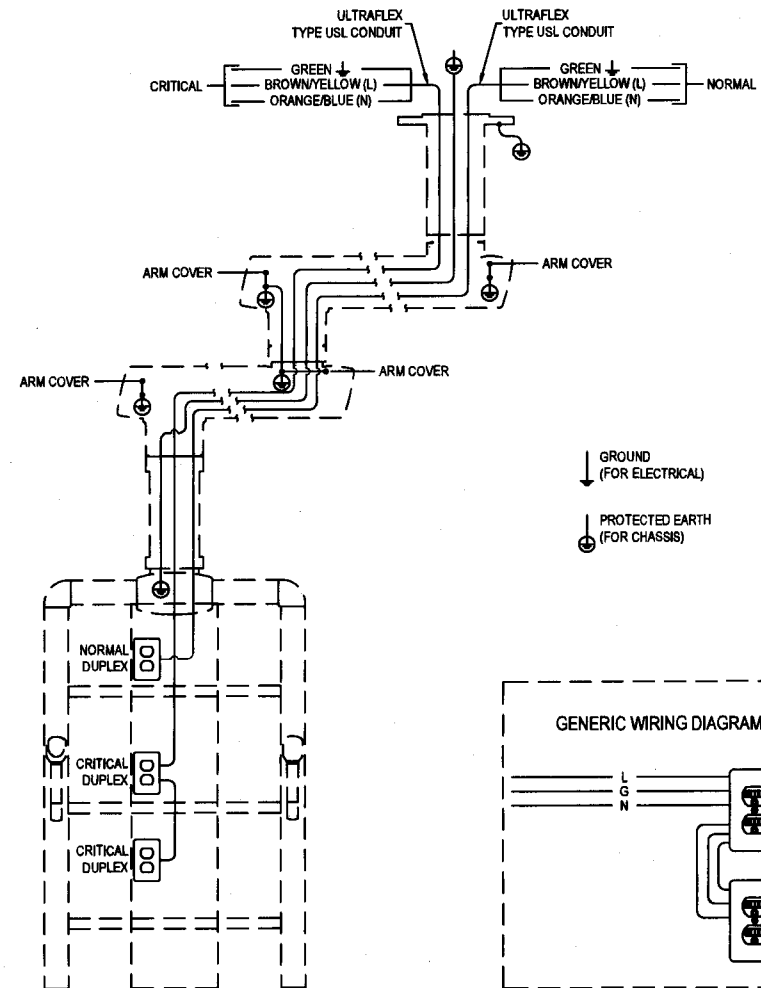
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: MB
DATE: 1/5/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS

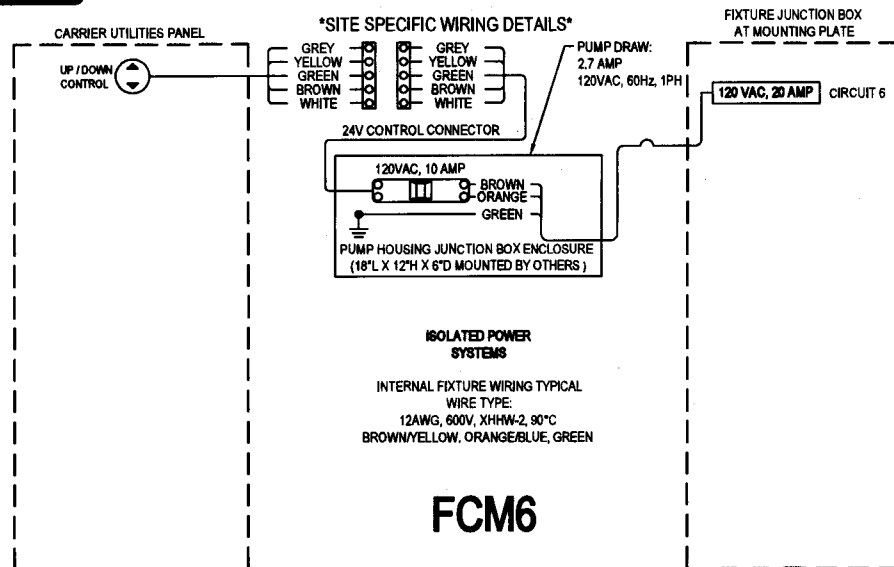


PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: ETM2FPM48/2EFCM6
QTY.: 1
REV. #: 1
DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
14a



FCM6

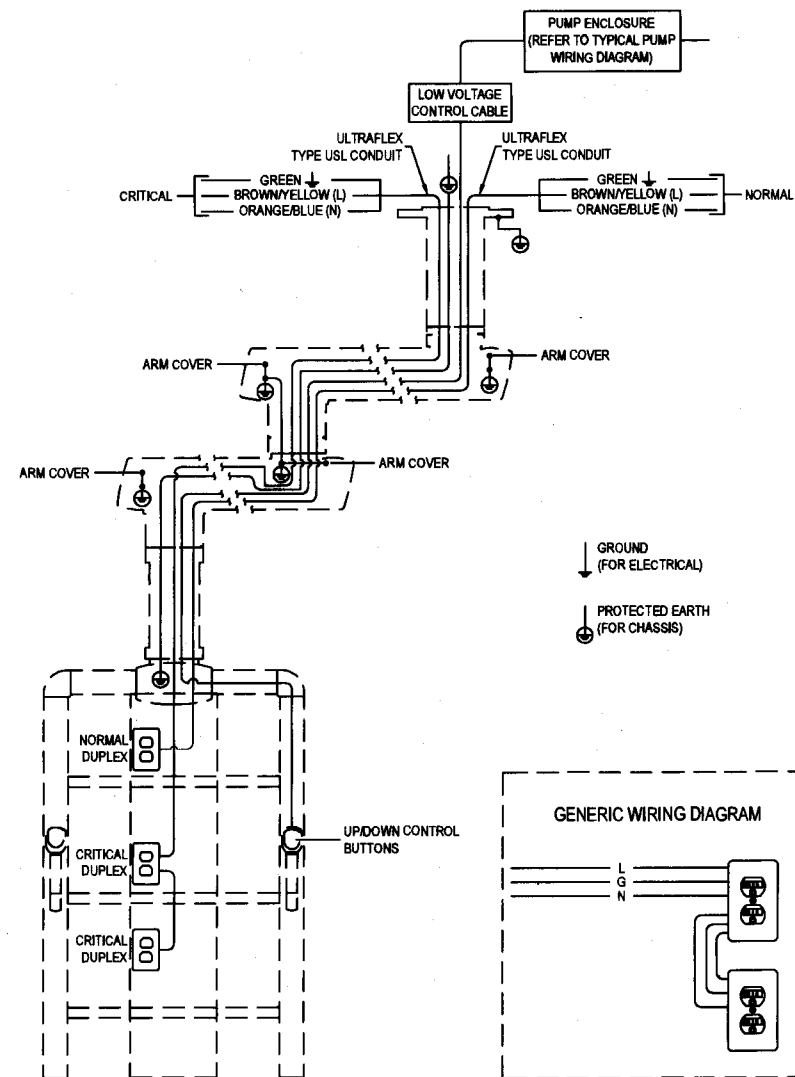
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8\"/>

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: MMB
DATE: 1/5/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR HEIGHT ADJUSTABLE ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: ETM2FPM48/2EFCM6
QTY.: 1
REV. #: 1

DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
14b



SITE SPECIFIC COMMUNICATION DETAILS

MOUNTING HUB
(male connectors)

UTILITIES CARRIER
(female connectors)

ALL CABLING TO BE
PROVIDED BY OTHERS

- ☒ RJ45 (NO CABLE)
- ☒ RJ45 (NO CABLE)
- ☒ RJ45 (NO CABLE)
- ☒ RJ45 (NO CABLE)
- ☒ RJ45 (NO CABLE)
- ☒ RJ45 (NO CABLE)

COMMUNICATIONS REQUIREMENTS - Communication/Video/Data Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of cables required. The customer is responsible for the appropriate communication cable routing to the fixture. Special arrangements can be coordinated for custom cable sets to be installed at the time of installation. Contact your SKYTRON representative.

SKYVISION REQUIREMENTS - Communication/Video/Data Engineer

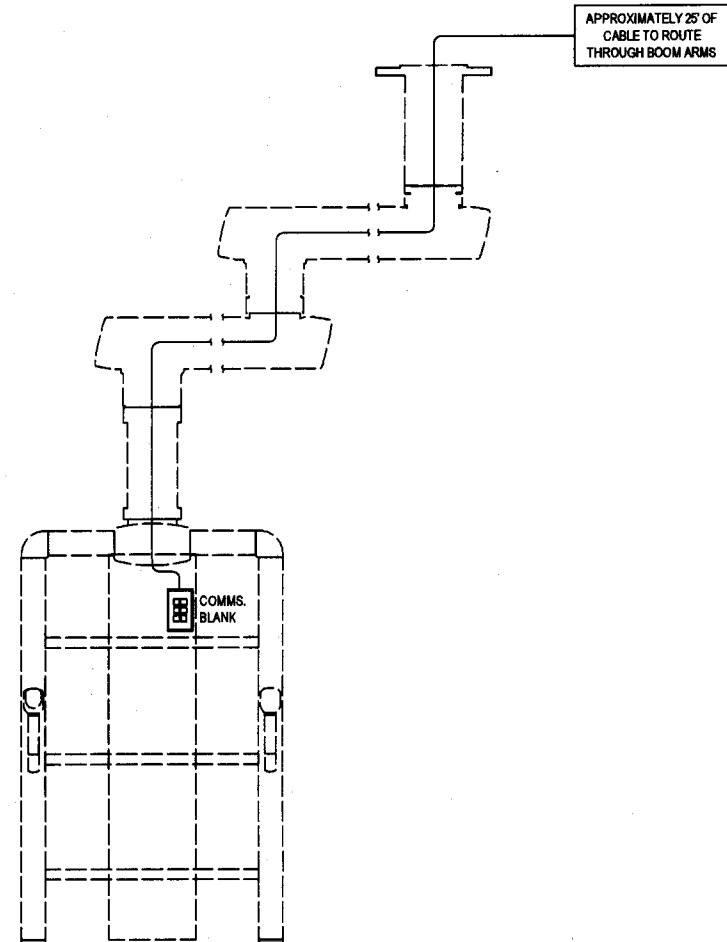
The conversion boxes are installed in the boom arm equipment carriers. The conversion boxes convert a copper wire signal (digital or analog) to a fiber-optic digital signal and vice-versa. Low voltage power lines are the only other type of connection utilized to and from the SkyVision system.

Notes:

- Customer will be responsible for supply and installation of all conduit and electrical junction boxes.
- Customer will provide SKYTRON with all customer provided equipment source signal specifications including signal output type, power requirements and cable connector types.
- At time of installation, customer provided systems and equipment must be in place and working in order for SKYTRON to complete system installation and testing. If customer provided systems are not in place and working during the SKYTRON installation delays may occur.

