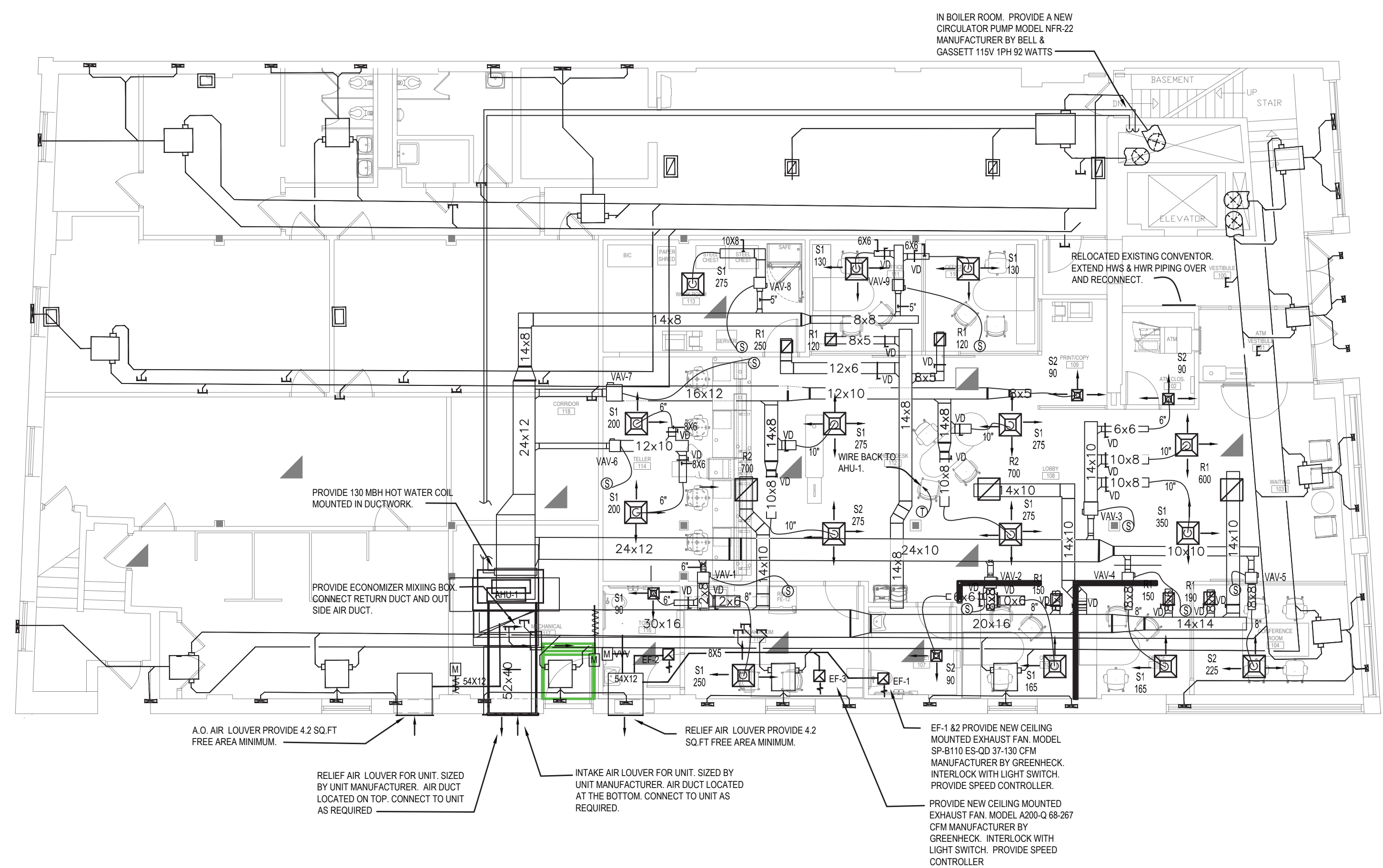


1 PLAN: MECHANICAL DEMOLITION  
SCALE: 1/8"=1'-0"



2 PLAN: MECHANICAL PLAN  
SCALE: 1/8"=1'-0"

- 1.1 GENERAL
- A. ARCHITECTURAL GENERAL CONDITIONS ARE A PART OF THIS DIVISION. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE NEW YORK STATE BUILDING CODE, FIRE CODE, AND LOCAL CODES AND ORDINANCES INCLUDING THE 2008 NYC MECHANICAL CODE. ALL EQUIPMENT SHALL BE UL LISTED. THE CONTRACTOR SHALL BEAR THE COST OF ALL FEES, PERMITS, LICENSES AND TAXES, IN CONNECTION WITH HIS WORK.
- B. SUBMIT ONE (1) COPIES OF MANUFACTURER'S DRAWINGS OF THE FOLLOWING TO THE ARCHITECT FOR APPROVAL: HVAC EQUIPMENT.
- C. SUBMIT ONE (1) COPIES OF DUCTWORK SHOP DRAWINGS SHOWING CLEARANCES WITH STRUCTURAL MEMBERS AND MAJOR EQUIPMENT OF OTHER TRADES.
- D. THE CONTRACTOR SHALL PROVIDE A GUARANTEE COVERING ALL MATERIAL AND WORKMANSHIP FOR ONE (1) YEAR FOLLOWING THE DATE OF ACCEPTANCE, EXCEPT THAT REFRIGERATION COMPRESSORS SHALL BE GUARANTEED FOR A PERIOD OF THE (5) YEARS.
- E. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL FULLY INSTRUCT THE OWNER IN THE OPERATION, ADJUSTMENT AND MAINTENANCE OF ALL EQUIPMENT AND SYSTEMS FURNISHED.
- F. THE CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL DRAWINGS AND THE DRAWINGS AND SPECIFICATIONS OF OTHER TRADES TO DETERMINE THE EXTENT OF WORK. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE PROJECT AND LOCAL CONDITIONS BEFORE SUBMITTING A BID. DRAWINGS ARE DIAGNOSTIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. IF SO DIRECTED BY THE ARCHITECT OR ENGINEER, THE CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LAYOUT TO PREVENT CONFLICT WITH THOSE OF OTHER TRADES AND FOR PROPER INSTALLATION OF WORK. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF AIR DIFFUSERS, REGISTERS AND GRILLES. THE CONTRACTOR SHALL COORDINATE LOCATIONS OF EQUIPMENT WITH ALL TRADES BEFORE STARTING CONSTRUCTION. ANY MODIFICATIONS TO THE EQUIPMENT LAYOUT REQUIRED FOR INSTALLATION ARE TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
- G. THE CONTRACTOR SHALL ARRANGE HIS WORK SO THAT ANY SHUTDOWN DOES NOT INTERFERE WITH THE OWNER'S OPERATION OF THE EXISTING FACILITY.
- H. ALL EQUIPMENT AND PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- I. CONTRACTOR SHALL PROVIDE OWNER WITH THREE (3) SETS OF COMPLETE MAINTENANCE AND OPERATING INSTRUCTIONS, AND TECHNICAL DATA IN BOOKLET FORM, OF ALL EQUIPMENT AND DEVICES FURNISHED IN CONTRACT, INCLUDING AS-BUILT DRAWINGS FOR THE PROJECT. CONTRACTOR SHALL WALK THROUGH THE COMPLETED PROJECT WITH THE OWNER AND INSTRUCT OWNER ON OPERATION AND MAINTENANCE OF THE HVAC SYSTEMS AND EQUIPMENT.
- 1.2 SCOPE OF WORK
- A. DEMOLITION: DISCONNECT, REMOVE, AND PROPERLY DISPOSE OF ALL HVAC EQUIPMENT AND MATERIALS NOT BEING REUSED AS PART OF THIS PROJECT. CAREFULLY STORE ALL EQUIPMENT AND MATERIALS TO BE RE-USED. PROPERLY CAP ALL WORK IN A CONCEALED LOCATION.
