

AIR HANDLING UNIT SCHEDULE																								
GENERAL			SUPPLY FAN				RETURN FAN				ENERGY WHEEL		STEAM HUMIDIFIER				ELECTRICAL		NOTES					
MARK	LOCATION	BASIS OF DESIGN (TRANE P/N)	SUPPLY CFM	O.A. CFM	E.S.P. IN. WG	MOTOR HP	RETURN CFM	RELIEF CFM	E.S.P. IN. WG	MOTOR HP	% EFFECTIVENESS		EAT °F		LAT °F		STEAM PSIG	STEAM LBS/HR		V/ø/Hz				
											SENSIBLE	LATENT	DB	WB	DB	WB								
AHU-1A	MECH. 1A-121	CSAA40	18770	10405	3.0	25	9050	-	1.3	5	-	-	41.9	34.6	41.9	40.5	15	214.5	480/3/60	①②③④				
	CHILLED WATER COOLING COIL										STEAM PREHEAT COIL						HOT WATER HEATING COIL							
	CFM	CAPACITY BTUH	EAT °F	LAT °F	EWT °F	LWT °F	GPM	MAX PD FT. H2O	CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	STEAM PSIG		CONTROL VALVE LBS/HR	CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	EWT °F	LWT °F	GPM	MAX PD FT. H2O	
18360	1216189	91.4	74.5	55.0	54.3	43	57	173.7	20	-	-	-	-	-	-	10115	647663	41.9	101.2	200	160	32.4	16	

- ① RETURN FAN MODULE, EXHAUST AIR MIXING MODULE, OUTDOOR AIR MIXING MODULE, FILTER MODULE w/ 30% PRE-FILTER, SUPPLY FAN MODULE, DIFFUSER MODULE, FILTER MODULE w/ 95% AFTER-FILTER, ACCESS MODULE, HUMIDIFICATION MODULE, MULTIZONE COIL MODULE.
- ② 95% AFTER-FILTERS TO BE 22" BAG-TYPE
- ③ PROVIDE SMOKE DETECTOR IN SUPPLY AIR FOR UNIT SHUTDOWN.
- ④ OUTDOOR AIR MIXING MODULE SHALL BE PROVIDED WITH HEAVY-DUTY BIRD SCREEN ON ENTERING FACE.

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											SENSIBLE	LATENT	DB	WB	DB	WB									
AHU-1B	MECH. 1B-115	CSAA30	14770	9380	3.0	40	6075	-	1.3	3	-	-	55.0	40.8	55.0	47.1	15	195.8	480/3/60	①②③④					
	CHILLED WATER COOLING COIL						STEAM PREHEAT COIL						HOT WATER HEATING COIL												
	CFM	CAPACITY BTUH	EAT °F		LAT °F		EWT °F	LWT °F	GPM	MAX PD FT. H2O	CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	STEAM PSIG		CONTROL VALVE LBS/HR	CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	EWT °F	LWT °F	GPM	MAX PD FT. H2O
			DB	WB	DB	WB									ENTERING °F	ENTERING °F									
	11860	867363	94.1	76.0	55.0	54.3	43	57	123.9	20	14770	601,161	17	55	15	12	595.2	9460	197138	55.0	74.3	200	160	9.9	16

- ① RETURN FAN MODULE, EXHAUST AIR MIXING MODULE, OUTDOOR AIR MIXING MODULE, FILTER MODULE w/ 30% PRE-FILTER, SUPPLY FAN MODULE, DIFFUSER MODULE, FILTER MODULE w/ 95% AFTER-FILTER, ACCESS MODULE, PRE-HEAT COIL MODULE, HUMIDIFICATION MODULE, MULTIZONE COIL MODULE.
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MARK	LOCATION	BASIS OF DESIGN (TRANE P/N)	SUPPLY CFM	O.A. CFM	E.S.P. IN. WG	MOTOR HP	RETURN CFM	RELIEF CFM	E.S.P. IN. WG	MOTOR HP	% EFFECTIVENESS		EAT °F		LAT °F		STEAM PSIG	STEAM LBS/HR			V/ø/Hz			
											SENSIBLE	LATENT	DB	WB	DB	WB								
AHU-1C	MECH. 1C-118	CSAA25	10705	2675	3.0	20	9800	-	1.3	5	-	-	58.3	46.2	58.3	48.5	15	55.8	480/3/60	①②③④				
	CHILLED WATER COOLING COIL										STEAM PREHEAT COIL						HOT WATER HEATING COIL							
	CFM	CAPACITY BTUH	EAT °F		LAT °F		EWT °F	LWT °F	GPM	MAX PD FT. H2O	CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	STEAM PSIG		CONTROL VALVE LBS/HR	CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	EWT °F	LWT °F	GPM
DB			WB	DB	WB	ENTERING CTRL. VLV.									ENTERING COIL									
8820	422981	85.8	69.7	55.0	54.2	43	57	60.4	20	-	-	-	-	-	-	-	5035	187102	58.3	92.7	200	160	9.4	16