INITIAL: PCB
DATE: 1/5/12

GENERIC BOOM COMMUNICATIONS WIRING DIAGRAM



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

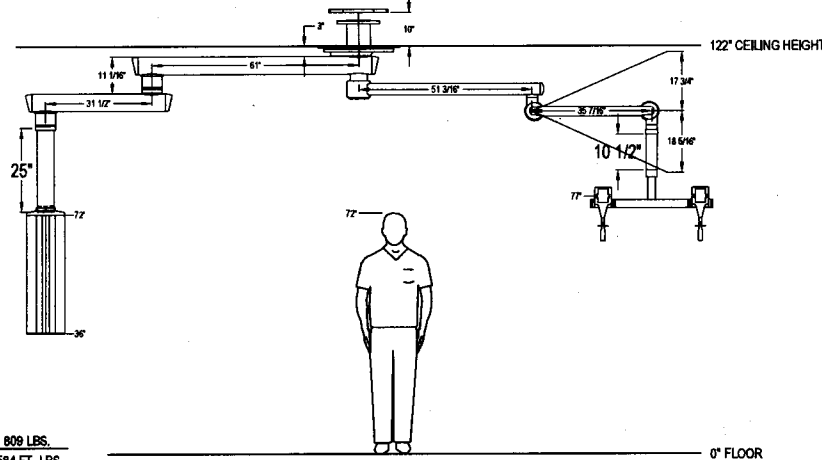
VA IOWA CITY

MODEL #: ETM2FPM48/2EFCM6
QTY.: 1
REV. #: 0
DESCRIPTION: COMMUNICATIONS DETAILS

SHEET
15



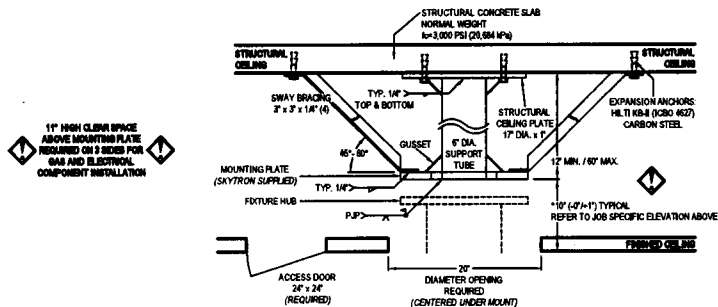
SITE SPECIFIC ELEVATION DETAILS



FIXTURE WEIGHT: 809 LBS.
MOMENT LOAD: 4584 FT. LBS.
OPA NUMBER: 2510-07

GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: *RUB*
DATE: *1/5/12*

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Mounting Structure Components

The fabrication of each mounting structure may be slightly different but they each require the same basic components to ensure stability.

Sway Bracing (by others)

Sway bracing is designed to rigidly affix the mounting plate to the structural ceiling. The primary purpose of sway bracing is to eliminate sway, or lateral twisting and flexing of the mounting structure as it "reacts" to dynamic load changes caused by moving the fixture radial arms. The sway bracing should be welded to the mounting plate and extend away from the center of the mount. A minimum of four sway braces placed 90° apart and positioned at a 45° and 60° angle is recommended.

Minimum recommended material for sway bracing is 3" x 3" x 1/4" angle iron. It is recommended that in all applications that the sway bracing be fastened to the structural ceiling.

Structural Ceiling Plate (by others)

The structural ceiling plate rigidly attaches the mount to the structural ceiling using structural anchors appropriate for the ceiling construction. The structural ceiling plate should be a minimum of, 1" ASTM A36 steel plate, 17" diameter with (6) 5/8" diameter holes for structural anchors and is fabricated by others.

Expansion Anchors

Test 50% of the anchors at 2,000 pounds (907 kg) tension, or 50 ft. lb. (68 N•m) torque per CBC 1925A.3.5. Installed anchors must meet the following criteria:

1. **Hydraulic Ram Method:** The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
2. **Torque Wrench Method (Wedge or Sleeve Type):** The applicable test torque must be reached within one-half (1/2) turn of the nut. Testing should occur no sooner than 24 hours after installation of anchors. If any anchor fails testing, test all anchors until 20 consecutive anchors pass, then resume the initial testing frequency. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

Support Tube (by others)

The support tube required to attach the mounting plate to the structural ceiling plate is ASTM 500 Grade B, 6" diameter tube. Support tube is to be welded to structural ceiling plate and mounting plate. A minimum of 6 gussets placed 60° apart should be welded to support tube at the structural ceiling plate and the mounting plate.

Mounting Plate (SKYTRON supplied)

The 17.5" x 17.5" x 1" ASTM A36 steel mounting plate is a SKYTRON supplied item. The Support tube and sway bracing are welded to the mounting plate. The mounting plate contains the corresponding bolt pattern for attaching the fixture and provides the mounting areas for the junction box and gas riser plates.

Mounting Structure Design

Seismic structural applications may differ. Please contact your local SKYTRON distributor for specific calculations. The mounting structure must be designed and fabricated to position the bottom of the SKYTRON mounting plate 10" (-0", +1") above the finished ceiling. This is a critical dimension in order to accommodate proper clearance required for ceiling cover function. The mounting plate must be perfectly level (+/- 0.1") and allow no more than two-tenths of a degree (0.2") of rotation at the mounting plate when the specified load is applied. The mounting structure must be tested for strength and stiffness prior to installation of the fixture. Please contact your SKYTRON representative to schedule testing.

Please consult your SKYTRON representative during early stages of construction to facilitate this process. The testing process is a required, documented function prior to closing of the finished ceiling.

Ceiling Requirements

A 24" x 24" access door must be mounted adjacent to the mounting structure for entry by service personnel for service access.

SKYTRON provides a 24" ceiling cover designed to cover 20" diameter ceiling hole cutout.

Additional Skytron Supplied Items

In addition to the pre-installation kit, SKYTRON provides the following items:
(6) 1-1/4" x 10" threaded rods, (24) 1-1/4" hex nuts, pump enclosure (if applicable)

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SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

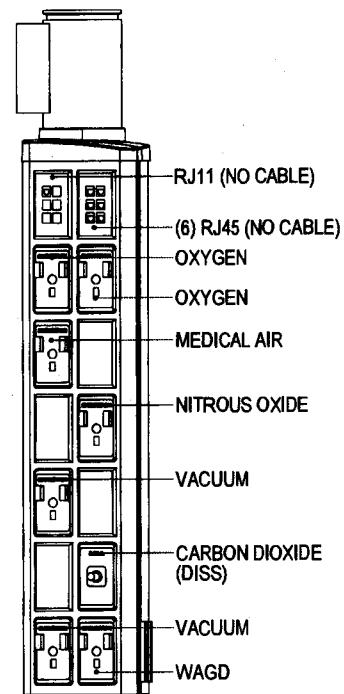
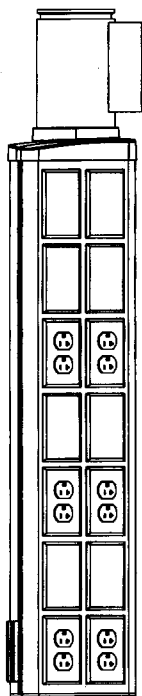
MODEL #: ET2FVBM36/2AFC2
QTY.: 1
REV. #: 0
DESCRIPTION: ELEVATION DETAILS

SHEET
J1



ACCESSORY LIST

- (1) MOUNTING BLOCK FOR VST MOUNT
- (2) BOLT-ON VACUUM SLIDES



INITIAL: *RUB*
DATE: *1/11/12*

CARRIER
DIMENSIONS: 37"H x 11.5"W x 8"D

GAS OUTLETS: CHEMETRON

ELECTRICAL: (6) 125V, 20A DUPLEX - RED

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

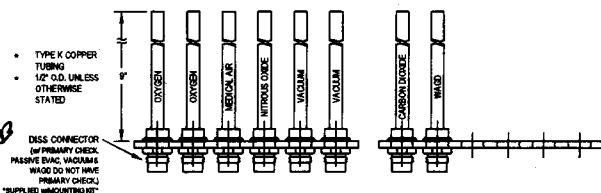
VA IOWA CITY

MODEL #: ET2FVBM36/2AFC2
QTY: 1
DESCRIPTION: CARRIER DETAILS

SHEET
J2



SITE SPECIFIC GAS DETAILS



Test Gas	AGA Color Standard	Canada Color Standard	Abbreviated Name	Standard Pressure	Maximum Pressure	Allowable Pressure Drop	Maximum Flow Rate	
N ₂ O	(Yellow)	(Blue)	MedAir	55 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1100L/min)	see note #1
O ₂	(Blue)	(Red)	CO ₂	55 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1100L/min)	
MedAir	(Blue)	(Red)	MedAir	55 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1100L/min)	
N ₂	(Yellow)	(Blue)	N ₂ or N ₂ O	185 - 195 psig	205 psig	5 psig	3.5 SCFM per outlet (1100L/min)	see note #4
MedVac	(Blue)	(Red)	MedVac	55 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1100L/min)	
WAGD	(Blue)	(Red)	WAGD	55 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1100L/min)	see note #2
Vacuum	(Blue)	(Red)	Vacuum	55 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1100L/min)	see note #3
CO ₂	(Blue)	(Red)	CO ₂	55 - 65 psig	65 psig	5 psig	3.5 SCFM per outlet (1100L/min)	see note #4

Note #1 - Any room (Critical Care Area) designed for a permanently located respiratory ventilator or anesthesia machine shall have an outlet capable of a transient flow rate of 170 LPM (6 SCFM) for 9 seconds at the station outlet.

Note #2 - For testing and certification purposes, individual station inlets shall be capable of a flow rate of 3 SCFM while maintaining a system pressure of not less than 12" (300mm) of the nearest adjacent vacuum inlet. Facility supply must be 115 LPM (4.1 SCFM). Vacuum D.I.S.S. connectors must primary check valves for optimal flow. 120V/60.

Note #3 - WAGD (Waste Anesthetic Gas Disposal) systems employing a design where the WAGD lines are "tied in" to MedVac lines must produce the same flow rates as the MedVac inlets.

Note #4 - Nitrogen system requires nitrogen supplied directly from facility supply line rated at 185psig MIN to 200psig MAX. Avoid designs which feature multiple-in-line Nitrogen control systems in order to avoid loss of flow capability.

Additional references: Health Care Facilities Handbook 2002, Section 5.1.11, page 211 and section 5.1.12.13, 14.1 thru 5.1.12.3, 10.5, page 224.
NFPA 99, 2002 guideline figure A.5.1.6.

MEDICAL GAS REQUIREMENTS - Medical Gas / Piping Engineer

Notes:

- Medical gas riser plates comply with NFPA 99-2005 Edition Cleanliness of gas outlets must be maintained through installation.
- Purge gas lines and test at least 24 hrs. prior to installation.
- Test results must be made available to SKYTRON for verification & comparison.

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The configuration drawings supplied by SKYTRON will indicate the type and quantity of gas supply lines required. D.I.S.S. connection medical grade hoses connect the fixture to the riser plate connectors. The customer is responsible to deliver the appropriate medical gas from the facility supply to the riser plate connectors and for the design of a medical gas system with adequate flow capacity capable of compensating for the accumulative flow restrictions associated with conventional construction methods i.e. flex gas hoses. SKYTRON provides medical gas riser plate(s) and the appropriate connectors for attachment to the Mounting Plate. The riser plate attaches to the mounting plate and will accommodate up to 12 gas connectors. The connectors are D.I.S.S. type medical gas connectors with single check valves and provide a 1/2" copper tube for attachment to facility supply lines. Caps are provided with Vacuum & WAGD gas connectors to facilitate testing procedures.