- B. FURNISH AND INSTALL A COMPLETE HVAC SYSTEM INCLUDING, BUT NOT LIMITED TO: DUCTWORK, DIFFUSERS AND REGISTERS AND GRILLES; AUTOMATIC TEMPERATURE CONTROLS; EQUIPMENT IDENTIFICATION, EXHAUST FANS, AIR CONDITIONING UNITS, MECHANICAL INSULATION, TESTING AND BALANCING AND ALL OTHER EQUIPMENT AS SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED.
- C. SYSTEM SHALL BE COMPLETE IN ALL RESPECTS, TESTED, ACCEPTED AND READY FOR THE BENEFICIAL USE OF THE OWNER.
- 1.3 FILTERS
- A. ANY EQUIPMENT WHICH OPERATES WITH FILTERS SHALL HAVE FILTERS INSTALLED AT ALL TIMES.
- B. WHEN EQUIPMENT AND SYSTEMS ARE OFFICIALLY TURNED OVER TO THE OWNER, ALL EQUIPMENT SHALL BE CLEAN AND HAVE CLEAN, NEW FILTERS INSTALLED.
- 1.4 WORK BY OTHERS
- A. CUTTING AND PATCHING SHALL BE BY THE GENERAL CONTRACTOR.
- B. ACCESS DOORS SHALL BE PROVIDED WHERE REQUIRED BY THE GENERAL CONTRACTOR.
- C. CHASES, OPENINGS AND FINISH WORK SHALL BE PERFORMED BY THE GENERAL CONTRACTOR.
- D. EXCEPT FOR FACTORY INSTALLED COMPONENTS, ALL DISCONNECT SWITCHES AND STARTERS ARE SPECIFIED ON THE ELECTRICAL DRAWINGS. ALL POWER WIRING TO MOTORS, STARTERS, CONTROLLERS, ALARMS, AND ALL ELECTRICAL DEVICES, INCLUDING DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT, SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- 1.5 FIELD MEASUREMENTS
- A. THE CONTRACTOR SHALL VERIFY IN THE FIELD ALL MEASUREMENTS NECESSARY FOR THE WORK. VERIFY THERMOSTAT AND SENSOR LOCATIONS WITH THE OWNER BEFORE INSTALLATION.
- B. THE CONTRACTOR SHALL COORDINATE SUPPLY AND RETURN DUCTWORK LOCATIONS WITH STEEL, CONDUITS AND PIPING OF OTHER TRADES.
- 1.6 MATERIALS AND METHODS
- A. DUCTWORK:
- 1) ALL DUCTWORK AND ACCESSORIES SHALL BE CONSTRUCTED, FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST SMACNA STANDARDS MANUALS FOR LOW PRESSURE, HIGH PRESSURE, FIRE DAMPER INSTALLATIONS AND FLEXIBLE DUCTS.
  - 2) AIR CONDITIONING SUPPLY DUCTWORK FROM PACKAGED HVAC EQUIPMENT TO AIR OUTLETS SHALL BE GALVANIZED STEEL WITH ONE (1") INCH ACOUSTICAL DUCT LINER AS INDICATED ON DRAWINGS, ONE (2") INCH STATIC PRESSURE CLASSIFICATION, SEAL CLASS "C".
  - 3) FLEXIBLE DUCTS TO AIR OUTLETS SHALL BE UL CLASS 1 CONNECTORS WITH ARITIGHT CORE, GALVANIZED WIRE HELIX AND PREINSULATED WITH ONE (1") INCH, 3/4 PCF FIBERGLASS WITH A FLAME RETARDANT VAPOR BARRIER, FLEXMASTER TYPE IX.
  - 4) RETURN AIR DUCTWORK INSTALL ADEQUATE BALANCING DEVICES, E.G., VOLUME DAMPERS, EXTRACTORS, ETC., AS REQUIRED TO BALANCE EACH SYSTEM TO ITS DESIGN AIRFLOWS. INSTALL VOLUME DAMPERS AT ALL TAKEOFFS TO DIFFUSERS AND REGISTERS.
  - 5) ALL DIFFUSERS, REGISTERS AND GRILLES SHALL BE FIRMLY ATTACHED TO AND SUPPORTED BY THE DUCT SYSTEM. WHERE FLEXIBLE DUCTS ARE USED, THE DIFFUSER, REGISTER OR GRILLE SHALL BE FIRMLY ATTACHED TO AND SUPPORTED BY THE BUILDING STRUCTURE.
    - a. IN THE CASE OF CEILING DIFFUSERS INSTALLED IN ACOUSTIC CEILING TILES, THE DIFFUSER SHALL BE BRACKETED TO THE CEILING SUPPORT GRID AND FIRMLY ATTACHED TO THE BRACKET AND THE GRID WITH SUITABLE CLIPS, SCREWS, WIRE TIES OR OTHER METHOD, SO AS NOT TO IMPOSE ANY LOAD ON THE CEILING TILE ITSELF.
