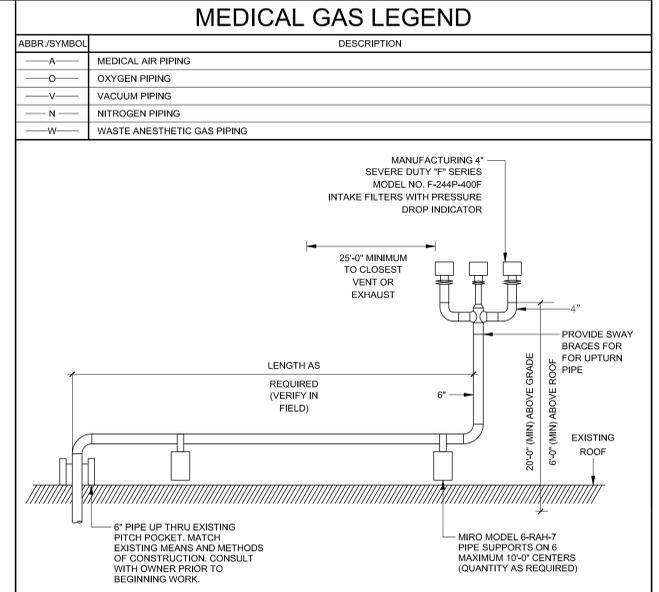


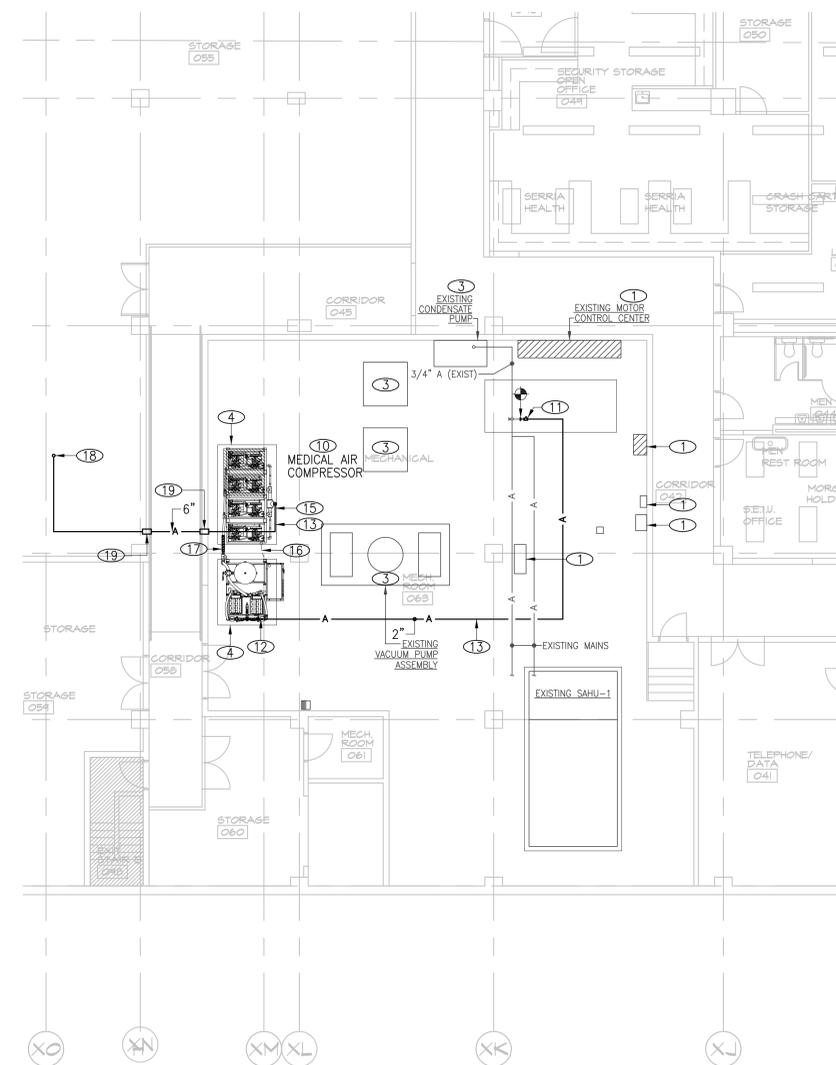
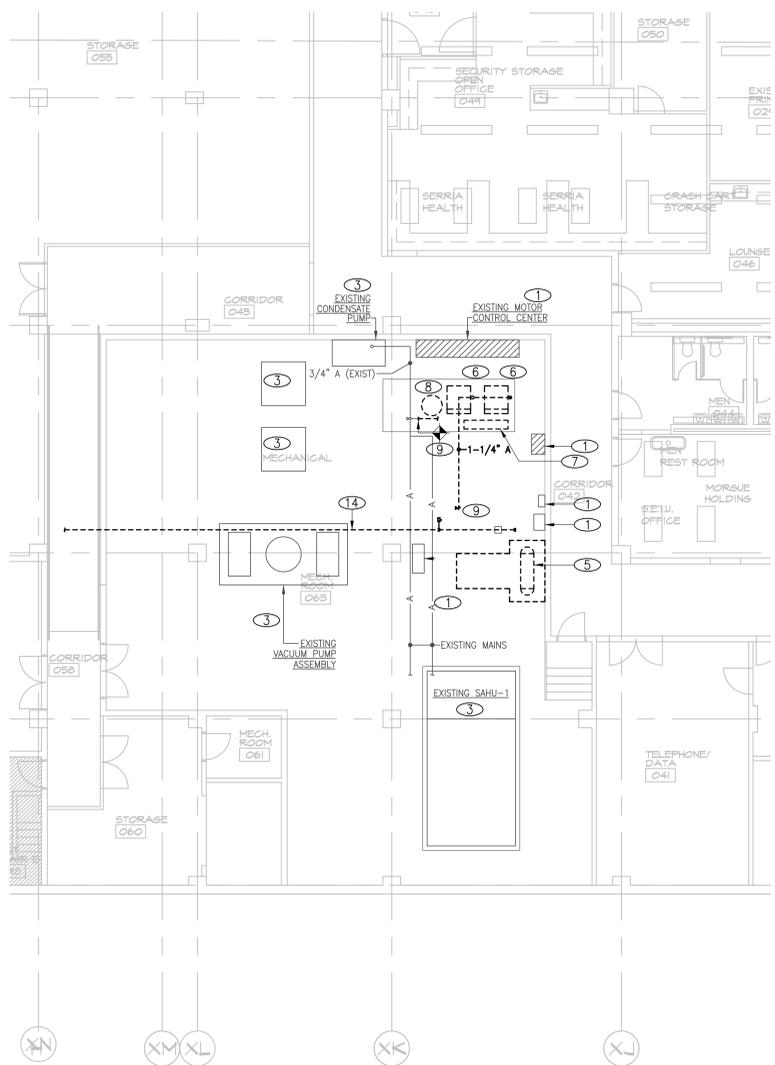
- NOTES:
- CONNECT EXISTING HIGH PRESSURE ALARM, LOW PRESSURE ALARM, CARBON MONOXIDE ALARM, AND DEW POINT ALARMS TO NEW SYSTEM SENSORS.
 - DAISY CHAIN PUMP OVER TEMPERATURE ALARMS TO MAKE ONE ALARM POINT.
 - CONNECT ALARM PANELS TO LAG & CONTROL OK ALARMS IN PANEL.
 - REFER TO AMICO PAGE 11 SHOP DRAWINGS.
 - BOLD ITEMS ARE REVISIONS TO EXISTING PANELS.