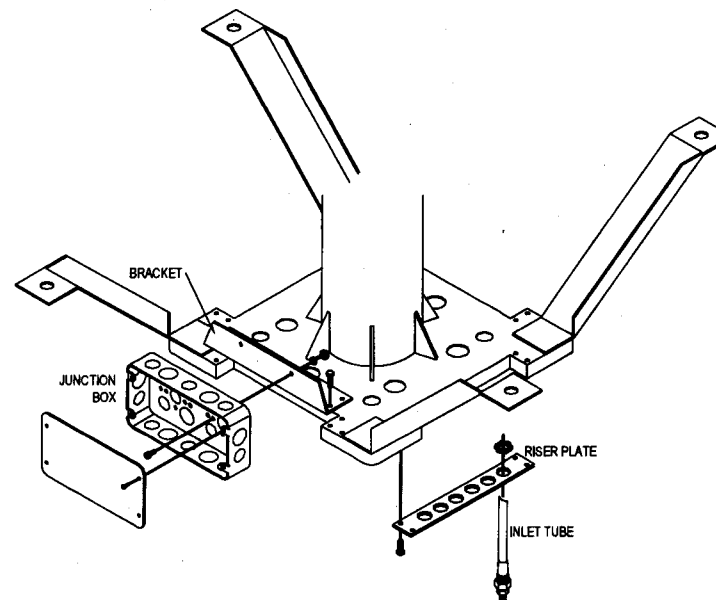
All connection and testing of medical gas piping to be performed in accordance with NFPA 9-2005 Edition-5.1.6 requirements.

Recommended Gas Riser Placement

When mount is in center of room, riser plate should face head end of room, when mount is near walls, riser plate should be adjacent to wall. If more than one riser plate is required they should be placed next to each other.

INITIAL: *[Signature]*
DATE: 1/11/12

GENERIC RISER PLATE INSTALLATION



NOTES:

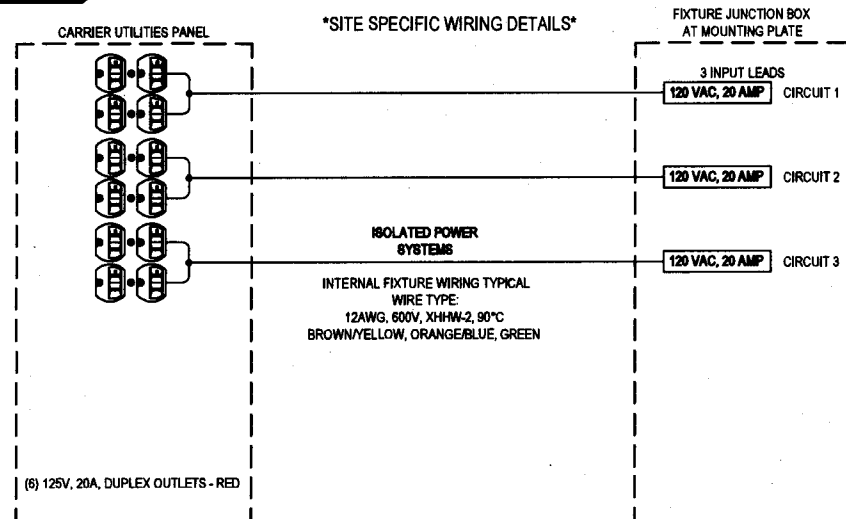
- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Mounting bolts and nuts shipped with fixture.

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: ET2FVBM36/2AFC2
QTY.: 1
REV. #: 0
DESCRIPTION: MEDICAL GAS DETAILS

SHEET
J3



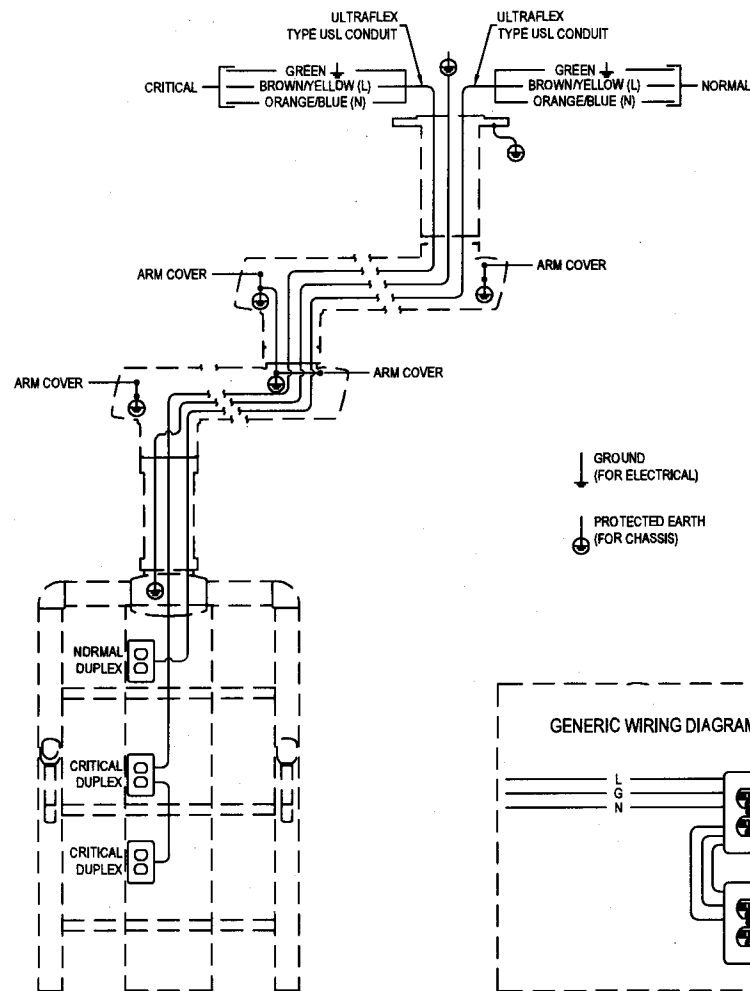
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: MB
DATE: 1/11/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: ET2FVBM36/2AFC2
QTY.: 1
REV. #: 1

DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
J4



SITE SPECIFIC COMMUNICATION DETAILS

MOUNTING HUB
(male connections)

UTILITIES CARRIER
(female connections)

ALL CABLING TO BE
PROVIDED BY OTHERS

☐ RJ11 (NO CABLE)

☐ RJ45 (NO CABLE)

☐ RJ45 (NO CABLE)

☐ RJ45 (NO CABLE)

☐ RJ45 (NO CABLE)

☐ RJ45 (NO CABLE)

☐ RJ45 (NO CABLE)

COMMUNICATIONS REQUIREMENTS - Communication/Media/Data Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of cables required. The customer is responsible for the appropriate communication cable routing to the fixture. Special arrangements can be coordinated for custom cable sets to be installed at the time of installation. Contact your SKYTRON representative.

SKYVISION REQUIREMENTS - Communication/Media/Data Engineer

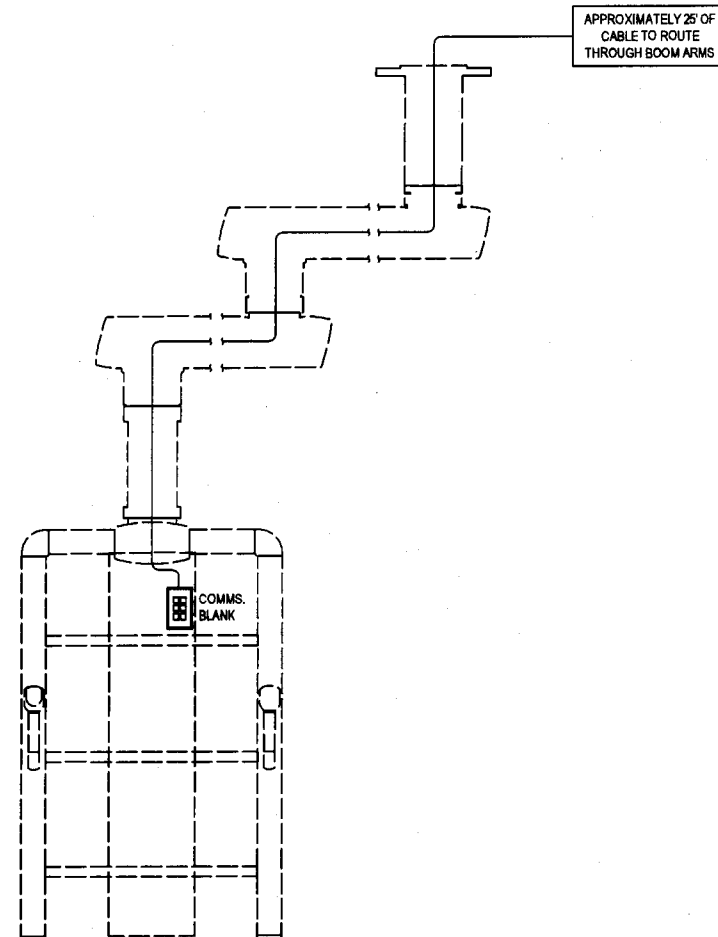
The conversion boxes are installed in the boom arm equipment carriers. The conversion boxes convert a copper wire signal (digital or analog) to a fiber-optic digital signal and vice-versa. Low voltage power lines are the only other type of connection utilized to and from the SkyVision system.

Notes:

- Customer will be responsible for supply and installation of all conduit and electrical junction boxes.
- Customer will provide SKYTRON with all customer provided equipment source signal specifications including signal output type, power requirements and cable connector types.
- At time of installation, customer provided systems and equipment must be in place and working in order for SKYTRON to complete system installation and testing. If customer provided systems are not in place and working during the SKYTRON installation delays may occur.

INITIAL: PHB
DATE: 1/11/12

GENERIC BOOM COMMUNICATIONS WIRING DIAGRAM



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

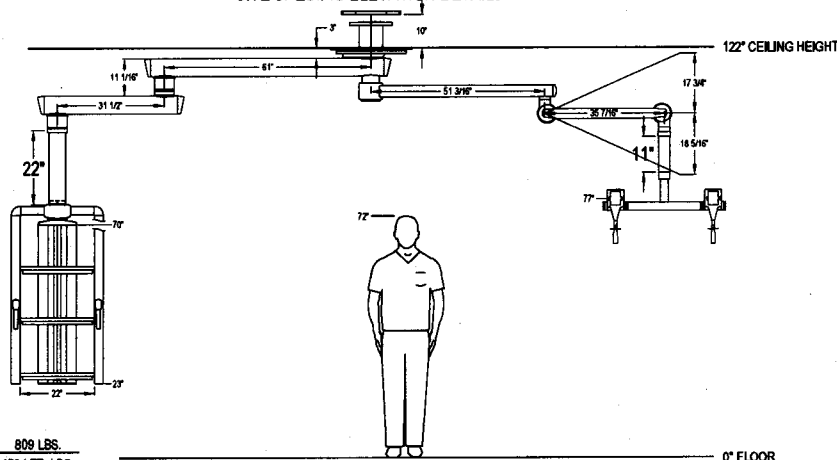
VA IOWA CITY

MODEL #: ET2FVBM36/2AFC2
QTY.: 1
REV. #: 0
DESCRIPTION: COMMUNICATIONS DETAILS

SHEET
J5



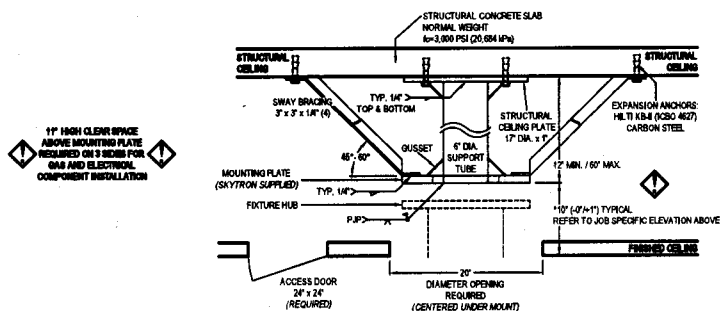
SITE SPECIFIC ELEVATION DETAILS



FIXTUREWEIGHT: 809 LBS.
MOMENT LOAD: 4584 FT. LBS.
OPA NUMBER: 2510-07

GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: *PLB*
DATE: 7/11/12

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Mounting Structure Components

The fabrication of each mounting structure may be slightly different but they each require the same basic components to ensure stability.