- B. INSULATION SYSTEMS:
- 1) CONCEALED AIR CONDITIONING SUPPLY DUCT SYSTEMS SHALL BE INSULATED WITH 1-1/2-INCH THICK FIBERGLASS DUCT WRAP (MINIMUM R5) WITH CONTINUOUS VAPOR BARRIER.
  - 2) ACOUSTICAL LINING, WHERE SHOWN, SHALL BE NOMINAL ONE (1") INCH THICK FIBERGLASS DUCT LINER, UNLESS OTHERWISE INDICATED.
  - 3) INSULATE REFRIGERANT SUCTION PIPING WITH 1/2" ARMAFLEX CLOSED CELL INSULATION. PROVIDE MANUFACTURER'S PROTECTIVE COVER OVER EXTERIOR INSULATION.
- 1.7 FIRE-STOPS
- A. ALL PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS OR FLOORS IN WHICH PIPES OR DUCTS PASS SHALL BE SEALED WITH A UL APPROVED FIRE-STOP FITTING CLASSIFIED FOR AN HOURLY RATING EQUAL TO THE RATING OF THE WALL, CEILING OR FLOOR.
- 1.8 BALANCING AIR SYSTEMS
- A. THIS CONTRACT IS FOR ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR BALANCING THE AIR AND WATER SYSTEMS.
- B. BALANCING SHALL BE PERFORMED BY A FULLY QUALIFIED TESTING AND BALANCING TECHNICIAN, CERTIFIED BY THE AABC OR THE NEBB. HE SHALL ADHERE TO THE PROCEDURES AND METHODS OUTLINED BY THE AABC OR NEBB.
- C. AIR SYSTEMS TO BE BALANCED INCLUDE ALL THE SUPPLY, RETURN, AND EXHAUST SYSTEMS. BALANCING SHALL INCLUDE REBALANCING (ADJUSTING OF SHEAVES AND REPLACING BELTS, IF NEEDED) OF EXHAUST FANS, AND ROOFTOP UNITS AS REQUIRED TO PROVIDE AIR FLOWS SPECIFIED. THE BALANCING CONTRACTOR SHALL SECURE A SET OF AS-BUILT DUCTWORK PLANS PRIOR TO COMMENCING WORK.
- D. THE BALANCING CONTRACTOR SHALL ATTEND A COORDINATION MEETING WITH THE HVAC AND ATCS CONTRACTOR TO COORDINATE SENSOR LOCATIONS.
- E. UPON COMPLETION OF ALL TESTS AND BALANCING OPERATIONS, THE CONTRACTOR SHALL SUBMIT ONE (1) COPIES OF A CERTIFIED BALANCING REPORT TO THE ENGINEER. THIS REPORT SHALL INCLUDE ALL DATA FOR EACH OF THE AIR AND WATER SYSTEMS.
- F. BALANCING OF SYSTEMS SHALL BE FOLLOWED UP AFTER BUILDING IS OCCUPIED; ONE SITE TRIP FOR REBALANCING SHALL BE DONE AS REQUIRED TO MEET OCCUPANT'S REQUIREMENTS WITHOUT EXTRA CHARGE.
- 1.9 SEISMIC RESTRAINT
- A. GENERAL: THIS PROJECT IS IN A SEISMIC ZONE PER STATE AND/OR LOCAL CODES AND ORDINANCES AND ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED, SUPPORTED, AND SEISMICALLY RESTRAINED ACCORDINGLY.
- 1.10 IDENTIFICATION
- A. ALL DUCTWORK, PIPING, EQUIPMENT, AND VALVES SHALL BE IDENTIFIED IN COMPLIANCE WITH ASME A13.
- B. DUCTWORK SHALL BE IDENTIFIED WITH NAME AND FLOW DIRECTION AT LEAST EVERY 20 FT. WITH ADHESIVE IDENTIFICATION LABELS.
- C. EQUIPMENT SHALL BE IDENTIFIED WITH ENGRAVED PLASTIC MARKERS.
- 1.11 AUTOMATIC TEMPERATURE CONTROLS
- A. EXISTING THERMOSTATS SHALL BE RELOCATED AND CONTROLS WIRING EXTENDED. CONTROLS SHALL BE TESTED AND ANY NECESSARY REMEDIAL WORK DONE FOR A COMPLETE OPERATING SYSTEM. PROVIDE NEW THERMOSTATS TO REPLACE ALL INOPERATIVE THERMOSTATS, OR IF NO EXISTING T'S ARE FOUND.