1 MEDICAL AIR COMPRESSOR PIPING DIAGRAMS
NOT TO SCALE

2 MEDICAL AIR ALARM REQUIREMENTS
NOT TO SCALE

3 AIR INTAKE DETAIL
NOT TO SCALE



MEDICAL GAS SPECIFICATIONS

WORK SHALL COMPLY WITH 2012 INTERNATIONAL FIRE CODE AND LOCAL AMENDMENTS. WORK SHALL COMPLY WITH NFPA 99-2005, LEVEL 1; THE 2012 UNIFORM PLUMBING CODE AND THE 2012 SOUTHERN NEVADA PLUMBING CODE AMENDMENTS. OBTAIN PERMITS AND APPROVALS FROM ALL AUTHORITIES HAVING JURISDICTION. WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES. WORK SHALL BE GUARANTEED FOR ONE YEAR AFTER ACCEPTANCE BY THE OWNER. WORK SHALL INCLUDE TESTING AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

MATERIALS, FIXTURES AND EQUIPMENT SHALL BE NEW AND GUARANTEED FOR ONE YEAR FROM THE DATE OF ACCEPTANCE. MATERIALS, FIXTURES AND EQUIPMENT SHALL BE AS SCHEDULED OR EQUAL, MEETING THE REQUIREMENTS OF THE SPECIFICATION. MATERIALS, FIXTURES AND EQUIPMENT SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO ORDER RELEASE.

RECORD DRAWINGS, OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE SUBMITTED AS REQUIRED BY ARCHITECT UPON COMPLETION. CERTIFICATION CONFIRMING TESTING AND COMPLIANCE WITH REGULATIONS SHALL BE SUBMITTED.

DO NOT SCALE DRAWINGS.

SIZES AND POINTS OF CONNECTION TO EXISTING SHALL BE VERIFIED IN THE FIELD PRIOR TO BEGINNING WORK.

PIPING ABOVE GRADE SHALL BE TYPE ACR, FACTORY CLEANED AND CAPPED; HARD DRAWN COPPER WITH FACTORY CLEANED AND BAGGED WROUGHT COPPER FITTINGS. FITTINGS SHALL BE BRAZED WITH SILVER BRACED. FILLER METAL PIPING SHALL BE TESTED IN ACCORDANCE WITH NFPA REQUIREMENTS.

FOR CONTAMINATED PIPING: DISASSEMBLE POSITIVE PRESSURE GAS SYSTEMS PIPE, FITTINGS, VALVES AND COMPONENTS, EXCEPT THOSE SUPPLIED, CLEANED AND PREPARED FOR INTENDED SERVICE, AND THOROUGHLY WASH IN HOT SOLUTION OF SODIUM CARBONATE OR TRISODIUM PHOSPHATE MIXED 1 LB. TO 3 GAL. OF WATER AFTER WASHING. RINSE WITH WATER, DRY AND CAP UNTIL INSTALLATION.

BRAZE JOINTS IN PIPE AND TUBING. AVOID LEAVING EXCESS FLUX INSIDE OF PIPE AND FITTINGS. DURING BRAZING OF PIPE CONNECTIONS PURGE INTERIOR OF PIPE CONTINUOUSLY WITH NITROGEN.

EFFECT CHANGES IN SIZE WITH REDUCING FITTINGS. MAKE CHANGES IN DIRECTION OF REQUIRED TURNS OR OFFSETS WITH FITTINGS OR TUBING SHAPED BY BENDING TOOLS. MAKE BENDS FREE OF FLATTENING BUCKLING OR THINNING OF TUBE WALL.

CUT PIPE AND TUBING ACCURATELY AND INSTALL WITHOUT SPRINGING OR FORCING.

INSTALL EXPOSED OXYGEN PIPING IN WALL-MOUNTED SHEET STEEL RACEWAYS AND JUNCTION BOXES.

INSTALL HORIZONTAL RUNS OF PIPING LEVEL. INSTALL RISES AND DROPS VERTICALLY.