Sway Bracing (by others)

Sway bracing is designed to rigidly affix the mounting plate to the structural ceiling. The primary purpose of sway bracing is to eliminate sway, or lateral twisting and flexing of the mounting structure as it "reacts" to dynamic load changes caused by moving the fixture radial arms. The sway bracing should be welded to the mounting plate and extend away from the center of the mount. A minimum of four sway braces place 90° apart and positioned at a 45° and 60° angle is recommended.

Minimum recommended material for sway bracing is 3" x 3" x 1/4" angle iron. It is recommended that in all applications that the sway bracing be fastened to the structural ceiling.

Structural Ceiling Plate (by others)

The structural ceiling plate rigidly attaches the mount to the structural ceiling using structural anchors appropriate for the ceiling construction. The structural ceiling plate should be a minimum of, 1" ASTM A36 steel plate, 17" diameter with (6) 5/8" diameter holes for structural anchors and is fabricated by others.

Expansion Anchors

Test 50% of the anchors at 2,000 pounds (907 kg) tension, or 50 ft. lb. (68 N-m) torque per CBC 1925A.3.5. Installed anchors must meet the following criteria:

- Hydraulic Ram Method:** The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
- Torque Wrench Method (Wedge or Sleeve Type):** The applicable test torque must be reached within one-half (1/2) turn of the nut. Testing should occur no sooner than 24 hours after installation of anchors. If any anchor fails testing, test all anchors until 20 consecutive anchors pass, then resume the initial testing frequency. Test equipment is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.

Support Tube (by others)

The support tube required to attach the mounting plate to the structural ceiling plate is ASTM 500 Grade B, 6" diameter tube. Support tube is to be welded to structural ceiling plate and mounting plate. A minimum of 6 gussets placed 60° apart should be welded to support tube at the structural ceiling plate and the mounting plate.

Mounting Plate (SKYTRON supplied)

The 17.5" x 17.5" x 1" ASTM A36 steel mounting plate is a SKYTRON supplied item. The Support tube and sway bracing are welded to the mounting plate. The mounting plate contains the corresponding bolt pattern for attaching the fixture and provides the mounting areas for the junction box and gas riser plates.

Mounting Structure Design

Seismic structural applications may differ. Please contact your local SKYTRON distributor for specific calculations. The mounting structure must be designed and fabricated to position the bottom of the SKYTRON mounting plate 10" (-0", +1") above the finished ceiling. This is a critical dimension in order to accommodate proper clearance required for ceiling cover function. The mounting plate must be perfectly level (+/- 0.1") and allow no more than two-tenths of a degree (0.2") of rotation at the mounting plate when the specified load is applied. The mounting structure must be tested for strength and stiffness prior to installation of the fixture. Please contact your SKYTRON representative to schedule testing.

Please consult your SKYTRON representative during early stages of construction to facilitate this process. The testing process is a required, documented function prior to closing of the finished ceiling.

Ceiling Requirements

A 24" x 24" access door must be mounted adjacent to the mounting structure for entry by service personnel for service access.

SKYTRON provides a 24" ceiling cover designed to cover 20" diameter ceiling hole cutout.

Additional Skytron Supplied Items

In addition to the pre-installation kit, SKYTRON provides the following items:
(5) 1-1/4" x 10" threaded rods, (24) 1-1/4" hex nuts, pump enclosure (if applicable)

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

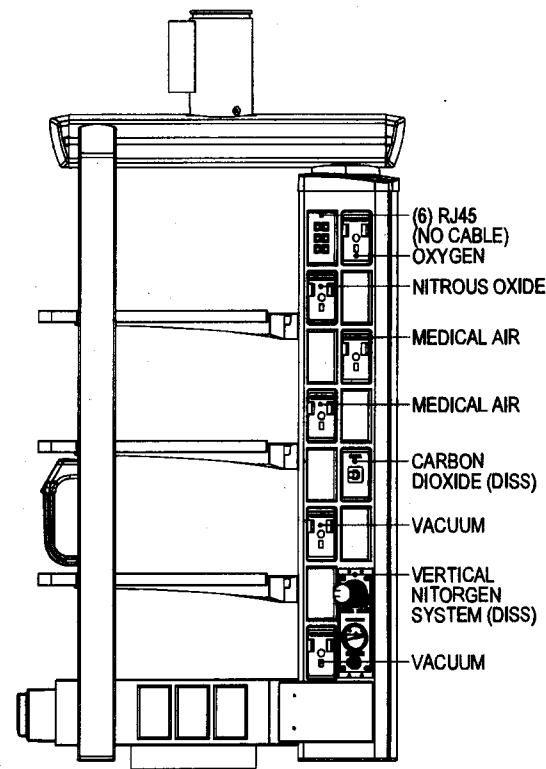
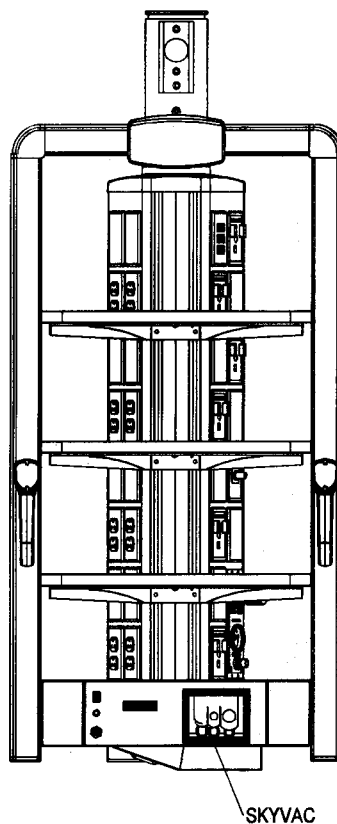
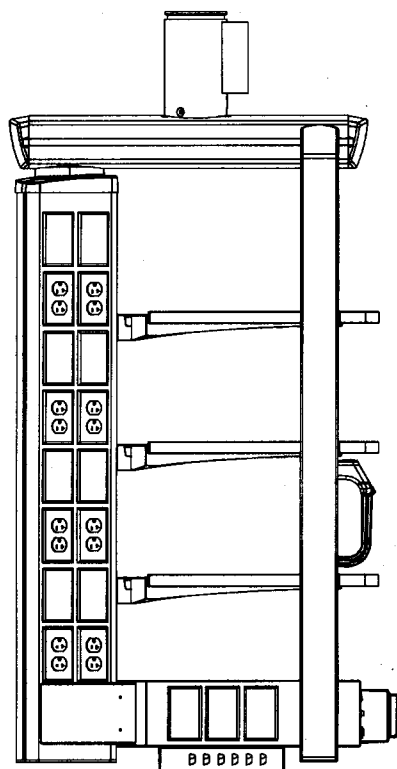
MODEL #: ET2FPM48/2AFC2
QTY.: 1
REV. #: 0
DESCRIPTION: ELEVATION DETAILS

SHEET
K1



ACCESSORY LIST

- (1) MOUNTING BLOCK FOR VST MOUNT
- (1) BASE UTILITY BOX 22"
- (1) BACK COVER (NOT SHOWN)
- (3) PMSH SHELF 22"



INITIAL: *RUB*
DATE: *1/11/12*

CARRIER
DIMENSIONS: 54"H x 27.5"W x 30"D

GAS OUTLETS: CHEMETRON

ELECTRICAL: (8) 125V, 20A DUPLEX - RED

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

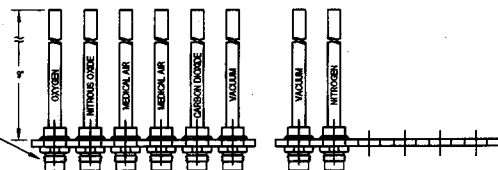
VA IOWA CITY

MODEL #: ET2FPM48/2AFC2
QTY: 1
REV #: 0
DESCRIPTION: CARRIER DETAILS

SHEET
K2



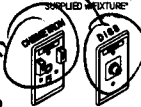
SITE SPECIFIC GAS DETAILS



- TYPE K COPPER TUBING
- 1/2" O.D. UNLESS OTHERWISE STATED

DISS CONNECTOR
(~~NOT~~ PRIMARY CHECK.
PASSIVE EVAC, VACUUM &
WAGO DO NOT HAVE
PRIMARY CHECK)
SUPPLIED w/MOUNTING KIT

GAS CONNECTOR ASSEMBLY



VERIFY AND INITIAL
GAS FACEPLATE
STYLE REQUESTED

Test Site	OSHA Order Standard	Consolidated Order Standard	Alternative Name	Standard Pressure	Minimum Pressure	Alternative Pressure Drop	Minimum Flow Rate	
NAPF	Medical Air (Yellow)	Medical Air (Yellow)	Medical	50 - 55 psig	5.0 psig	0 psig	3.5 SCFM per outlet (100% Inlet)	see note #1
NAPF	Clean Air (Gray)	Clean Air (Gray)	CO ₂	50 - 55 psig	5.0 psig	0 psig	3.5 SCFM per outlet (100% Inlet)	see note #1
NAPF	Breath Air (Green)	Breath Air (Green)	Nitrox	50 - 55 psig	5.0 psig	0 psig	2.5 SCFM per outlet (100% Inlet) 1.5 SCFM per outlet (100% Inlet) less air per outlet	see note #4
NAPF	Breath Air (Blue)	Breath Air (Blue)	Nitrox (PAP)	180 - 195 psig	200 psig	0 psig	3.5 SCFM per outlet (100% Inlet)	see note #4
NAPF	Breath Air (Blue)	Breath Air (Blue)	Nitrox	50 - 55 psig	5.0 psig	0 psig	3.5 SCFM per outlet (100% Inlet)	see note #2
NAPF	Oxygen (White)	Oxygen (White)	O ₂	50 - 55 psig	5.0 psig	0 psig	3.5 SCFM per outlet (100% Inlet)	see note #1
NAPF	Vacuum (Purple)	Vacuum (Purple)	Vacuum	120psi (20inHg)	N/A		1 SCFM per outlet (100% Inlet)	see note #2
NAPF	Waste Exhaust (Pink)	Waste Exhaust (Pink)	WAGO	Varies with system type			At a minimum, 150 CFM per 100 sq ft of area to be exhausted (14 SCFM through the ductwork)	see note #3
Note #1	Any room (Critical Care Area) designed for a permanently located respiratory ventilator or anesthesia machine shall have a outlet capable of a transient flow rate of 170 LPM (300 cfm) for 5 minutes at the station located.							
Note #2	For testing and certification purposes, individual outlets shall be capable of a flow rate of 3 SCFM, while maintaining a system pressure of not less than 12" (300mm) of water. Anesthetic Gas Vacuum inlet. Facility supply must be 115 LPM (AMSL D.S.) (vacuum D.S.S. connectors only primary check valves for optimal flow, 120psiHg)							
Note #3	WAGO (Waste Air Gas Outlet) vacuum systems employing a design when the WAGO lines are tied in to MedVac lines must produce the same flow rates as the MedVac lines.							
Note #4	Nitrogen system requires nitrogen supplied directly from facility supply line rated at 185psi (180 to 200psi) MAX. Avoid designs which feature multiple-in-line Nitrogen control systems in order to avoid loss of flow capacity.							