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CONSTRUCTION

Revised By:	Date:
ISSUED FOR PERMIT	05/25/2022

Branch Renovation at:  
**M&T Bank**  
1019 Park Street  
Peekskill, NY 10566

Project Title:	Drawing Title:
MECHANICAL PLANS, & GENERAL NOTES	
Date:	05/25/2022
Scale:	AS NOTED
Drawn By:	RL
Project Number:	22-079
Drawing Number:	

M1.0



AIR-COOLED SELF-CONTAINED UNIT SCHEDULE

SYMBOL	SUPPLY FAN			MIN. OUTSIDE AIR (CFM)	COOLING				VOLTS	COMPRESSOR				EVAP FAN		COND FAN		MAX FUSE / CMT. BKR. AMP	FILTERS	MODEL / MANUFACTURER (DSV/380M)	NOTES	WEIGHT	
					CAPACITY		EAT (BHP)	AMBIENT (°F)		QTY	RLA	LSA	HP	FLA	HP	FLA	MCA						
	TOTAL (CFM)	ESP	HP		TOTAL (BHP)	SENS. (BHP)																	
	A45-1	400	1.0		2	600	120	77.2		69.67	95	208/3	2	Ø	15.9	110.0	3						8.5

1. BASED ON JOHNSON CONTROLS OR EQUAL. CONTRACTOR SHALL VERIFY PERFORMANCE, SIZE, SPACE, SUPPLY OPENINGS, RETURN OPENINGS, DISCHARGE OPENINGS AND ELECTRICAL REQUIREMENTS OF EQUIPMENT PRIOR TO ORDERING EQUIPMENT.
2. UNIT SHALL BE PROVIDED WITH: ECONOMIZER CAPABILITY, UNIT MOUNTED CIRCUIT BREAKER, POWERED CONVENIENCE OUTLET, FREEZE/STAT, CLOGGED FILTER SWITCH, FAN FAILURE SWITCH, FAN STARTERS SHALL BE PROVIDED BY UNIT MANUFACTURER. WIRED BY ELECTRICAL CONTRACTOR.
3. PROVIDE: MOTORIZED DAMPERS FOR THE RETURN AIR, AND OUTSIDE AIR.
4. PROVIDE WITH CONDENSATE DRAIN AND AIR GAP AS REQUIRED PER CODE.
5. PROVIDE VFD ON SUPPLY FAN.
6. PROVIDE WITH HOT GAS BYPASS.
7. PROVIDE UNIT WITH HOT WATER COIL.

VAV BOX SCHEDULE

REF. NO.	MODEL	MFR	INLET DIA. (IN)	COOLING		ELECT. DATA	REMARKS
				CFM MAX	CFM MIN	VOLTS	
VAV-1	VCCP06	TRANE	6"	340	170	24V	1-6
VAV-2	VCCP05	TRANE	5"	255	127	24V	1-6
VAV-3	VCCP08	TRANE	8"	700	350	24V	1-6
VAV-4	VCCP04	TRANE	4"	165	85	24V	1-6
VAV-5	VCCP05	TRANE	5"	225	112	24V	1-6
VAV-6	VCCP06	TRANE	6"	400	200	24V	1-6
VAV-7	VCCP10	TRANE	10"	1190	600	24V	1-6
VAV-8	VCCP05	TRANE	5"	275	137	24V	1-6
VAV-9	VCCP05	TRANE	5"	260	130	24V	1-6

- REMARKS:
1. TRANSITION ON INLET AND OUTLET OF UNITS AS REQUIRED TO MANUFACTURERS RECOMMENDATIONS.
2. PROVIDE EACH VAV WITH DISCONNECT SWITCH, CONTROL TRANSFORMER AND SAFETY INTERLOCKS.
3. CONTROLS FURNISHED BY TEMPERATURE CONTROL, CONTRACTOR AND MOUNTED BY DAMPER MANUFACTURER.
4. PROVIDE MULTIPLE DAMPERS ACTUATORS CONTROL, ETC. AS REQUIRED TO ACHIEVE LISTED QUANTITIES. CONTRACTORS TO DUCT AS REQUIRED.
5. ALL VAV BOXES AND COILS SHALL BE AIR RATED.
6. PROVIDE WITH ELECTRICAL CONTROL, DDC INTERFACE TO EXISTING BMS.