GRADE PIPING DOWN IN DIRECTION OF FLOW.

PROVIDE PIPE SLEEVES WHERE PIPES AND TUBING PASS THROUGH WALLS, FLOORS, ROOF AND PARTITIONS, FINISH FLUSH AT BOTH ENDS. EXTEND 2 INCHES ABOVE FINISHED FLOORS. PACK SPACE BETWEEN PIPE OR TUBING AND SLEEVE AND CAULK.

IDENTIFY PIPING CODE AND SCHEMATIC. INSTALL LABELING ON PIPE AT INTERVALS OF NOT MORE THAN 20 FEET AND AT LEAST ONCE IN EACH ROOM AND EACH STORY TRAVERSED BY PIPELINE.

PIPE SUPPORTS SHALL COMPLY WITH NFPA 99-5.1.10.10.4. HANGARS FOR COPPER TUB SHALL HAVE A COPPER FINISH. IN POTENTIALLY DAMP LOCATIONS, COPPER TUBE HANGERS OR SUPPORTS THAT ARE IN CONTACT WITH THE TUBE SHALL BE PLASTIC COATED OR OTHERWISE INSULATED (FELT LINER) FROM THE TUBE. PIPE HANGERS SHALL BE SPACED PER THE TABLE BELOW:

2 INCH PIPE OR TUBING: 10 FT
6 INCH PIPE OR TUBING: 10 FT

PIPING SYSTEMS CLEANING AND PRESSURE TESTING COMPLY WITH NFPA 99-5.1.12.3.

AFTER INSTALLATION OF PIPE AND TUBING BUT PRIOR TO INSTALLATION OF SERVICE OUTLET VALVES, BLOW SYSTEMS CLEAR OF FREE MOISTURE AND FOREIGN MATTER WITH NITROGEN GAS.

INSTALL SERVICE OUTLET VALVES. SUBJECT SYSTEMS TO TEST PRESSURE OF 150 PSIG WITH NITROGEN OR DRY COMPRESSED AIR. CHECK WITH SOAPY WATER. PROVIDE 24-HOUR STANDING PRESSURE TEST.

CROSS CONNECTION TEST

INDEPENDENT TESTING AGENCY TO CERTIFY SYSTEM IS COMPLETE. OF SERVICE OUTLET VALVES, BLOW SYSTEMS CLEAR OF FREE MOISTURE ZONE VALVE INSTALLED, ALARM SYSTEMS FUNCTIONAL, AND TEST PERFORMED. DOCUMENT TESTS AND SUBMIT.

REDUCE PRESSURE IN PIPING SYSTEMS OTHER THAN SYSTEM UNDER INVESTIGATION TO ATMOSPHERE.

TEST SYSTEM WITH DRY COMPRESSED AIR OR DRY NITROGEN WITH TEST PRESSURE IN PIPING AT 50 PSIG.

PIPING SHALL BE IDENTIFIED WITH PLASTIC PIPE MARKERS IN CLEAR VIEW AND ALIGNED WITH AXIS OF PIPING. SERVICE AND FLOW DIRECTION SHALL BE INDICATED. DISTANCE BETWEEN IDENTIFICATION LOCATIONS SHALL NOT EXCEED 20 FEET. IDENTIFICATION SHALL BE LOCATED AT EACH VALVE, RUNOUT AND ON BOTH SIDES OF AN OBSTRUCTION.

PIPING AND EQUIPMENT SHALL BE PROVIDED WITH SEISMIC RESTRAINTS IN ACCORDANCE WITH ASCE 7-05.

LOCATIONS SHALL BE ACCORDING TO THE ARCHITECTURAL DRAWINGS, LAYOUTS, REQUIREMENTS, AND INSTALLATION DETAILS SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND NFPA-99, FITTINGS, APPURTENANCES, ETC. WHICH ARE NOT PROVIDED BY THE VENDOR, SHALL BE FURNISHED AND INSTALLED TO MAKE A COMPLETE AND OPERABLE SYSTEM.