Additional references: Health Care Facilities Handbook 2002, Section 5.11 (page 21) and section 5.12, 10.3 and section 5.12, 10.3 and section 5.12, 10.3, page 224.
NFPA, 2002, paragraph 6.5A.1.6.

Note #1 - Any room (Critical Care Area) designed for a permanently located respiratory ventilator or anesthesia machine shall have an outlet capable of a transient flow rate of 170 LPM @ SCFPM for 3 seconds at the station outlet.

Note #2 - For testing and certification purposes, individual station inlets shall be capable of a flow rate of **3 SCFM**, while maintaining a system pressure of not less than 12" (30mm) at the nearest adjacent vacuum inlet. Facility supply must be 115 LPM MINIMUM. (Vacuum D.I.S.S. connectors omit primary check valves for optimal

Note (3) - WAGO (Waste Anesthetic Gas Disposal) systems employing a design where the WAGO lines are "tied in" to MedVac lines must produce the same flow rates as the

Note #4 - Nitrogen system requires nitrogen supplied directly from facility supply line rated at 185psi MN to 250psi MAX. Avoid designs which feature multiple-in-line Nitrogen control systems in order to avoid loss of flow capability.

Additional references: Health Care Facilities Handbook 2002, Section 5.1.11, page 211 and section 5.1.12, 13, 10.1 thru 5.1.12.3, 10.5, page 224
NFPA 99, 2002 guideline figure A.5.1.6.

MEDICAL GAS REQUIREMENTS - Medical Gas / Piping Engineer

Notes:

- Medical gas riser plates comply with NFPA 99-2005 Edition Cleanliness of gas outlets must be maintained through installation.
- Purge gas lines and test at least 24 hrs. prior to installation.
- Test results must be made available to SKYTRON for verification & comparison.

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The configuration drawings supplied by SKYTRON will indicate the type and quantity of gas supply lines required. D.I.S.S. connection medical grade hoses connect the fixture to the riser plate connectors. The customer is responsible to deliver the appropriate medical gas from the facility supply to the riser plate connectors and for the design of a medical gas system with adequate flow capacity capable of compensating for the accumulative flow restrictions associated with conventional construction methods i.e. flex gas hoses. SKYTRON provides medical gas riser plate(s) and the appropriate connectors for attachment to the Mounting Plate. The riser plate attaches to the mounting plate and will accommodate up to 12 gas connectors. The connectors are D.I.S.S. type medical gas connectors with single check valves and provide a 1/2" copper tube for attachment to facility supply lines. Caps are provided with Vacuum & WAGD gas connectors to facilitate testing procedures.

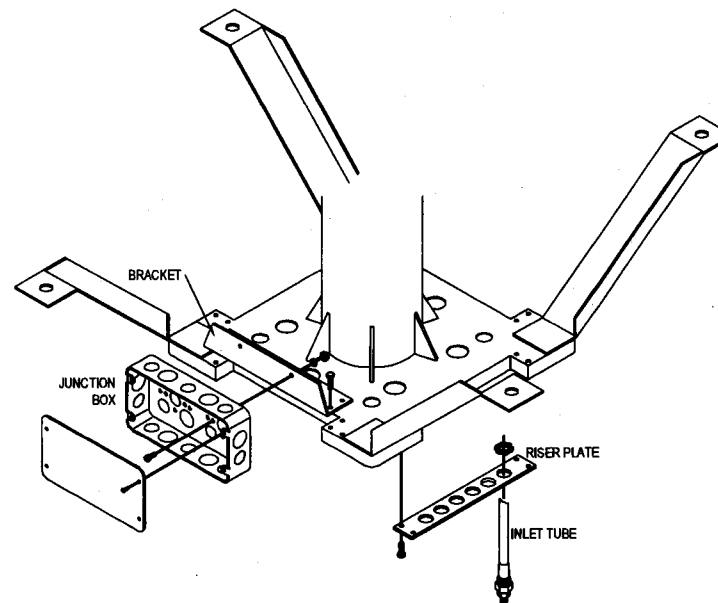
All connection and testing of medical gas piping to be performed in accordance with NFPA 9-2005 Edition-5.1.6 requirements.

Recommended Gas Riser Placement

When mount is in center of room, riser plate should face head end of room, when mount is near walls, riser plate should be adjacent to wall. If more than one riser plate is required they should be placed next to each other.

INITIAL: [Signature]
DATE: 1/11/12

GENERIC RISER PLATE INSTALLATION



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Mounting bolts and nuts shipped with fixture.

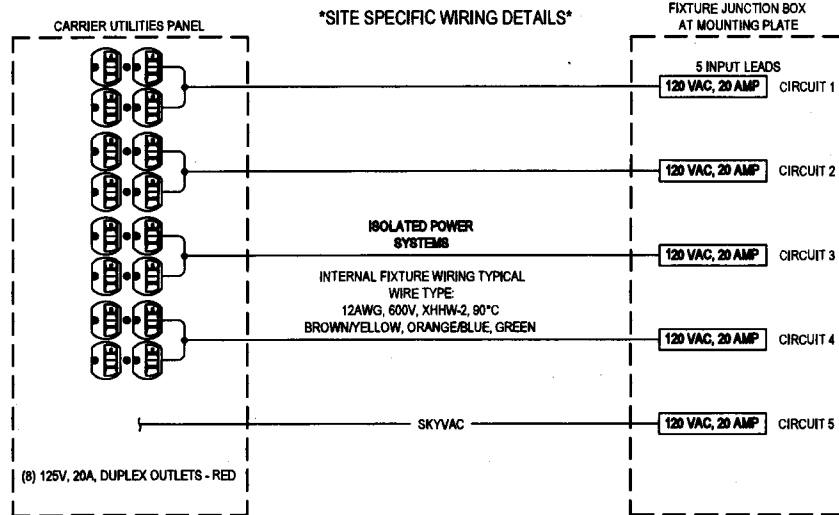
PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: ET2FPM48/2AFC2
QTY.: 1 REV. #: 0

DESCRIPTION: MEDICAL GAS DETAILS

SHEET
K3



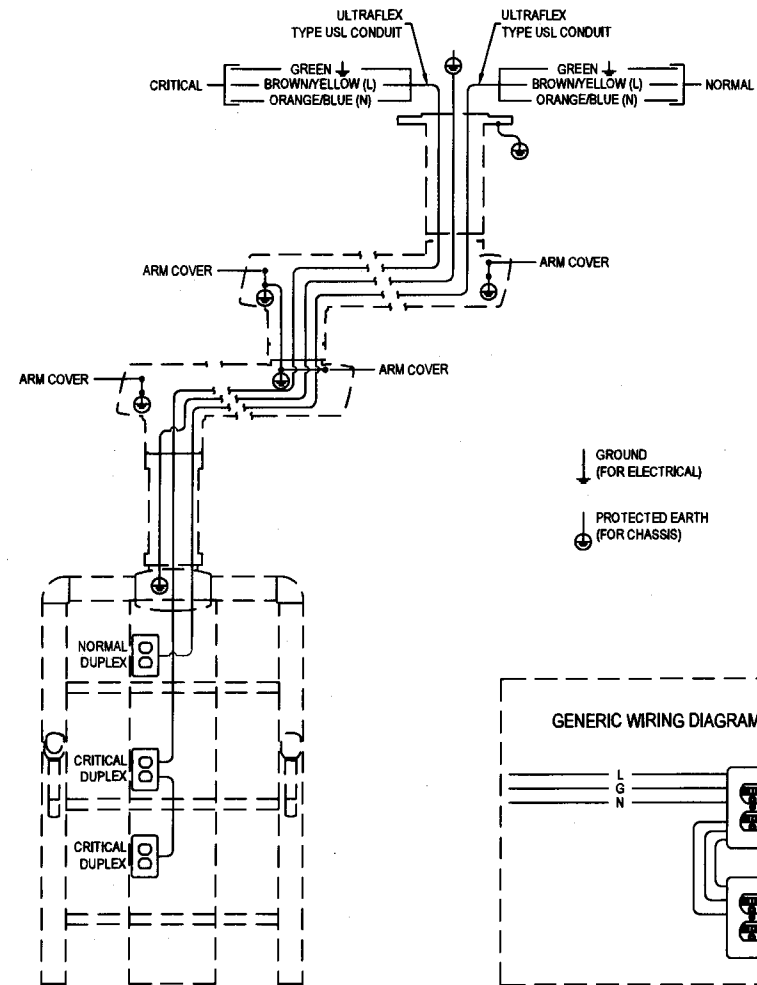
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: *KUR*
DATE: *1/11/12*

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: ET2FPM48/2AFC2
QTY.: 1
REV. #: 1
DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
K4



SITE SPECIFIC COMMUNICATION DETAILS

MOUNTING HUB
(male connectors)

UTILITIES CARRIER
(female connectors)

ALL CABLING TO BE
PROVIDED BY OTHERS

- ☒ RJ45 (NO CABLE)
- ☒ RJ45 (NO CABLE)
- ☒ RJ45 (NO CABLE)
- ☒ RJ45 (NO CABLE)
- ☒ RJ45 (NO CABLE)
- ☒ RJ45 (NO CABLE)

COMMUNICATIONS REQUIREMENTS - Communication/Mdeo/Data Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of cables required. The customer is responsible for the appropriate communication cable routing to the fixture. Special arrangements can be coordinated for custom cable sets to be installed at the time of installation. Contact your SKYTRON representative.

SKYVISION REQUIREMENTS - Communication/Mdeo/Data Engineer

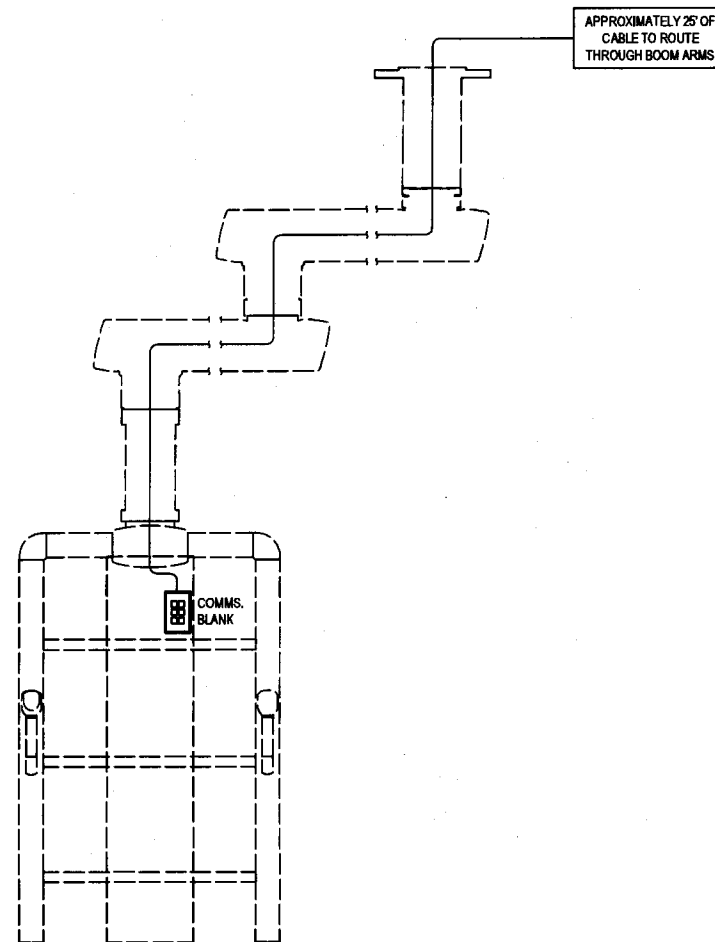
The conversion boxes are installed in the boom arm equipment carriers. The conversion boxes convert a copper wire signal (digital or analog) to a fiber-optic digital signal and vice-versa. Low voltage power lines are the only other type of connection utilized to and from the SkyVision system.