SUPPLY DIFFUSER/GRILLE SCHEDULE

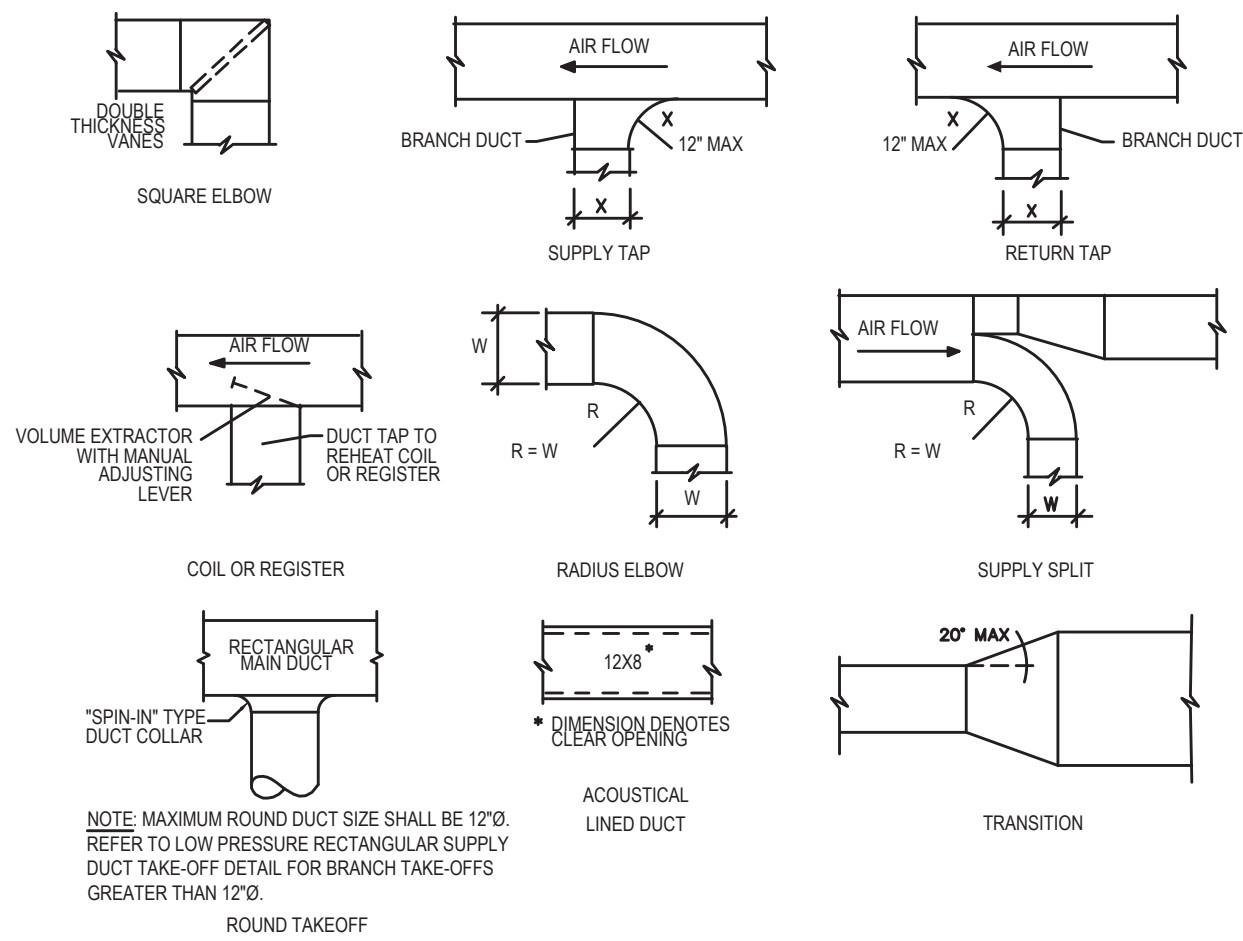
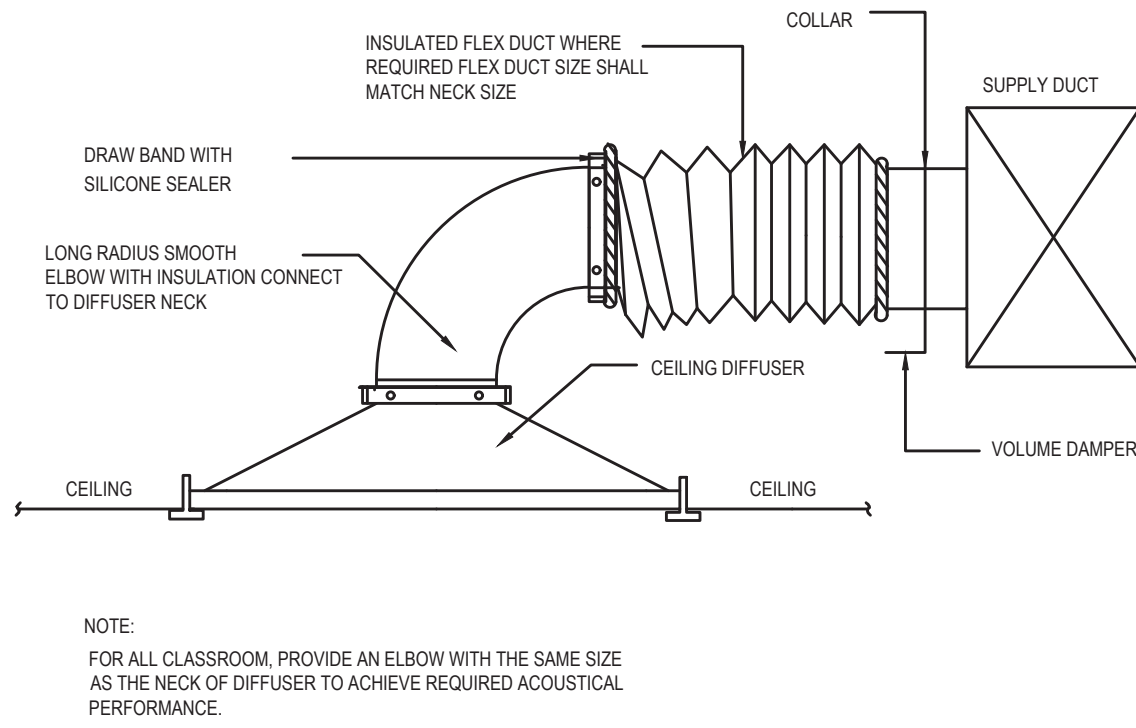
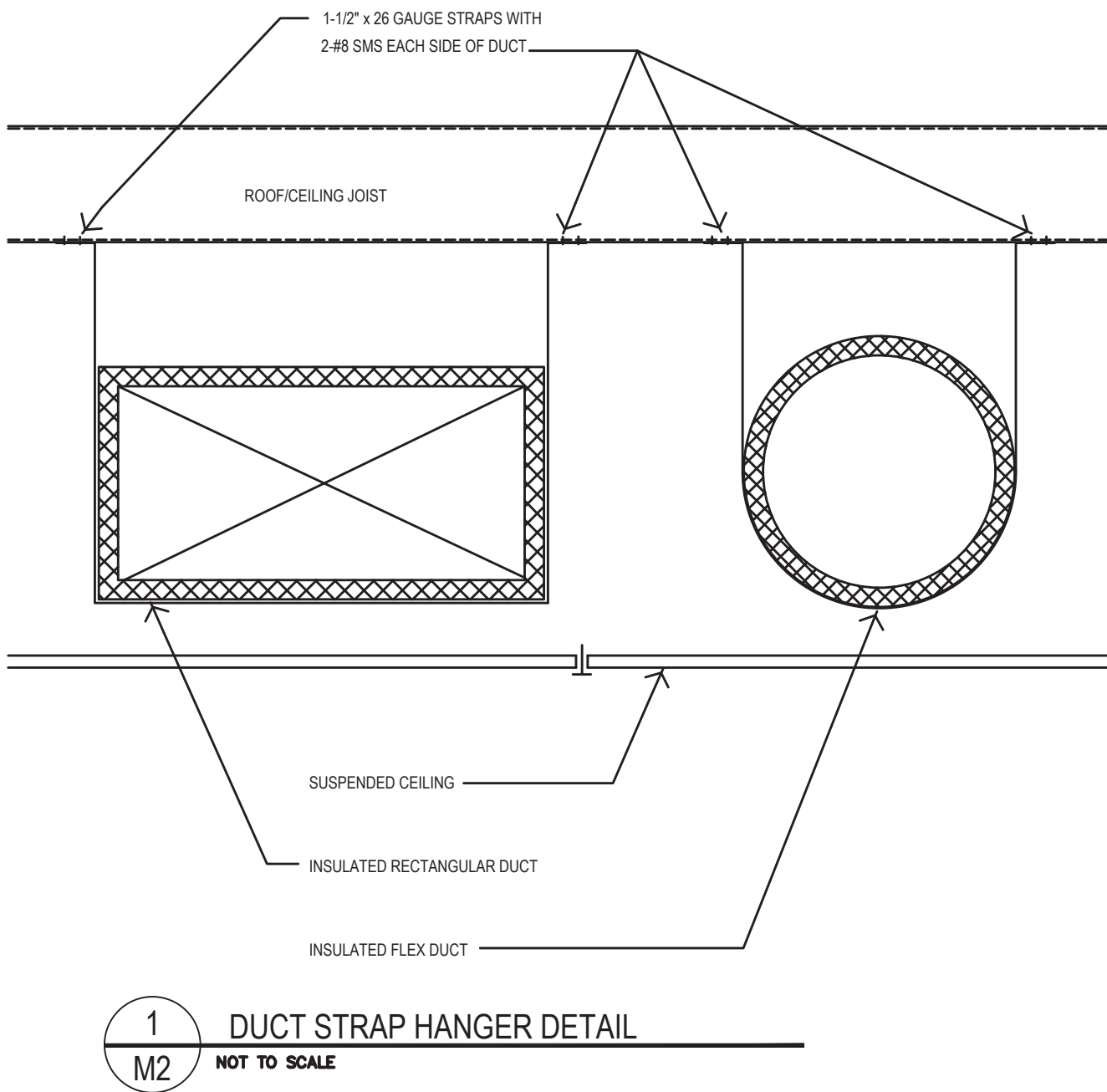
TAG	SIZE	NECK SIZE	TYPE	CFM	MAX TOTAL PRESSURE (IN. WG.)	MAX NC	MAX NECK VEL (FPM)	MANUFACTURER	MODEL NO.	NOTES
S1	24X24	NOTED ON DRAWINGS	CEILING MOUNTED	0-900	.02	17	500	PRICE	SCD	1,2
S2	12X12	NOTED ON DRAWINGS	CEILING MOUNTED	0-200	.02	17	500	PRICE	SCD	1,2