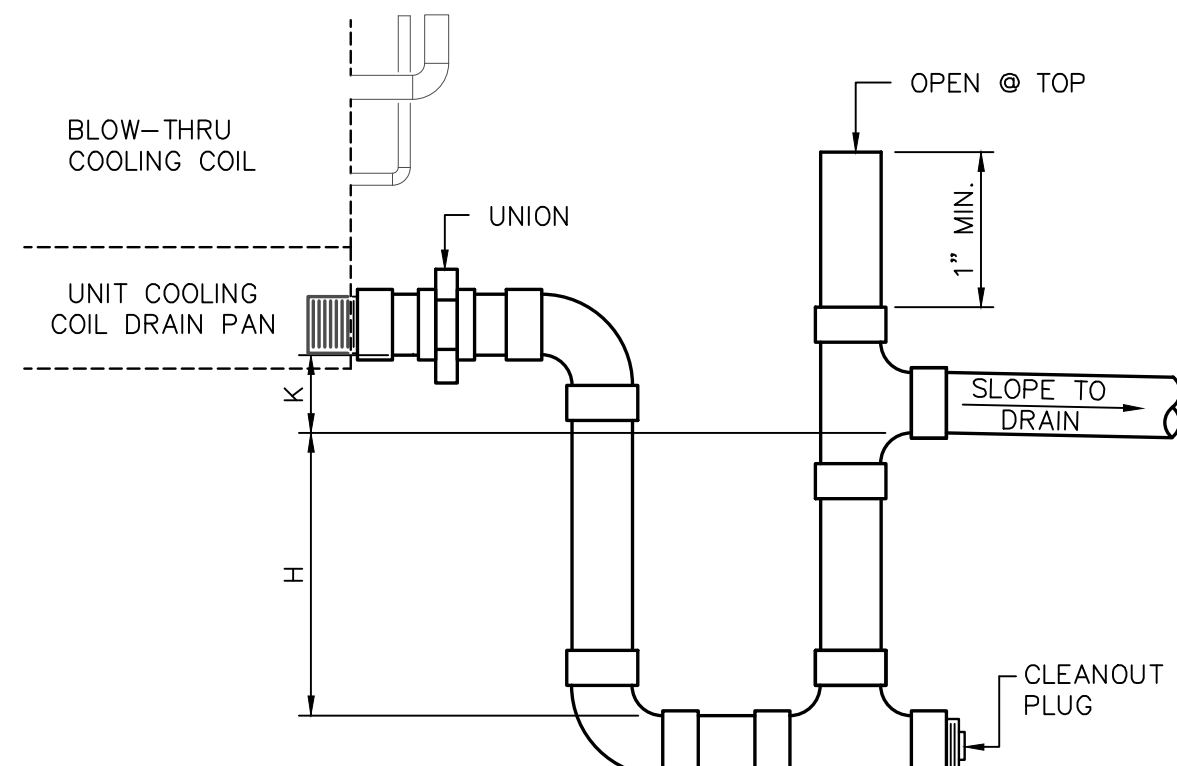
- ① RETURN FAN MODULE, EXHAUST AIR MIXING MODULE, OUTDOOR AIR MIXING MODULE, FILTER MODULE w/ 30% PRE-FILTER, SUPPLY FAN MODULE, DIFFUSER MODULE, FILTER MODULE w/ 95% AFTER-FILTER, ACCESS MODULE, HUMIDIFICATION MODULE, MULTIZONE COIL MODULE.
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											SENSIBLE	LATENT	DB	WB	DB	WB									
AHU-1H	MECH. PENTHOUSE	CSAA50	29530	8135	3.0	60	21395	—	1.3	10	—	—	56.8	45.2	56.8	47.0	15	169.8	480/3/60	①②③④⑤					
	CHILLED WATER COOLING COIL						STEAM PREHEAT COIL						HOT WATER HEATING COIL												
	CFM	CAPACITY BTUH	EAT °F		LAT °F		EWT °F	LWT °F	GPM	MAX PD FT. H2O	CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	STEAM PSIG		CONTROL VALVE LBS/HR	CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	EWT °F	LWT °F	GPM	MAX PD FT. H2O
			DB	WB	DB	WB									ENTERING CTRL. VLV.	ENTERING COIL									
	27500	1353692	87.2	69.9	55.0	54.0	43	57	193.4	20	—	—	—	—	—	—	—	25780	888108	56.8	88.7	200	160	44.4	16