Notes:

- Customer will be responsible for supply and installation of all conduit and electrical junction boxes.
- Customer will provide SKYTRON with all customer provided equipment source signal specifications including signal output type, power requirements and cable connector types.
- At time of installation, customer provided systems and equipment must be in place and working in order for SKYTRON to complete system installation and testing. If customer provided systems are not in place and working during the SKYTRON installation delays may occur.

INITIAL: RAUB
DATE: 1/11/12

GENERIC BOOM COMMUNICATIONS WIRING DIAGRAM



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: ET2FPM48/2AFC2
QTY.: 1

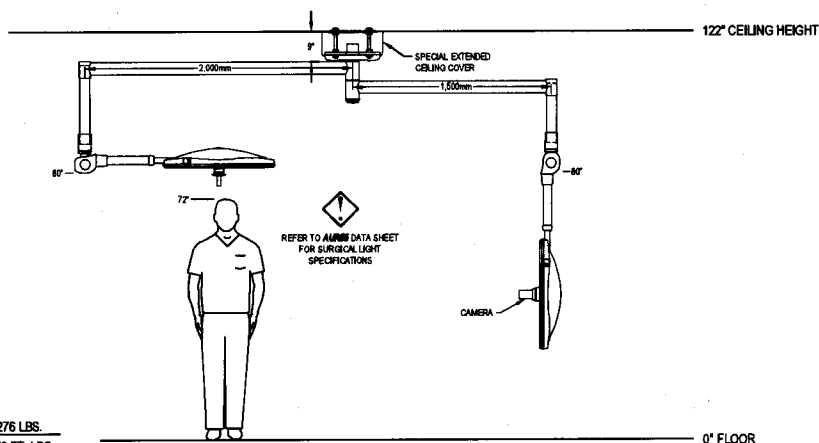
REV. #: 0

DESCRIPTION: COMMUNICATIONS DETAILS

SHEET
K5



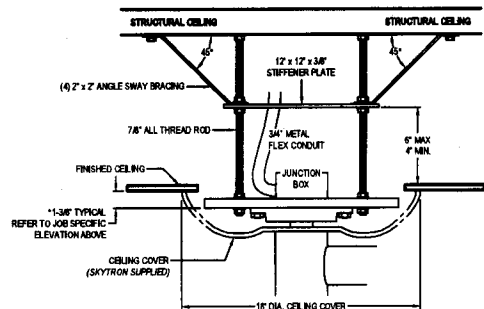
SITE SPECIFIC ELEVATION DETAILS



FIXTUREWEIGHT: 276 LBS.
MOMENT LOAD: 1578 FT. LBS.
OPA NUMBER: N/A

GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

INITIAL: *PUB*
DATE: *1/11/12*

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Notes

1. 7/8" support rods located for total support of light, all labor and materials for fabrication supplied by General Contractor. 7/8" nuts and washers for support of SKYTRON fixture supplied by contractor (8 ea. required).
2. The mounting structure must be attached to the structural ceiling and **BRACED TO ALLOW NO TWISTING OR LATERAL MOTION** and shall be designed not to provide a degree of rotation greater than two-tenths of a degree at the mounting plate.
3. 3/4" metal conduit and minimum 12AWG wire size (3 wires per lighthead plus fixture ground wire) required between fixture and SKYTRON supplied wall control. All conduit, wiring and other electrical materials as well as installation labor for the SKYTRON surgical light to be provided by Electrical Contractor. All installations of SKYTRON surgical lights should be under the direct supervision of a SKYTRON representative. All wiring to be in accordance with local codes and by a certified electrician.
4. Optional camera ready systems require a 1" diameter conduit from the fixture junction box to the camera control connector junction box. 65' camera control cable with faceplate and connector supplied by SKYTRON. Conduit and 2" x 4" junction box supplied by General or Electrical Contractor.
5. CONTRACTOR HAS FINAL RESPONSIBILITY for the strength and stability of the mounting structure.

This is a GENERAL GUIDELINE ONLY.

PROJECT #: 11-130-RG
SUBMITTAL

PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: AUR55TVC-2000/1500
QTY.: 1

REV. #: 0

DESCRIPTION: ELEVATION DETAILS

SHEET
11



CARRIER UTILITIES PANEL

SITE SPECIFIC WIRING DETAILS

FIXTURE JUNCTION BOX
AT MOUNTING PLATE

1 INPUT LEAD

ISOLATED POWER
SYSTEMS

INTERNAL FIXTURE WIRING TYPICAL
WIRE TYPE
12AWG, 600V, XHHW-2, 90°C
BROWN/YELLOW, ORANGE/BLUE, GREEN

LIGHT CIRCUIT
TO WALL CONTROL
SEE PAGE 6

120 VAC, 15 AMP
AURORA LIGHT

CIRCUIT 1

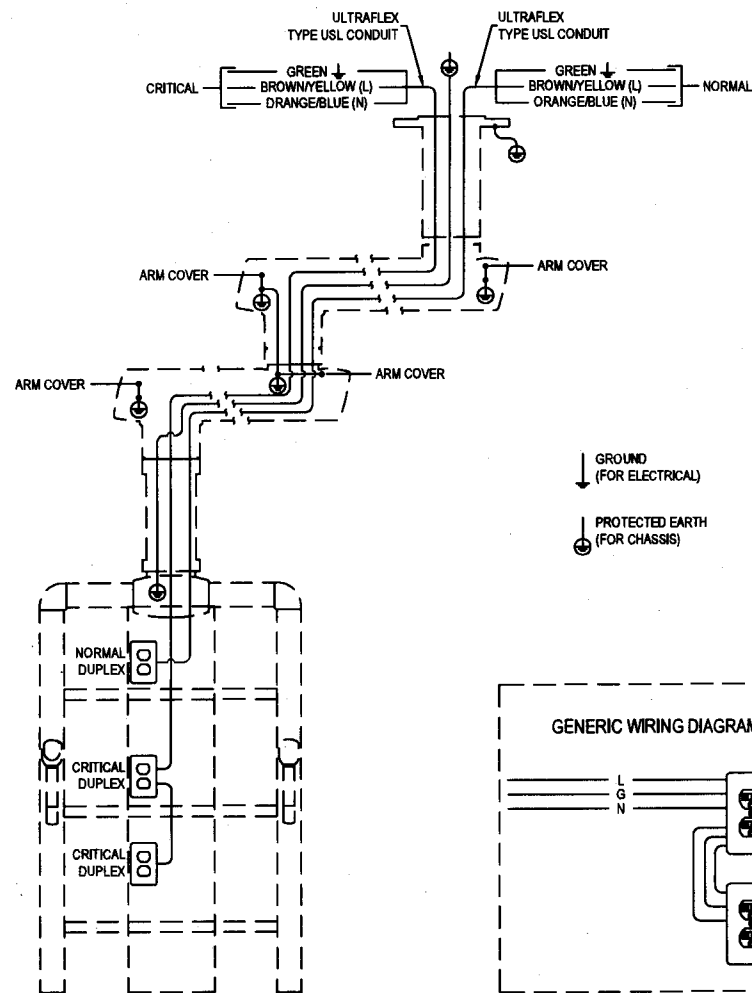
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: *[Signature]*
DATE: 1/11/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

MODEL #: AUR55TVC-2000/1500
QTY.: 2

REV. #: 1

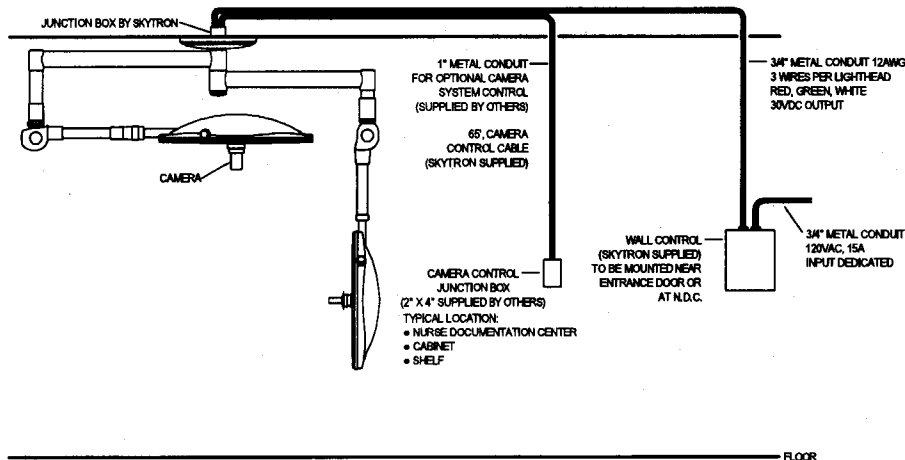
DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
L4



GENERIC LIGHT FIXTURE DETAILS

THIS DIAGRAM IS FOR INFORMATIONAL PURPOSES ONLY.
THIS WILL NOT MATCH YOUR EXACT MODEL.



SPECIAL GROUNDING REQUIREMENTS - Electrical Engineer

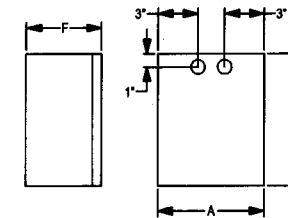
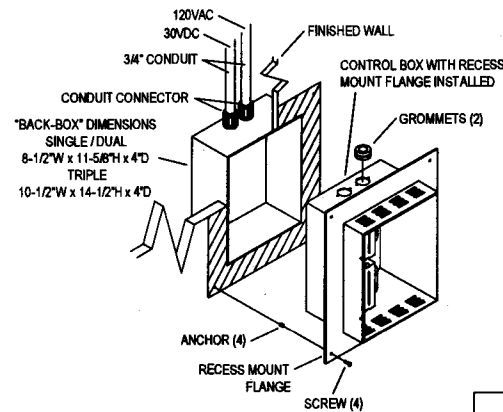
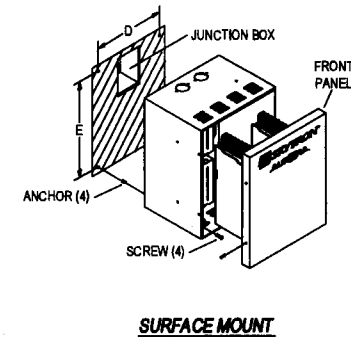
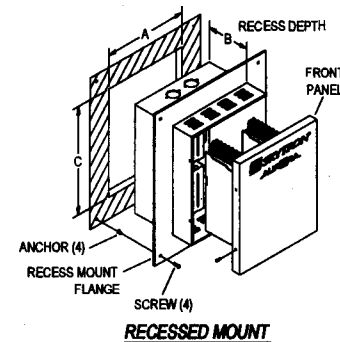
Proper performance and safety of this fixture can only be achieved by an adequate grounding system. Fixture ground must be a dedicated ground point ultimately bonded to the facilities grounding system to prevent the migration of electrical interference generated by other devices.