1. INSTALL DUCT VOLUME DAMPERS IN BRANCH DUCTS TO ALL DIFFUSERS.
2. SURFACE MOUNTED WITH SCREWED FLANGE.

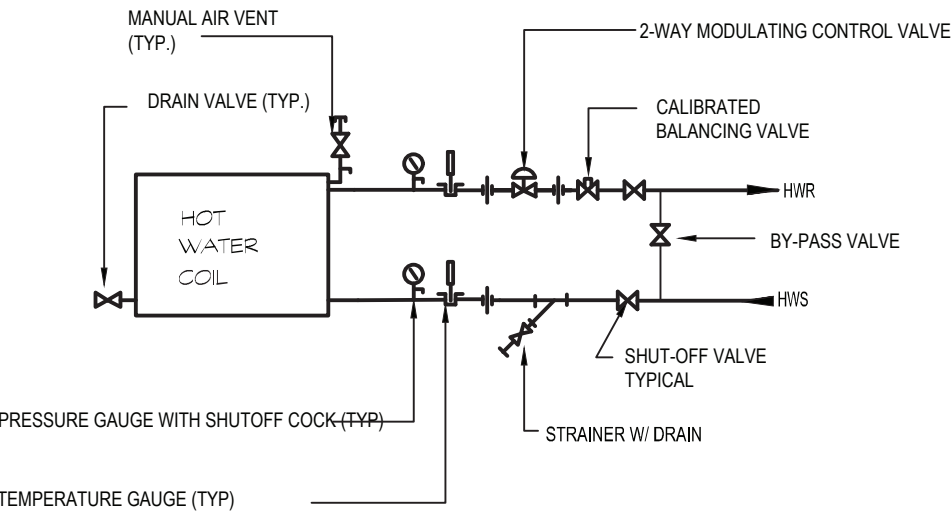
RETURN/EXHAUST GRILLE SCHEDULE

TAG	SIZE	TYPE	CFM	MAX STATIC PRESSURE (IN. WG.)	MAX NC	MANUFACTURER	MODEL	NOTES
R1	12X12	CEILING RETURN	75-250	.02	17	PRICE	S30	1,2,3
R2	24X24	CEILING RETURN	501-950	.02	17	PRICE	S30	1,2,3

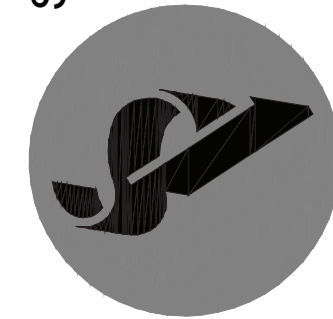
1. FURNISH WITH FRAME AND HOOKS FOR SURFACE MOUNTING. ALL SURFACE MOUNTED GRILLES SHALL BE AIR RATED.
2. PROVIDE DUCT VOLUME DAMPERS IN BRANCH DUCTS TO ALL DIFFUSERS.



NOTE: SPECIFICATIONS EXCEED SMACNA STANDARDS IN SOME INSTANCES. SMACNA SHALL BE CONSIDERED THE MINIMUM STANDARDS UNLESS OTHERWISE NOTED.



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NOT FOR  
CONSTRUCTION

Reviewed By: \_\_\_\_\_  
Date: 05/25/2022  
Description: ISSUED FOR PERMIT  
Revision: \_\_\_\_\_

Branch Renovation at:  
**M&T Bank**  
1019 Park Street  
Peekskill, NY 10566

Drawing Title:  
**MECHANICAL DETAILS & SCHEDULES**

Date: 05/25/2022  
Scale: AS NOTED  
Drawn By: RL  
Project Number: 22-079  
Drawing Number: \_\_\_\_\_