ALARMS, PRESSURE SWITCHES, AND OTHER COMPONENTS SHALL MATCH EXISTING.

PROVIDE CONCRETE HOUSE KEEPING PADS, FIRE RATED WALL PENETRATIONS, ROOF PENETRATIONS, ATTACHMENTS AND SUPPORTS REQUIRED FOR THE MECHANICAL SYSTEMS. PROVIDE SUBMITTALS FOR REVIEW. FIRE WALL PENETRATIONS SHALL BE A UL LISTED SYSTEM. CONCRETE SHALL BE 3000 PSI WITH 1/2" REBAR ON 12" CENTERS. ATTACHMENTS SHALL MATCH EXISTING. ROOF PENETRATIONS SHALL MEET OWNER'S APPROVAL.

NOTICE

- POINT OF CONNECTION TO EXISTING. VERIFY EXACT SIZE AND LOCATION IF FIELD PRIOR TO START OF WORK.
- POINT OF DISCONNECT FROM EXISTING. VERIFY EXACT SIZE AND LOCATION IN FIELD PRIOR TO START OF WORK.
- EXISTING WORK TO REMAIN SHOWN LIGHT. EXISTING WORK TO BE REMOVED SHOWN DARK AND DASHED. NEW WORK SHOWN DARK.
- LEVEL 1 SYSTEM. ENTIRE FACILITY IS FIRE SPRINKLERED.
- INSTALLATION SHALL COMPLY WITH 2012 INTERNATIONAL FIRE CODE AND LOCAL AMENDMENTS. COMPLY WITH NFPA99 REQUIREMENTS.

KEY NOTES

- EXISTING ELECTRICAL PANEL TO REMAIN.
- EXISTING ELECTRICAL TO BE RELOCATED.
- EXISTING TO REMAIN.
- PROVIDE NEW 4" HOUSE KEEPING PAD.
- EXISTING AIR COMPRESSOR TO BE REMOVED.
- EXISTING AIR DRYER TO BE REMOVED.
- EXISTING AIR FILTERS TO BE REMOVED.
- EXISTING PRESSURE TANK TO BE REMOVED.
- REMOVE EXISTING NASH AIR COMPRESSOR, SOFT WATER, AIR INTAKE, AND DISCHARGE AIR PIPING.
- INSTALL MEDICAL AIR COMPRESSOR PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATION REQUIREMENTS EXTEND AIR INTAKE TO THE OUTDOORS.
- SYSTEM SHUT OFF VALVE.
- PROVIDE SHUT OFF VALVE AND QUICK CONNECT FITTING FOR FLEXIBLE CONNECTION TO AIR COMPRESSOR. PROVIDE PRV AND DOWNSTREAM PRESSURE GAUGE.
- PROVIDE LABELS TO IDENTIFY NAME OF SYSTEM, ROOM OR AREA SERVICE. PROVIDE WARNING LABEL ADVISING NOT TO CLOSE VALVES EXCEPT IN EMERGENCY. COMPLY WITH NFPA 99.5.1.11.2.
- REMOVE & REPLACE EXISTING OSA INTAKE PIPING FROM MECHANICAL ROOM TO ROOF AIR INTAKES. VERIFY ROUTING AT SITE.
- 6" COMPRESSED AIR INTAKE PIPING.
- PROVIDE WIRING HARNESS EXTENSION FROM CONTROL PANEL TO COMPRESSOR SKID PER MANUFACTURER'S REQUIREMENTS.
- PROVIDE COMPRESSED AIR FLEXIBLE PIPING CONNECTION BETWEEN COMPRESSOR SECTION AND TANK / DRYER / FILTER SECTION.
- 6" PIPING UP THRU CHASE TO INTAKE FILTER ABOVE ROOF. REFER TO DETAIL 3-(MG-1).
- PROVIDE CONTRACTOR SELECTED UL LISTED FIREWALL PENETRATION SYSTEM. SUBMIT FOR APPROVAL.