Notes:

- 2 Dedicated conduit runs required at wall control to separate 120VAC input lines from 30VDC output lines to light fixture to prevent migration of electrical magnetic interference which will disrupt the operation of the light.
- **No shared ground.** Each light head must have separate individual ground.

INITIAL: *[Signature]*
DATE: 1/11/12

GENERIC AURORA WALL CONTROL MOUNTING DETAILS



	DIMENSION	
	SINGLE / DUAL	TRIPLE
A	8"	10"
B	4"	4"
C	10"	13 - 1/2"
D	6 - 7/8"	8 - 5/8"
E	7 - 5/8"	11"
F	5 - 7/8"	8 - 3/8"
RECESS MOUNT FLANGE		
	11 - 3/4"W x 14"H	13 - 3/4"W x 17 - 1/4"H
OPA #: OPA-1807-07		

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: AUR55TVC-2000/1500

REV. #: 0

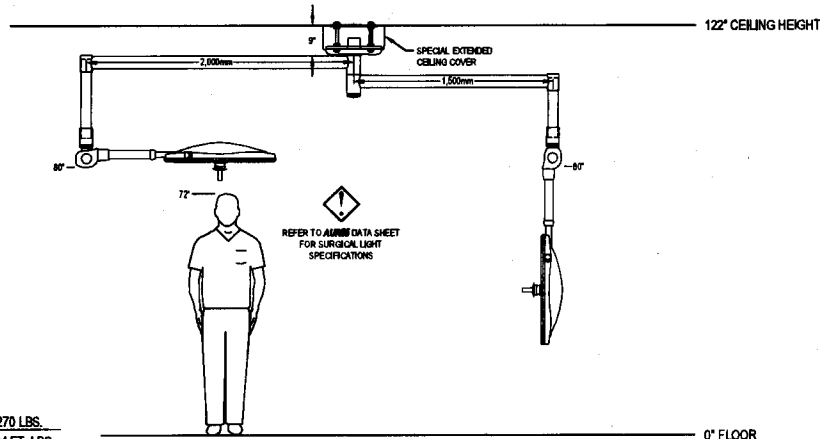
QTY.: 1

DESCRIPTION: LIGHT FIXTURE DETAILS

SHEET
L6



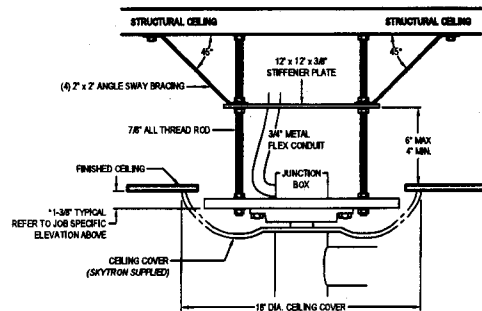
SITE SPECIFIC ELEVATION DETAILS



FIXTUREWEIGHT: 270 LBS.
MOMENT LOAD: 1534 FT. LBS.
OPA NUMBER: N/A

GENERIC MOUNTING STRUCTURE DETAILS

ALWAYS CONSULT SPECIFIC STRUCTURAL CRITERIA DEFINED BY A STRUCTURAL ENGINEER



NOTES:

- This illustration depicts a generic mounting structure design and its components. Always consult specific structural criteria defined by a structural engineer.
- Do not cover or block any holes with sway bracing, gussets, weld, weld slag or etc.
- Typical dimensions shown. Refer to specific structural drawings and/or Seismic drawings for each application.
- *Critical Dimension

STRUCTURAL REQUIREMENTS - Architect and Structural Engineer

Notes

1. 7/8" support rods located for total support of light, all labor and materials for fabrication supplied by General Contractor. 7/8" nuts and washers for support of SKYTRON fixture supplied by contractor (8 ea. required).
2. The mounting structure must be attached to the structural ceiling and **BRACED TO ALLOW NO TWISTING OR LATERAL MOTION** and shall be designed not to provide a degree of rotation greater than two-tenths of a degree at the mounting plate.
3. 3/4" metal conduit and minimum 12AWG wire size (3 wires per lighthouse plus fixture ground wire) required between fixture and SKYTRON supplied wall control. All conduit, wiring and other electrical materials as well as installation labor for the SKYTRON surgical light to be provided by Electrical Contractor. All installations of SKYTRON surgical lights should be under the direct supervision of a SKYTRON representative. All wiring to be in accordance with local codes and by a certified electrician.
4. Optional camera ready systems require a 1" diameter conduit from the fixture junction box to the camera control connector junction box. 65' camera control cable with faceplate and connector supplied by SKYTRON. Conduit and 2" x 4" junction box supplied by General or Electrical Contractor.
5. CONTRACTOR HAS FINAL RESPONSIBILITY for the strength and stability of the mounting structure.

This is a **GENERAL GUIDELINE ONLY.**

INITIAL: *KUB*
DATE: *1/11/12*

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: AUR55C-2000/1500
QTY.: 1
REV. #: 0
DESCRIPTION: ELEVATION DETAILS

SHEET
M1



CARRIER UTILITIES PANEL

SITE SPECIFIC WIRING DETAILS

FIXTURE JUNCTION BOX
AT MOUNTING PLATE

1 INPUT LEAD

ISOLATED POWER
SYSTEMS

INTERNAL FIXTURE WIRING TYPICAL
WIRE TYPE:
12AWG, 600V, XHHW-2, 90°C
BROWN/YELLOW, ORANGE/BLUE, GREEN

LIGHT CIRCUIT
TO WALL CONTROL
SEE PAGE 6

120 VAC, 15 AMP
AURORA LIGHT

CIRCUIT 1

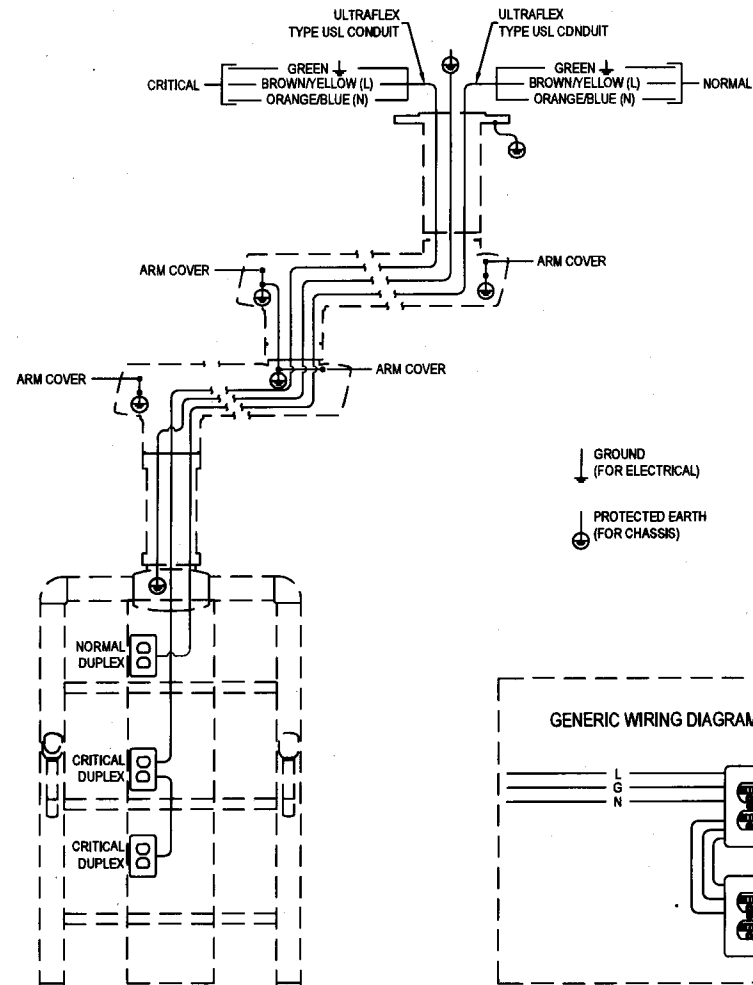
ELECTRICAL REQUIREMENTS - Electrical Engineer

Each Skyboom fixture is fabricated in accordance to the specifications required by the customer. The Configuration drawings supplied by SKYTRON will indicate the type and quantity of circuits required. SKYTRON provides all wiring and electrical materials for connection from fixture to junction box or pump enclosure (if applicable). SKYTRON supplies either an electrical junction box (8-5/8" x 4-5/8" x 1-3/4") to facilitate field wiring for up to six circuits that is mounted on the mounting plate in the correct position OR if applicable, a hydraulic pump enclosure/junction box (18"L x 6"W x 12"H) that is to be remote mounted within 24" of the mounting structure (by contractor). The pump enclosure can be shipped with the installation kit upon request. Typical wire type is 12AWG, 600V, XHHW-2. Each circuit requires a separate, properly circuit protected, 120VAC, 60Hz power supply line enclosed in rigid metal conduit. All electrical materials for connection to SKYTRON supplied junction box or pump enclosure and installation labor for such materials to be provided by customer. All wiring and materials to be in accordance with federal, state and local codes. It is the customer's responsibility to meet conformity to NFPA and NEC standards with respect to the number of receptacles provided in a patient care area.

Specific conductor colors and/or wiring for isolated applications are available upon request.

INITIAL: PLB
DATE: 1/11/12

GENERIC BOOM ELECTRICAL WIRING DIAGRAM FOR FIXED / SPRING ARMS



PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 1/3/2012

VA IOWA CITY

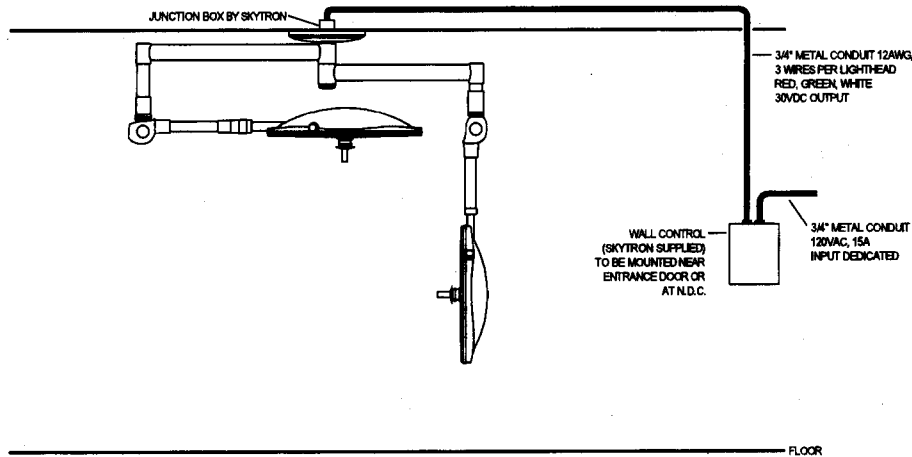
MODEL #: AUR55C-2000/1500
QTY.: 1
REV. #: 1
DESCRIPTION: ELECTRICAL WIRING DETAILS

SHEET
M4



GENERIC LIGHT FIXTURE DETAILS

THIS DIAGRAM IS FOR INFORMATIONAL PURPOSES ONLY.
THIS WILL NOT MATCH YOUR EXACT MODEL.