M2.0



SPECIFICATIONS

VERTICAL MODELS

ALL MODELS ARE DESIGNED FOR FREE STANDING MOUNTING, OR ON A FIELD--FABRICATED STRUCTURAL STEEL STAND. CABINET ALL CABINETS SHALL BE COMPLETELY CONSTRUCTED OF HEAVY GAUGE CORROSION--RESISTANT STEEL. THE ENTIRE UNIT INTERIOR (BOTH EVAPORATOR AND CONDENSING SECTION) SHALL BE INSULATED WITH 1/2" THICK, 2--LB. DENSITY INSULATION. SERVICE PANELS SHALL BE EQUIPPED WITH LIFTING HANDLES FOR EASE OF REMOVAL AND HANDLING. DUCT FLANGES FOR CONDENSER DISCHARGE, CONDENSER INTAKE, AND EVAPORATOR DISCHARGES SHALL BE PROVIDED WITH THE UNIT FOR FIELD INSTALLATION. DUCT FLANGE ON EVAPORATOR RETURN SHALL BE INCORPORATED INTO THE FILTER FRAME. COMPRESSORS ALL MODELS SHALL UTILIZE HIGH--EFFICIENCY "SCROLL" TYPE, R--410A, HERMETIC COMPRESSORS. COMPRESSORS SHALL BE MOUNTED ON RUBBER ISOLATORS TO MINIMIZE VIBRATION TRANSMISSION. INTERNAL MOTOR OVERLOAD PROTECTION SHALL BE PROVIDED. EXTERNAL HIGH PRESSURE AND LOW PRESSURE CUT--OUT SWITCHES ARE INCLUDED IN EACH COMPRESSOR CONTROL CIRCUIT. ALL 8--25 TON MODELS SHALL HAVE TWO INDIVIDUAL SCROLL COMPRESSORS. REFRIGERANT CIRCUITS MODELS 5 TONS AND SMALLER HAVE A SINGLE REFRIGERATION CIRCUIT. EACH REFRIGERATION CIRCUIT IS THOROUGHLY EVACUATED, AND FULLY CHARGED WITH R--410A REFRIGERANT BEFORE SHIPMENT. VERTICAL MODELS 8--25 TONS SHALL HAVE TWO INDEPENDENT REFRIGERATION CIRCUITS, AND SHIP WITH A NITROGEN HOLDING CHARGE ONLY. THE 8 TON HORIZONTAL MODEL IS FULLY CHARGED WITH R--410A REFRIGERANT BEFORE SHIPMENT. EACH REFRIGERATION CIRCUIT INCLUDES AN ADJUSTABLE THERMAL EXPANSION VALVE (WITH EXTERNAL EQUALIZER), LIQUID LINE FILTER DRIER, SIGHT GLASS/MOISTURE INDICATOR, A HIGH REFRIGERANT PRESSURE SAFETY SWITCH, A LOW REFRIGERANT PRESSURE SWITCH (FOR COMPRESSOR PROTECTION), AND SERVICE GAUGE PORTS. EVAPORATOR AND CONDENSER COILS THE EVAPORATOR AND CONDENSER COILS SHALL BE CONSTRUCTED OF INTERNALLY ENHANCED COPPER TUBES MECHANICALLY BONDED TO ENHANCED--SURFACE ALUMINUM FINNS. BOTH COILS SHALL BE EMPLOYED IN A DRAW--THRU CONFIGURATION. LARGE EVAPORATOR COIL FACE AREA MINIMIZES POTENTIAL FOR WATER BLOW--OFF.

INDOOR/OUTDOOR FANS FORWARD CURVED, DOUBLE INLET AND DOUBLE WIDTH CENTRIFUGAL BLOWERS SHALL BE USED FOR BOTH EVAPORATOR AND CONDENSER AIR MOVEMENT. BLOWER WHEELS SHALL BE FABRICATED OF GALVANIZED STEEL. BLOWERS EMPLOY SOLID STEEL SHAFTS, SUPPORTED IN PERMANENTLY LUBRICATED BALL BEARINGS. ALL BLOWERS SHALL BE BELT DRIVEN. VARIABLE--PITCH MOTOR SHEAVES ALLOW FOR FIELD ADJUSTMENT OF BLOWER RPM. MOTOR SHALL BE 1750 RPM, OPEN DRIP PROOF DESIGN. FOR 20 AND 25 TON MODELS ONLY, THE INDOOR FAN SHALL HAVE TWO DISCRETE SPEEDS. HIGH AND LOW INDOOR FAN DISCRETE SPEEDS ARE ACHIEVED BY MEANS OF VARIABLE FREQUENCY DRIVE (VFD). THE HIGH SPEED IS AVAILABLE ONLY WHEN BOTH COMPRESSOR STAGES ARE ACTIVE. THE LOW SPEED (60% OF HIGH SPEED IS RPM) IS ACTIVATED ONLY WHEN RUNNING SINGLE COMPRESSOR STAGE, FAN ONLY, OR AIR SIDE ECONOMIZER. FILTERS ALL MODELS SHALL BE SHIPPED WITH 2--INCH THICK MEDIUM--EFFICIENCY THROWAWAY FILTERS FACTORY INSTALLED. ELECTRICAL/CONTROLS ALL UNITS ARE COMPLETELY FACTORY WIRED WITH ALL NECESSARY CONTROLS. CURRENT OVERLOAD PROTECTION IS PROVIDED ON BOTH EVAPORATOR AND CONDENSER MOTORS WITH EXTERNAL MANUAL RESET OVERLOAD PROTECTION. THE 24 VOLT CONTROL CIRCUIT INCLUDES AN OVERSIZED TRANSFORMER WITH AN INTERNAL CIRCUIT BREAKER. MICROPROCESSOR CONTROLS THE CONTROL SYSTEM MICROPROCESSOR BOARD SHALL BE SPECIFICALLY DESIGNED FOR AIR--COOLED UNIT OPERATION. A. UNIT SHALL BE COMPLETE WITH SELF--CONTAINED LOW--VOLTAGE CONTROL CIRCUIT. B. UNIT SHALL INCORPORATE A LOCKOUT CIRCUIT WHICH PROVIDES RESET CAPABILITY AT THE SPACE THERMOSTAT OR BASE UNIT, SHOULD ANY OF THE FOLLOWING STANDARD SAFETY DEVICES TRIP AND SHUT OFF COMPRESSOR. • LOSS--OF--CHARGE/LOW--PRESSURE SWITCH • HIGH--PRESSURE SWITCH • CONDENSATE OVERFLOW PROTECTION SWITCH C. UNIT SHALL OPERATE WITH CONVENTIONAL THERMOSTAT DESIGNS AND HAVE A LOW VOLTAGE TERMINAL STRIP FOR EASY HOOK--UP. D. UNIT CONTROL BOARD SHALL HAVE ON--BOARD DIAGNOSTICS AND FAULT CODE DISPLAY. E. STANDARD CONTROLS SHALL INCLUDE ANTI--SHORT CYCLE AND LOW VOLTAGE PROTECTION. F. CONTROL BOARD SHALL MONITOR EACH REFRIGERANT SAFETY SWITCH INDEPENDENTLY. G. CONTROL BOARD SHALL RETAIN LAST 5 FAULT CODES IN NON VOLATILE MEMORY WHICH WILL NOT BE LOST IN THE EVENT OF A POWER LOSS.