- ① SUPPLY SIDE: OUTDOOR AIR MIXING MODULE, FILTER MODULE w/ 35% PRE-FILTER AND 95% AFTER-FILTER, SUPPLY FAN MODULE, DIFFUSER MODULE, HUMIDIFICATION MODULE, MULTIZONE COIL MODULE.
- ② RETURN SIDE: RETURN FAN MODULE, EXHAUST AIR MIXING MODULE.
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- ⑤ OUTDOOR AIR MIXING MODULE SHALL BE PROVIDED WITH HEAVY-DUTY BIRD SCREEN ON ENTERING FACE.

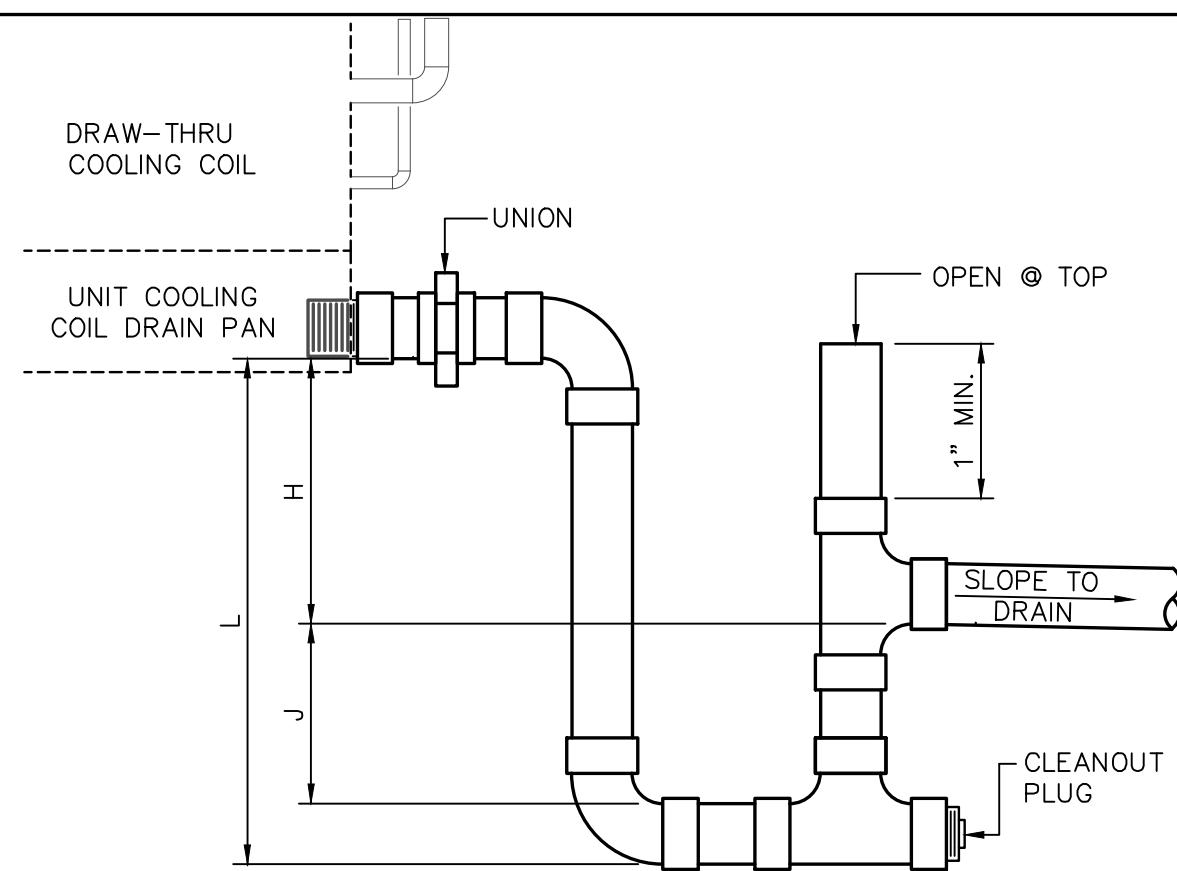
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											SENSIBLE	LATENT	DB	WB	DB	WB								
AHU-6B	MECH. 6B-136	CUSTOM AIR HANDLER	27024	26220	3.0	50	15980	16784	1.3	15	87.2	84.9	54.0	36.5	55.3	47.8	15	570.8	480/3/60	①②③④⑤				
	CHILLED WATER COOLING COIL										STEAM PREHEAT COIL						HOT WATER HEATING COIL							
	CFM	CAPACITY BTUH	EAT °F		LAT °F		EWT °F	LWT °F	GPM	MAX PD FT. H2O	CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	STEAM PSIG		CONTROL VALVE LBS/HR	CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	EWT °F	LWT °F	GPM
DB			WB	DB	WB	ENTERING CTRL. VLV.									ENTERING COIL									
25140	1553890	87.1	72.7	54.0	53.9	43	57	221.2	20	-	-	-	-	-	-	-	18135	749330	47.2	85.3	200	160	37.4	16