SPECIAL GROUNDING REQUIREMENTS - Electrical Engineer

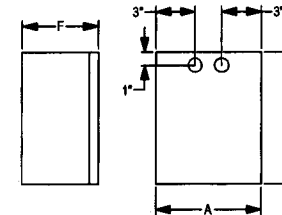
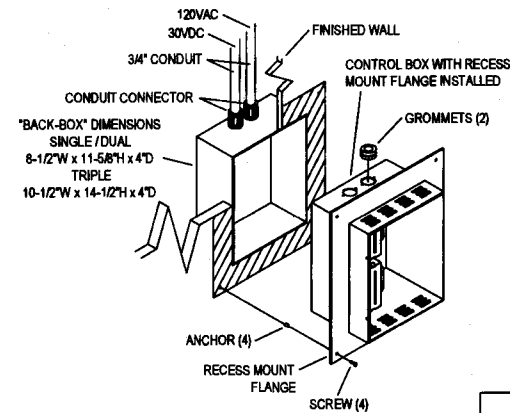
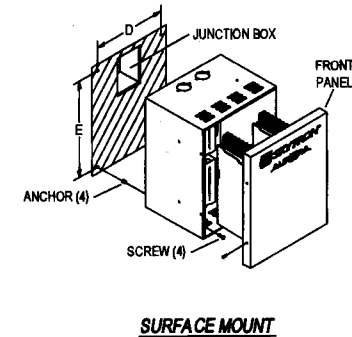
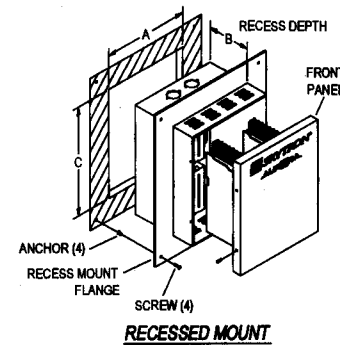
Proper performance and safety of this fixture can only be achieved by an adequate grounding system. Fixture ground must be a dedicated ground point ultimately bonded to the facilities grounding system to prevent the migration of electrical interference generated by other devices.

Notes:

- 2 Dedicated conduit runs required at wall control to separate 120VAC input lines from 30VDC output lines to light fixture to prevent migration of electrical magnetic interference which will disrupt the operation of the light.
- "No shared ground." Each light head must have separate individual ground.

INITIAL: *PUB*
DATE: *1/18/12*

GENERIC AURORA WALL CONTROL MOUNTING DETAILS



	DIMENSION	
	SINGLE / DUAL	TRIPLE
A	8"	10"
B	4"	4"
C	10"	13 - 1/2"
D	6 - 7/8"	6 - 5/8"
E	7 - 5/8"	11"
F	5 - 7/8"	6 - 3/8"
RECESS MOUNT FLANGE		
	11 - 3/4" W x 14" H	13 - 3/4" W x 17 - 1/4" H
OPA #: OPA-1807-07		

PROJECT #: 11-130-RG
SUBMITTAL
PLOT DATE: 9/27/2011

VA IOWA CITY

MODEL #: AUR55C-2000/1500
QTY.: 1
REV. #: 0

DESCRIPTION: LIGHT FIXTURE DETAILS

SHEET
M6



BOOM	upper arm length (major)	lower arm length (major)	upper arm length (minor)	lower arm length (minor)	† equipment weight capacity	minimum ceiling height	fixture weight	moment load	test weight
E1	39.5"	N/A	N/A	N/A	227 lbs	7'-9"	549 lbs	1410 ft lbs	200 lbs
E2	39.5"	31.5"	N/A	N/A	227 lbs	8'-8"	622 lbs	2843 ft lbs	400 lbs
E2VBA	39.5"	39.5"	N/A	N/A	N/A	8'-2"	611 lbs	3074 ft lbs	400 lbs
E2HL	44.5"	31.5"	N/A	N/A	227 lbs	8'-5"	646 lbs	3149 ft lbs	400 lbs
ET2 /2AF	61"	31.5"	51"	35.5"	205/66 lbs	9'-11"	809 lbs	4584 ft lbs	600 lbs
ET2-C /2AF	51"	31.5"	41.5"	35.5"	210/66 lbs	9'-11"	830 lbs	4272 ft lbs	600 lbs
ETM2 /2	61"	31.5"	48"	31.5"	205/175 lbs	8'-9"	1100 lbs	6102 ft lbs	600 lbs
ETM2-C /2-C	44.5"	31.5"	31.5"	31.5"	225/175 lbs	8'-9"	1108 lbs	5318 ft lbs	600 lbs
EC2_WLFS/AUR7TV	61"	31.5"	50.5"	39.5"	205/20 lbs	10'-0"	887 lbs	4809 ft lbs	600 lbs
EC2_WLFS/AUR75TV	61"	31.5"	50.5"	39.5"	205/20 lbs	10'-0"	980 lbs	4982 ft lbs	600 lbs
EC2 /AUR7TV	61"	31.5"	N/A	N/A	205 lbs	8'-9"	743 lbs	4158 ft lbs	600 lbs
EC2 /AUR75TV	61"	31.5"	N/A	N/A	205 lbs	8'-9"	832 lbs	4526 ft lbs	600 lbs
EC2-C /AUR7TV	51"	31.5"	N/A	N/A	245 lbs	8'-5"	768 lbs	3994 ft lbs	500 lbs
EC2-C /AUR75TV	51"	31.5"	N/A	N/A	245 lbs	8'-5"	858 lbs	4362 ft lbs	600 lbs
ECT2 /2AF /AUR7TV	61"	31.5"	51"	35.5"	205/66 lbs	9'-6" ***	939 lbs	5239 ft lbs	600 lbs
ECT2 /2AF /AUR75TV	61"	31.5"	51"	35.5"	205/66 lbs	9'-11"	1026 lbs	5607 ft lbs	600 lbs
ECT2-C /2AF /AUR7TV	51"	31.5"	41.5"	35.5"	245/66 lbs	9'-6" ***	960 lbs	4927 ft lbs	600 lbs
ECT2-C /2AF /AUR75TV	51"	31.5"	41.5"	35.5"	245/66 lbs	9'-11"	1049 lbs	5288 ft lbs	600 lbs
LC2AF /AUR7TV	51"	35.5"	N/A	N/A	66 lbs	9'-8"	397 lbs	1690 ft lbs	200 lbs
LC2AF /AUR75TV	51"	35.5"	N/A	N/A	66 lbs	9'-8"	486 lbs	2058 ft lbs	300 lbs
LCT2AF /2AF /AUR7TV	59"	35.5"	51"	35.5"	66/66 lbs	9'-11"	597 lbs	2888 ft lbs	400 lbs
LCT2AF /2AF /AUR75TV	59"	35.5"	51"	35.5"	66/66 lbs	9'-11"	686 lbs	3256 ft lbs	400 lbs
15L	N/A	N/A	N/A	N/A	N/A	9'-0"	145 lbs	650 ft lbs	N/A
15F	N/A	N/A	N/A	N/A	N/A	9'-0"	145 lbs	650 ft lbs	N/A
15M	N/A	N/A	N/A	N/A	N/A	9'-0"	145 lbs	650 ft lbs	N/A
15E	N/A	N/A	N/A	N/A	N/A	9'-0"	145 lbs	650 ft lbs	N/A
O1	39.5"	N/A	N/A	N/A	235 lbs	7'-7"	478 lbs	1204 ft lbs	100 lbs
O2	39.5"	31.5"	N/A	N/A	123 lbs	8'-5"	434 lbs	1810 ft lbs	200 lbs
(ALL) LFS/LFS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	200 lbs
(ALL) EXTENDED LIGHT ARMS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	300 lbs

Surgical light arm lengths:

ST19WC, ST23, LED5, AUR5 - 35-1/4"

ST1919WC, ST2323, ST2823, LED65, LED75, AUR55, AUR75 - UPPER 43", LOWER 35-1/4"

ST1919WCC-S, ST2323C-S, ST2823C-S, LED55C-S, LED75C-S, AUR55C-S, AUR75C-S, (for ECT2-C) - UPPER 35-1/4", LOWER 27-1/2"

* SKYTRON recommends testing all mounts to 600 lbs *

*** Center of flatscreen will be 70" at level

† Refer to Operator's Manual for exact weight capacity

TECH-0001 REV6
5/10

TESTING - MOUNTING STRUCTURE

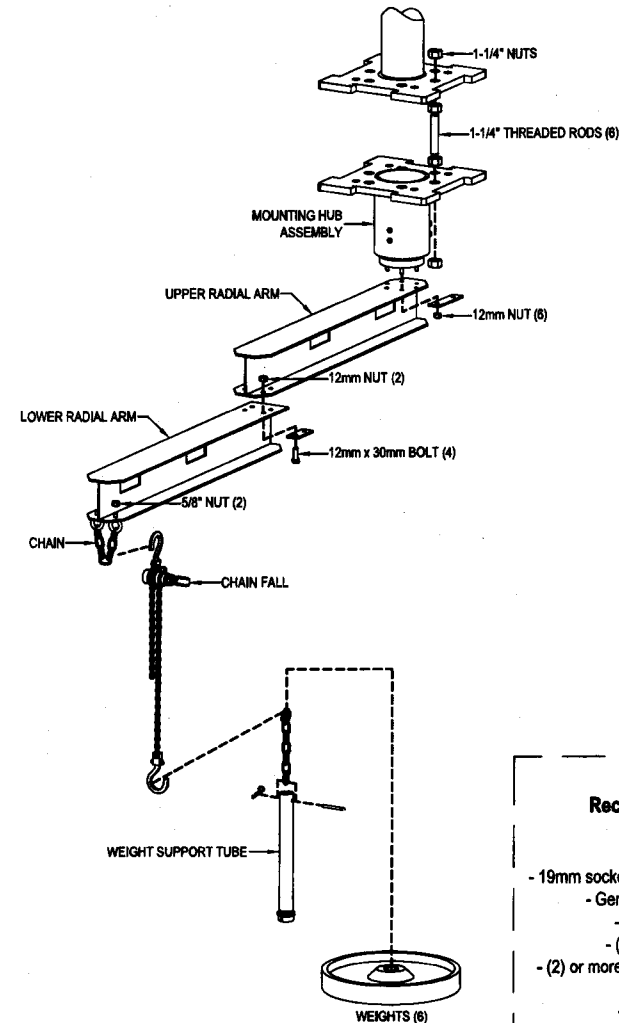
Each mounting structure must be tested by a Skytron representative to verify that there is no more than two-tenths of a degree of rotational movement at the mounting plate prior to installing a fixture. A mounting structure test jig is available from Skytron to facilitate this process. The mounting structure test jig is a fixture which simulates the weights and moment loads created by a Skytron fixture. It consists of a hub assembly, an upper and lower radial arm, a chain fall, weight support tube and six 100 lb. weights (refer to illustration).

The drawing package and the test jig instructions are required to perform an accurate test.

The test jig instructions include the load simulator weight chart, the test jig report form and complete instructions for performing the test.

INITIAL: RLB
DATE: 1/11/12

MOUNTING STRUCTURE TEST JIG



Recommended Tools

- Ladder(s)
- 19mm socket (3/8" drive) or 19mm wrench
- Genie lift / overhead hoist
- 3/8" drive ratchet
- (2) 1-7/8" wrenches
- (2) or more people capable of lifting 100 lbs.
- Appropriate cart