MEDICAL AIR COMPRESSOR SCHEDULE

ITEM	AMICO MODEL-NO	TYPE	HP PER MOTOR	PSI	SCFM	V-PH	WEIGHT LBS	REMARKS
AC-1	A-SCD-P-200P-SS-N-150-TSE8	VERTICAL TANK PENTAPLEX PACKAGE	15	120	48x5	460-3	7600	A, B
REMARKS								
A. FURNISH SKID MOUNTED PACKAGE WITH (5) 15 HP COMPRESSORS, EXPANDABLE TO (8) 15 HP COMPRESSORS, 200 GALLON ASME VERTICAL RECEIVER, NEMA 12 CONTROL PANEL FOR (5) COMPRESSORS NOW (3) FUTURE, 8 CIRCUITS BREAKER DISCONNECTS AND 8 HOA SWITCHES, 120 V CONTROL TRANSFORMER.								
B. FURNISH WITH CARBON MONOXIDE TRANSDUCER, PRESSURE TRANSDUCER, D.P. TRANSDUCER, HIGH TEMP SWITCHES, DUAL DESSICANT DRYER WITH DEW POINT MONITORS, TOUCH SCREEN PANEL.								

A MECHANICAL ROOM - DEMO
1/8" = 1'-0"

B MECHANICAL ROOM - NEW
1/8" = 1'-0"

Architect

Engineer TJK # 15032

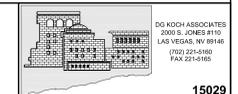
Project

NORTHEAST BUILDING MEDICAL AIR PUMPS
UNIVERSITY MEDICAL CENTER
LAS VEGAS, NEVADA

Drawing Title:
FLOOR PLANS, SPECS, DETAILS, MED-GAS

Revisions:

Date: 09-21-15
DGKA Project: 15029
CADD Files:
Drawing Number:

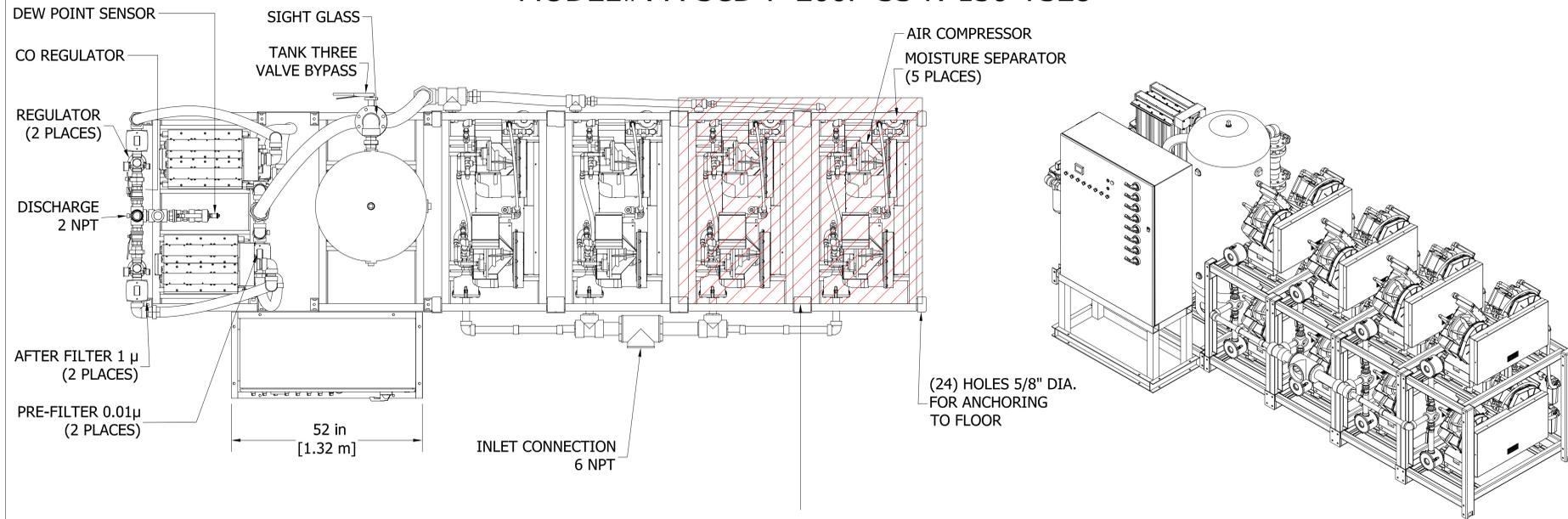


MG-1

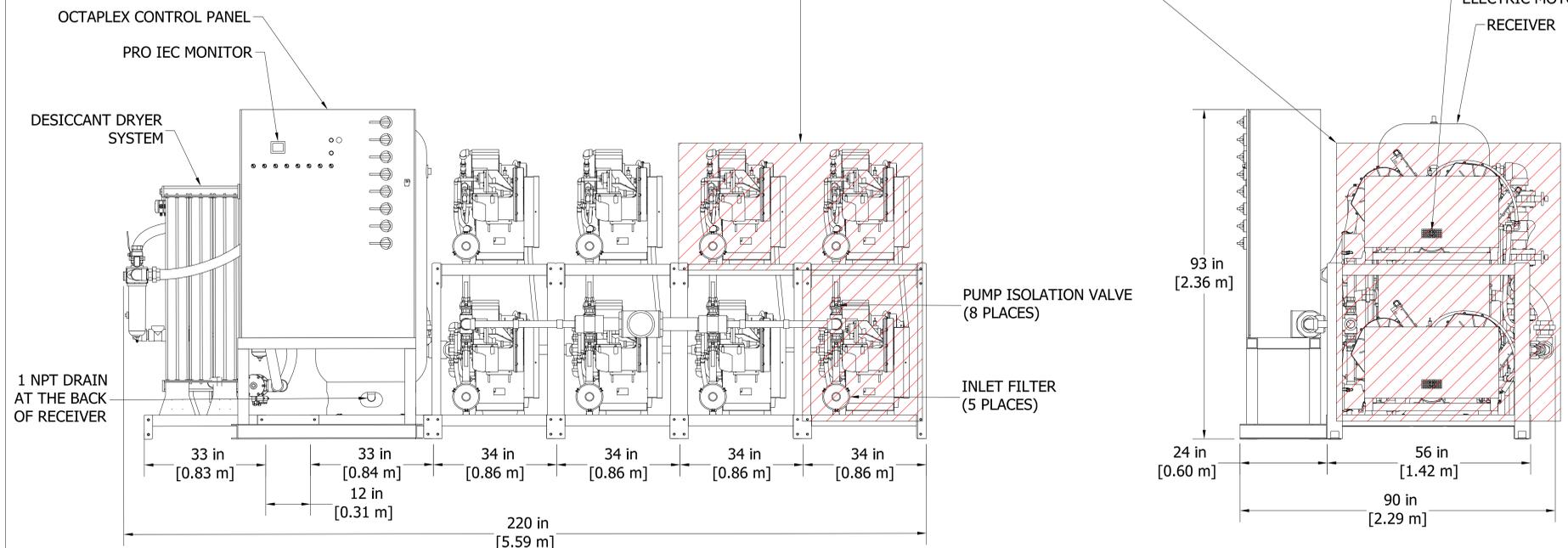
PENTAPLEX SCROLL AIR PLANT WITH DESICCANT AIR TREATMENT SYSTEM

EXPANDABLE TO OCTAPLEX

MODEL#: A-SCD-P-200P-SS-N-150-TSE8



FOR FUTURE EXPANSION



NOTES: GENERAL

- EQUIPMENT, INSTALLATION, AND TESTING OF THE MEDICAL AIR SYSTEM SHALL COMPLY WITH NFPA, LATEST EDITION, AND ALL STATE AND LOCAL CODES OR ORDINANCES.
- THE SYSTEM REQUIRES DEDICATED MECHANICAL VENTILATION WITH AN ALLOWABLE TEMPERATURE VARIANCE OF 40°F TO 105°F (CONSULT FACTORY FOR HIGHER AMBIENT TEMPERATURES).
- VIBRATION PADS AND FLEX CONNECTORS WILL BE SHIPPED LOOSE FOR FIELD INSTALLATION.

PIPING

- ALL PIPING SHALL BE INSTALLED IN ACCORDANCE WITH NFPA, LATEST EDITION.
- ALL INTERCONNECTING PIPE AND FITTINGS BEYOND INLET AND DISCHARGE CONNECTIONS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR.
- PIPING LAYOUT IS DIAGRAMMATIC ONLY: FINAL ARRANGEMENT WILL BE SITE SPECIFIC. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION AND COORDINATING ACTUAL LOCATION WITH OTHER TRADES.
- PIPE EXHAUST OUTSIDE, TURN DOWN AND SCREEN PER NFPA, LATEST EDITION.
- ALL DRAIN LINES SHALL BE SUPPLIED AND INSTALLED BY OTHERS AND RUN TO APPROPRIATE WASTE DRAIN.
- INLET PIPE SIZES REFER TO STANDARD PRESSURE DROP TABLES