- ① SUPPLY SIDE: OUTDOOR AIR MIXING MODULE, FILTER MODULE w/ 35% PRE-FILTER AND 95% AFTER-FILTER, ENERGY WHEEL, AIR SECTION, SUPPLY FAN MODULE, FILTER MODULE w/ 35% FILTER, HUMIDIFICATION MODULE, MULTIZONE COIL MODULE.
- ② RETURN SIDE: RETURN AIR MIXING MODULE w/ 35% FILTER, ENERGY WHEEL, ACCESS MODULE, EXHAUST FAN MODULE.
- ③ 95% FILTERS TO BE 22" BAG-TYPE
- ④ PROVIDE SMOKE DETECTOR IN SUPPLY AIR FOR UNIT SHUTDOWN.
- ⑤ OUTDOOR AIR MIXING MODULE SHALL BE PROVIDED WITH HEAVY-DUTY BIRD SCREEN ON ENTERING FACE.



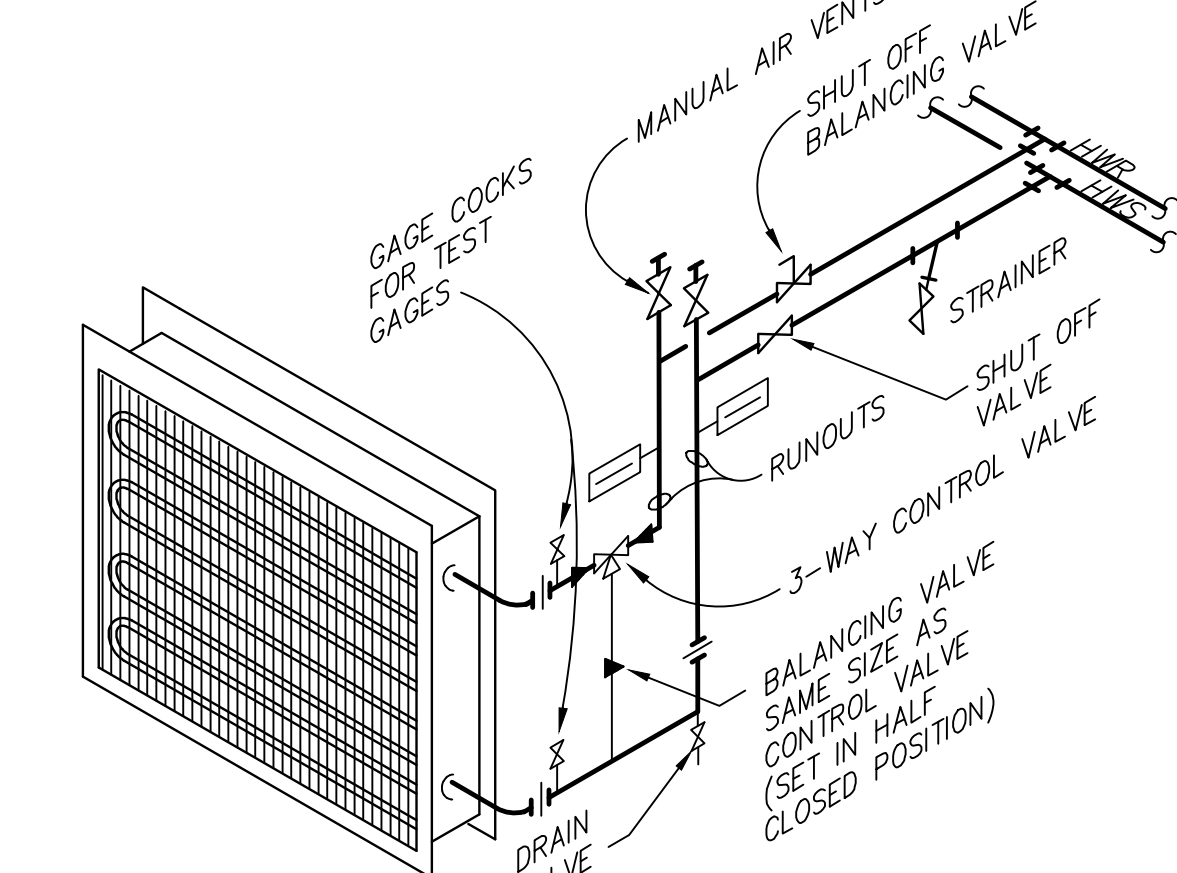
- NOTES:
1. DRAIN LINE CONNECTION SIZE SAME AS UNIT DRAIN SIZE.
 2. EXTEND DRAIN PIPING TO SPECIFIED LOCATION ON HVAC PLAN.
 3. DRAIN LINE TO BE SUPPORTED EVERY 4' WITH 3/8" ROD AND LIGHT-DUTY CLEVIS HANGER
 4. K = MIN. 1/2"
 5. H = 1/2" + MAXIMUM TOTAL STATIC PRESSURE

5 M-15
NO SCALE
POSITIVE PRESSURE TRAP



- NOTES:
1. DRAIN LINE CONNECTION SIZE SAME AS UNIT DRAIN SIZE.
 2. EXTEND DRAIN PIPING TO SPECIFIED LOCATION ON HVAC PLAN.
 3. DRAIN LINE TO BE SUPPORTED EVERY 4' WITH 3/8" ROD AND LIGHT-DUTY CLEVIS HANGER