FACTORY INSTALLED OPTIONS OVERSIZED EVAPORATOR FAN MOTORS INCREASED HORSEPOWER MOTOR AND DRIVE COMPONENTS FOR APPLICATIONS WHERE EXTERNAL STATIC PRESSURE REQUIREMENTS EXCEED THE CAPABILITY OF THE STANDARD MOTOR. CORROSION RESISTANT COATINGS CONDENSER COIL SHALL RECEIVE A 1--MIL THICKNESS OF A CATHODIC EPOXY TYPE ELECTRO--DEPOSITION COATING, APPLIED IN A MULTIPLE DIP AND BAKE PROCESS. STAINLESS STEEL DRAIN PAN EVAPORATOR DRAIN PAN SHALL BE FABRICATED OF 304 STAINLESS STEEL MATERIAL. THE 3/4" NPT DRAIN CONNECTION FITTING IS ALSO FABRICATED OF 304 STAINLESS STEEL. CONDENSATE OVERFLOW SWITCH CONDENSATE OVERFLOW SWITCH SHALL BE MOUNTED IN THE EVAPORATOR DRAIN PAN AND IN THE EVENT OF AN ALARM, SHUTOFF POWER TO UNIT COMPRESSOR. HOT GAS BYPASS ADJUSTABLE HOT GAS REGULATOR AND ALL NECESSARY PIPING SHALL BE INSTALLED ON LEAD COMPRESSOR CIRCUIT. THE MODULATING REGULATOR DIVERTS HOT DISCHARGE GAS TO EVAPORATOR INLET. BYPASS CAPACITY SHALL BE MINIMUM 50% OF COMPRESSOR CAPACITY. THE BYPASS VALVE OPENS AT A PRESET SUCTION PRESSURE TO PREVENT COIL FREEZE--UP AT LIGHT EVAPORATOR LOAD, OR LOW AIRFLOW CONDITIONS. SUPPLY PRESSURE CONTROLLED VARIABLE FREQUENCY DRIVE AIRFLOW MODULATION AND STATIC PRESSURE CONTROL SHALL BE ACHIEVED BY INCREASING OR DECREASING THE SPEED OF THE VFD. THE VFD SHALL BE APPROVED FOR PLENUM DUTY APPLICATIONS. THE COMPRESSORS SHALL BE STAGED TO MEET THE DISCHARGE AIR TEMPERATURE SET POINT. THE COMPRESSOR CIRCUIT #1 SHALL HAVE FACTORY INSTALLED HOT GAS BYPASS. THE INSTALLER SHALL PROVIDE AND INSTALL TWO SENSOR TUBING LINES COMPLETE WITH STATIC PRESSURE TIPS FROM A FACTORY INSTALLED PRESSURE TRANSDUCER (LOCATED IN VFD ENCLOSURE) TO DUCT LOCATIONS. FIELD INSTALLED OPTIONS LOW AMBIENT DAMPER KIT HEAD PRESSURE CONTROL DAMPER KIT WILL ALLOW UNIT OPERATION DOWN TO 0 F AMBIENT. DAMPER ASSEMBLY MOUNTS ON CONDENSER AIR EXHAUST. OVERSIZED EVAPORATOR FAN MOTOR KIT INCREASED HORSEPOWER MOTORS AND DRIVE COMPONENTS ARE AVAILABLE FOR FIELD INSTALLATION.

AIRSIDE ECONOMIZER CONSISTING OF AN INTEGRATED MIXING BOX AND CONTROL ASSEMBLY, THE ECONOMIZER MATES EASILY TO ALL D--SERIES AIR HANDLERS. A FACTORY SUPPLIED WIRING HARNESS AND JACK PLUG ASSEMBLY SIMPLIFIES FIELD WIRING, REDUCING VALUABLE INSTALLATION TIME. NO ADDITIONAL CONTROLS OR TRANSFORMERS ARE NECESSARY TO COMPLETE THE INSTALLATION. THE MIXING BOX IS MANUFACTURED FROM HEAVY GAUGE STEEL AND COMPLETELY INSULATED WITH ONE HALF INCH OF INSULATION. THE MIXING BOX IS COMPLETE WITH FULLY MODULATING OPPOSED BLADE DAMPERS AND LINKAGE. LOW LEAKAGE DAMPERS MEET THE CRITERIA OF LESS THAN 10 CFM PER SQUARE FOOT AT 4" W.G. (0.5% AT 2000 FPM). ALL DAMPER BLADES ARE PROVIDED WITH NEOPRENE SEALS PROVIDING A TIGHT SEAL AND QUIET OPERATION. HONEYWELL W7215 ECONOMIZER CONTROL MODULE IS A MULTI--FUNCTIONAL CONTROLLER CAPABLE OF ANALYZING DRY BULB, ENTHALPY AND AIR QUALITY INPUTS. AN OUTPUT FROM THE ECONOMIZER MODULE WILL POSITION THE MIXING BOX DAMPERS TO PROVIDE ENERGY SAVING THROUGH THE INTRODUCTION OF OUTSIDE AIR FOR FREE COOLING. DISCHARGE PLENUM PLENUMS SHALL MOUNT ON TOP OF THE EVAPORATOR SECTION, WITH FANS ARRANGED FOR VERTICAL DISCHARGE. DOUBLE DEFLECTION GRILLS SHALL ALLOW AIR DISCHARGE IN MULTIPLE DIRECTIONS.

SILVER / PETRUCELLI + ASSOCIATES

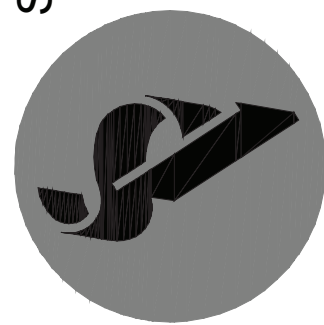
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Branch Renovation at:

M&T Bank

1019 Park Street  
Peekskill, NY 10566

Drawing Title:

MECHANICAL SPECIFICATION

Date:

05/25/2022

Scale:

AS NOTED

Drawn By:

RL

Project Number:

22-079

Drawing Number:

M3.0