ELECTRICAL

- ELECTRICAL POWER SHALL BE SUPPLIED FROM THE LIFE SAFETY BRANCH OF THE ESSENTIAL ELECTRICAL DISTRIBUTION (EMERGENCY POWER).
- REFER TO WIRING SCHEMATIC SHIPPED IN CONTROL PANEL.
- CONTRACTORS SHALL VERIFY MOTOR VOLTAGE, PHASE, AND AMPERAGE RATINGS BEFORE STARTING ELECTRICAL INSTALLATION AND VERIFY THE VOLTAGE SUPPLIED BY THE HOSPITAL IS THE SAME
- ALL CONDUIT, FITTINGS AND CONDUCTORS FROM CONTROL PANEL TO POWER SOURCE SHALL BE SUPPLIED BY OTHERS.

COMPRESSOR CFM		NFPA SYSTEM CAPACITIES WITH RESERVE COMPRESSOR ON STANDBY		WEIGHT IN LBS (KG)	SQ.FT. REQUIRED (M²)	HP	TANK SIZE	CURRENT SYSTEM FLA WITH ALL COMPRESSORS RUNNING (EXPANDED SYSTEM FLA)					SYSTEM BTU/HR	SOUND LEVEL dB (A)
		@50 psig	@120 psig					@50 psig	@120 psig	208V	230V	380V		
50.4	48	201.6	192	7597 (3446)	137.5 (12.8)	15	200G	193 (308)	174 (278)	108 (172)	87 (139)	70 (111)	190,910	82

DATE _____

APPROVAL SIGNATURE _____

Architect

Engineer TJK # 15032

Project

NORTHEAST BUILDING MEDICAL AIR PUMPS
 UNIVERSITY MEDICAL CENTER
 LAS VEGAS, NEVADA

Drawing Title:
MANUFACTURERS MEDICAL AIR COMPRESSOR DATA

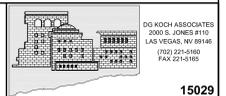
Revisions:

Date: 09-21-15
 DGKA Project: 15029
 CADD Files:
 Drawing Number:

A

MEDICAL AIR COMPRESSOR MANUFACTURER'S DATA

NOT TO SCALE



MG-2

15029