 4. H = (1" FOR EACH 1" OF MAXIMUM NEGATIVE STATIC PRESSURE) + 1"
 5. J = 1/2 OF H
 6. L = H + J + PIPE DIA.

11 M-15
NO SCALE
NEGATIVE PRESSURE TRAP



17 M-15
NO SCALE

HVAC SPECIFICATIONS

ALL WORK SHALL BE PERFORMED PER NFPA 90A & 90B, 96; 2002 NATIONAL ELECTRICAL CODE, 2008 INTERNATIONAL MECHANICAL CODE, & ALL APPLICABLE STATE & LOCAL CODES.

DUCT SIZES MAY BE ALTERED AS LONG AS SAME DUCT CROSS SECTIONAL AREA IS MET IN ORDER TO AVOID INTERFERENCES AS NEEDED.

INSTALL ALL MECHANICAL EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.

EQUIPMENT MODEL NUMBERS ARE MINIMUM ACCEPTABLE SPECIFICATIONS. DIFFERENT MANUFACTURES WITH EQUAL OF BETTER PERFORMANCE ARE ACCEPTABLE.

ALL 90 DEGREE ELBOWS TO HAVE TURNING VANES (SUPPLY & RETURN DUCT).

ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS. ON RECTANGULAR DUCTS, DIMENSIONS GIVEN FIRST IS DIMENSION SEEN.

ARRANGEMENTS OF MECHANICAL WORK SHALL BE AS SHOWN. DRAWINGS ARE NOT INTENDED TO INDICATE ALL OFFSETS AND FITTINGS. EXAMINE ALL DRAWINGS, INVESTIGATE CONDITIONS TO BE ENCOUNTERED AND ARRANGE WORK ACCORDINGLY; FURNISH AND INSTALL ALL FITTINGS AND OFFSETS.

DRAWINGS ARE NOT INTENDED TO SHOW IN DETAIL EXACT LOCATIONS AND CONNECTIONS FOR EQUIPMENT AND ACCESSORIES. FINAL CONNECTIONS SHALL BE AS SHOWN ON APPROVED SHOP DRAWINGS.

MEASUREMENT OF DRAWINGS BY SCALE SHALL NOT BE USED AS DIMENSIONS FOR FABRICATION. MEASUREMENTS FOR LOCATING EQUIPMENT, DUCTWORK, PIPING AND ACCESSORIES SHALL BE MADE ON THE JOB SITE AND SHALL BE BASED ON ACTUAL JOB CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEASUREMENTS. WHERE THE CONTRACTOR PREFABRICATES ANY WORK BASED ON THE DRAWINGS WITHOUT VERIFYING ACTUAL JOB CONDITIONS, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INVOLVED IN MAKING CHANGES TO PREFABRICATED WORK WHERE CONFLICTS OCCUR.

THE CONTRACTOR SHALL CHECK CEILING HEIGHTS IN EACH SPACE ON ARCHITECTURAL DRAWINGS AND SHALL ARRANGE ALL MECHANICAL WORK TO FIT IN THE SPACE ABOVE THE CEILING ALLOWING FOR ACCESS TO REMOVE TILE. PARTICULAR ATTENTION SHALL BE DIRECTED TOWARD DUCT SIZES AS SHOWN ON DRAWINGS, TO VERIFY THAT DUCTWORK ALONG WITH ALL OTHER WORK WILL FIT IN THE SPACE ABOVE THE CEILINGS. AFTER VERIFYING DIMENSIONS, IF THE CONTRACTOR DETERMINES THAT THE WORK WILL NOT FIT IN THE SPACE INDICATED, THEN THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE CONFLICT AND SHALL NOT INSTALL ANY WORK UNTIL INSTRUCTIONS ARE RECEIVED FROM THE ENGINEER. IF THE CONTRACTOR INSTALLS WORK AS SHOWN ON DRAWINGS WITHOUT VERIFYING ADEQUACY OF SPACES, AND THE WORK DOES NOT FIT THE SPACE SHOWN, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR REARRANGING WORK AND CHANGING DUCT SIZES AS REQUIRED TO FIT THE SPACE AND THE CONTRACTOR SHALL PAY ALL COSTS CONNECTED WITH THE CHANGES.

CONTRACTOR SHALL INSTALL DUCTS, PIPING AND EQUIPMENT IN A NEAT AND WORKMANLIKE MANNER AND SHALL AVOID CONFLICT WITH OTHER WORK. EQUIPMENT SHALL BE SO ARRANGED AND FITTED INTO AVAILABLE SPACE SO THAT WORKING PARTS INCLUDING FILTERS AND LUBRICATION POINTS, AND COIL REMOVAL, ARE ACCESSIBLE FOR SERVICE WITHOUT DAMAGE TO BUILDING STRUCTURE OR FINISHES OR WITHOUT MOVING OTHER EQUIPMENT. THE CONTRACTOR SHALL NOT INSTALL ANY EQUIPMENT WHERE PARTS ARE INACCESSIBLE FOR SERVICE.

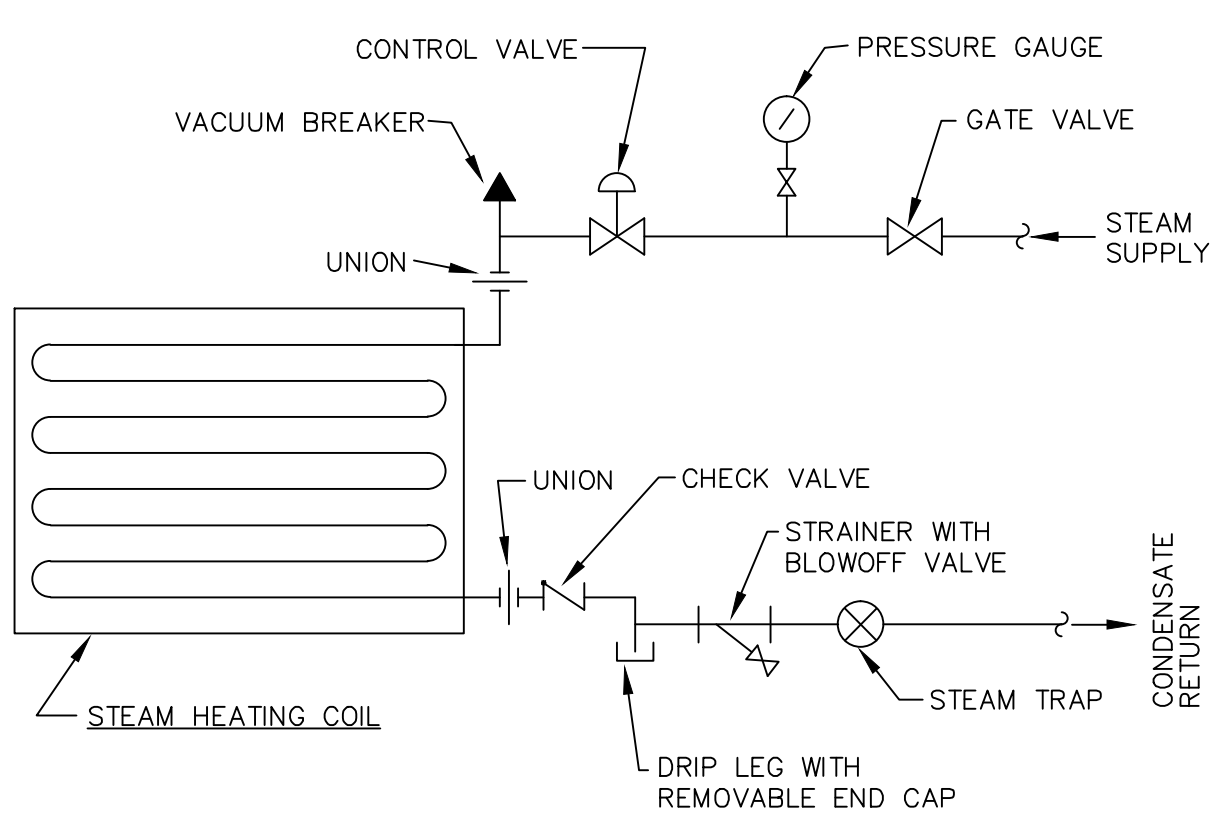
WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT TO PROVIDE MAXIMUM HEADROOM POSSIBLE.

PROVIDE UNION OR FLANGE CONNECTIONS IN PIPING AT ALL EQUIPMENT & AS REQUIRED FOR SERVICE.

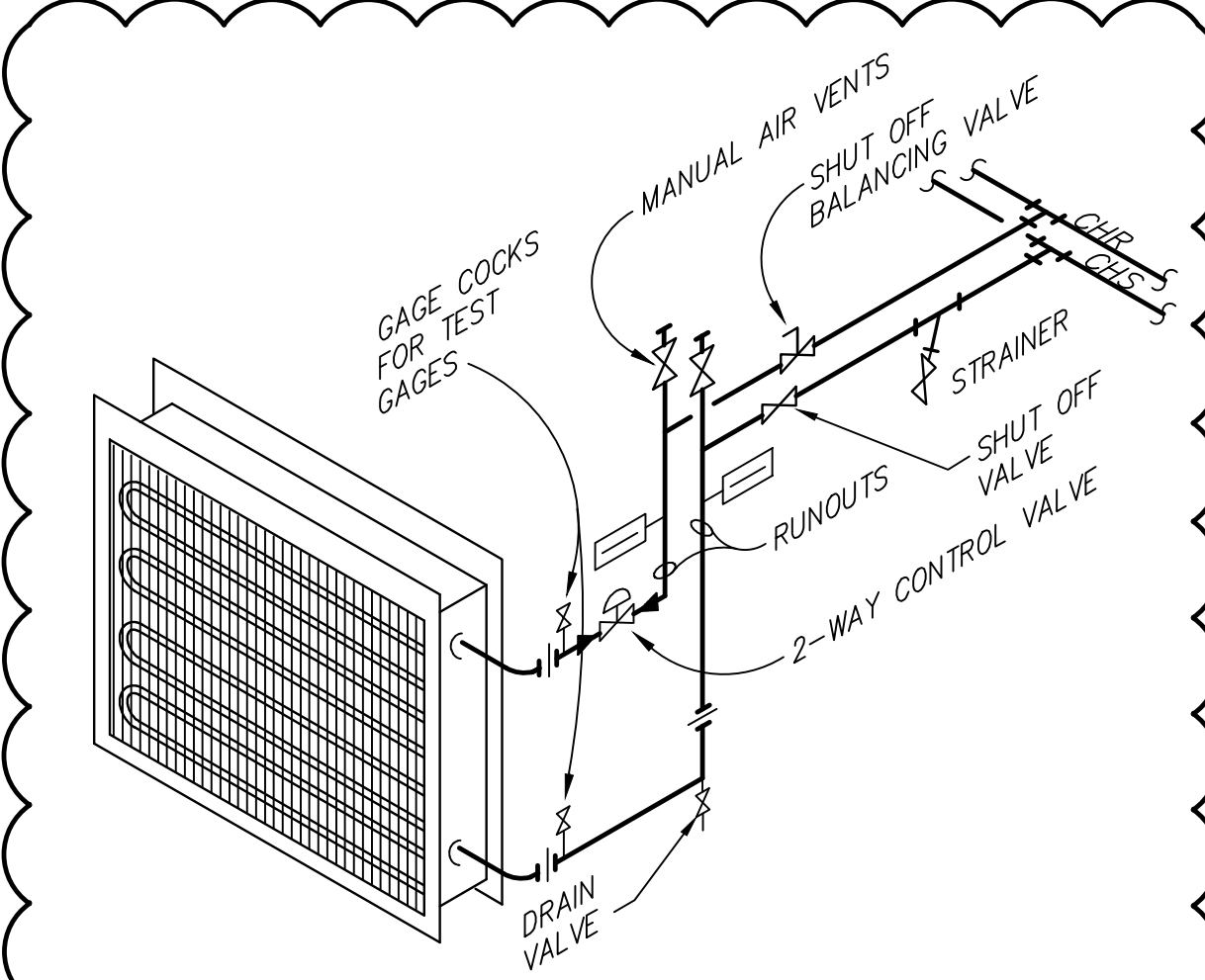
CUTTING AND REPAIRING: THE HVAC CONTRACTOR SHALL DO ALL CUTTING AND REPAIRING OF WALLS, FLOORS, CEILINGS, ETC. NECESSARY FOR THE INSTALLATION OF THE WORK BUT HE SHALL NOT CUT INTO ANY STRUCTURAL MEMBER WITHOUT THE PERMISSION OF THE ARCHITECT.

PROOF TESTING OF ALL SMOKE DAMPERS ARE REQUIRED AND NOISE CONTROL SHALL BE MAINTAINED THROUGHOUT THE PROJECT.

12 M-15
NO SCALE



18 M-15
NO SCALE



24 M-15
NO SCALE

GENERAL SPECIFICATIONS

SEAL PAINT THE SLAB WITH EPOXY-TYPE PAINT WHERE EACH NEW AHU WILL BE PLACED.

SOME AFTER HOURS WORK (I.E., AFTER 4:30 pm) INCLUDING WEEKENDS MAY BE REQUIRED FOR SUCH THINGS AS TIE-INS, ESPECIALLY IF UTILITY SHUT DOWNS ARE NEEDED. ALL AFTER HOURS WORK SHALL BE COORDINATED WITH THE VA PROJECT ENGINEER.

INFECTION CONTROL SHALL BE MAINTAINED (INCLUDING DUST CONTAINMENT) AND AN INFECTION CONTROL RISK ASSESSMENT (ICRA) SHALL BE PERFORMED FOR THE PROJECT.

23 M-15

19 M-15

REVISD CHW CONTROL VALVE	06/08/12	Drawn By: LPM	Recommended: Chief, Engineering Dept.	Recommended: ACOS/Research
RE-ISSUED FOR CONSTRUCTION	12/02/11	Checked: CVW	Recommended: Safety Manager	Recommended: Energy Engineer
ISSUED FOR CONSTRUCTION	05/06/11	Recommended: M & O General Foreman	Recommended: Informatics Manager	Recommended: GEMS Coordinator
Revisions:	Date:	Recommended: Chief, Construction Management	Recommended: Med. Center Epidemiologist	Recommended: