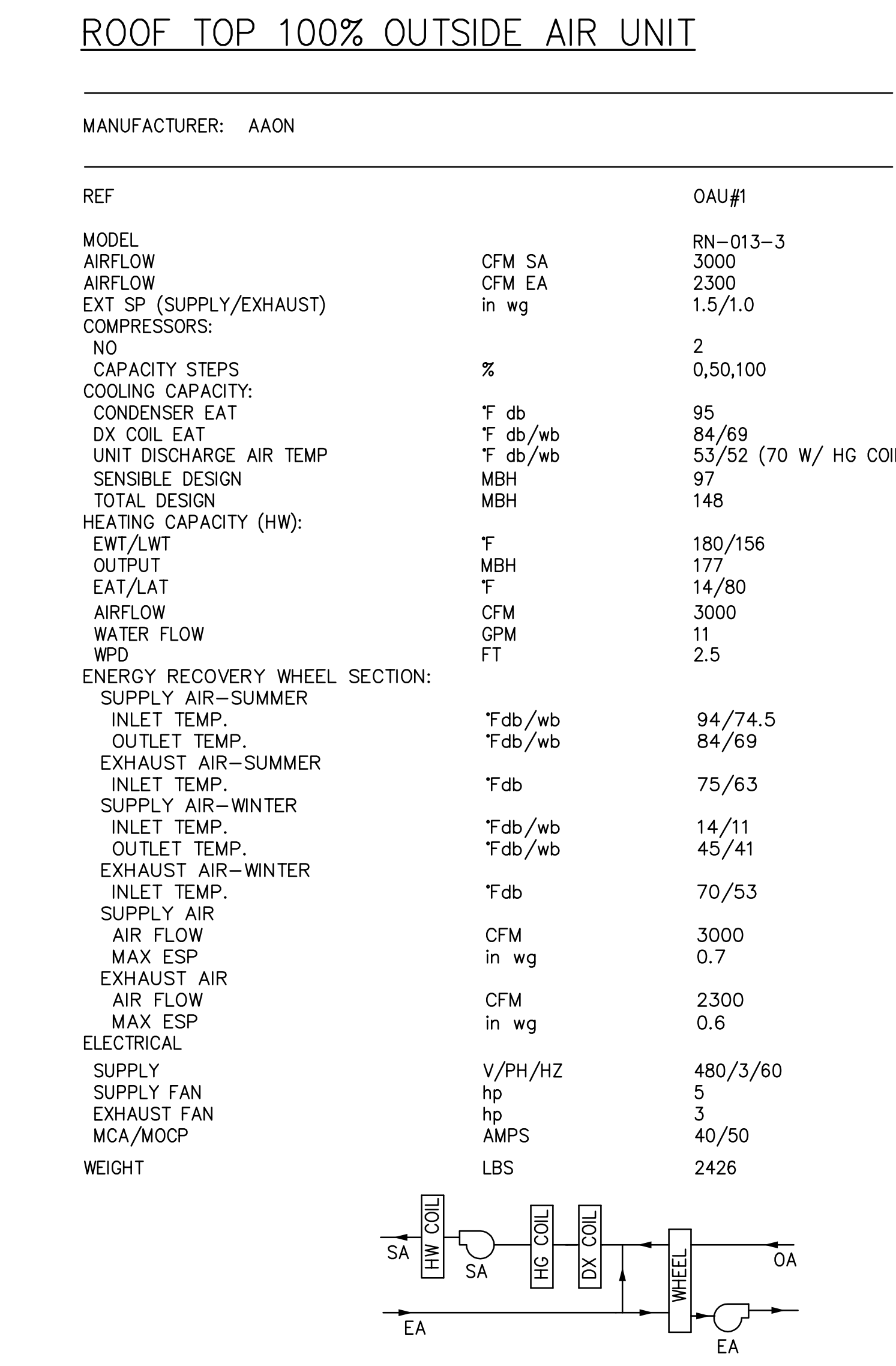
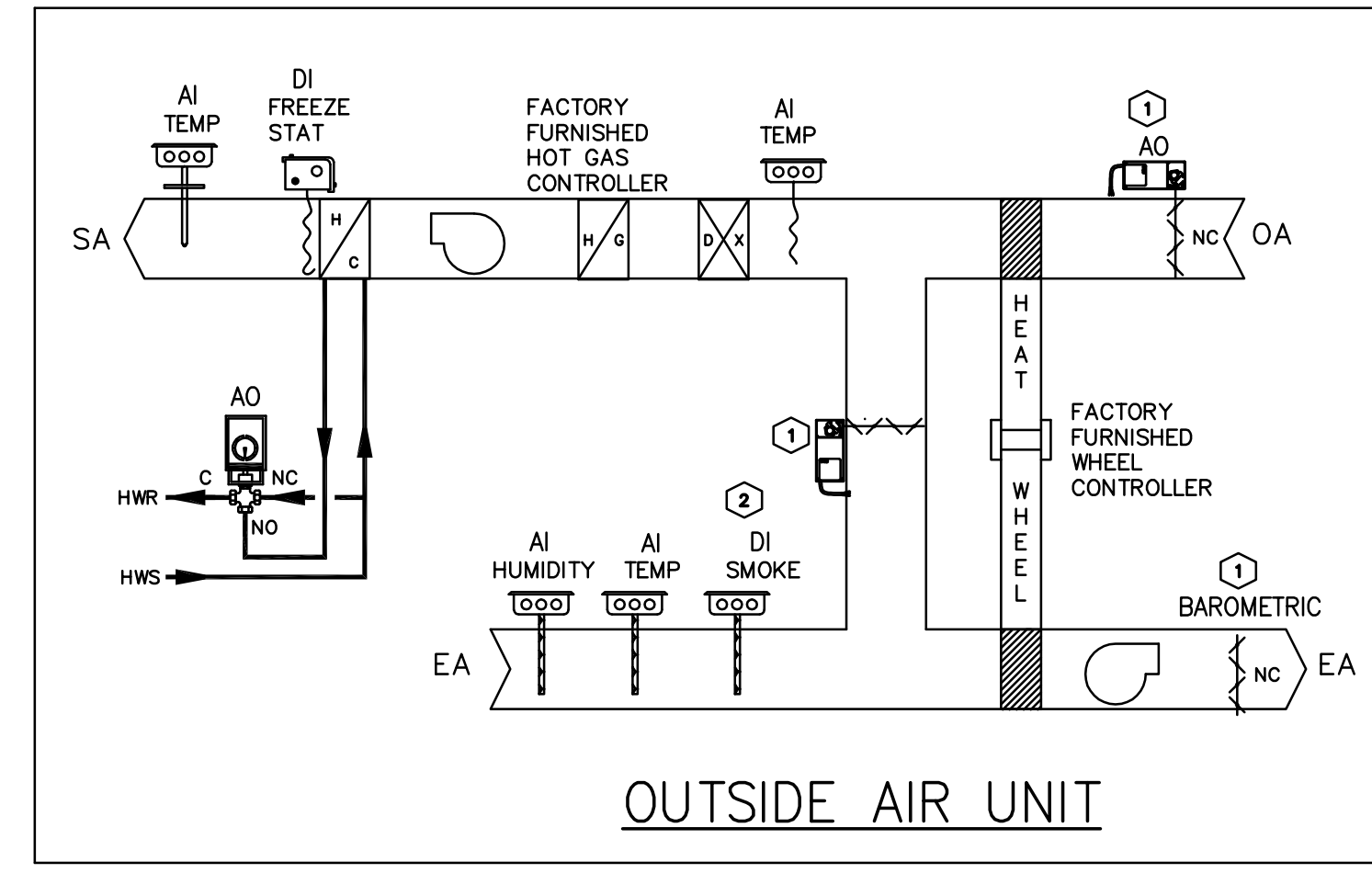
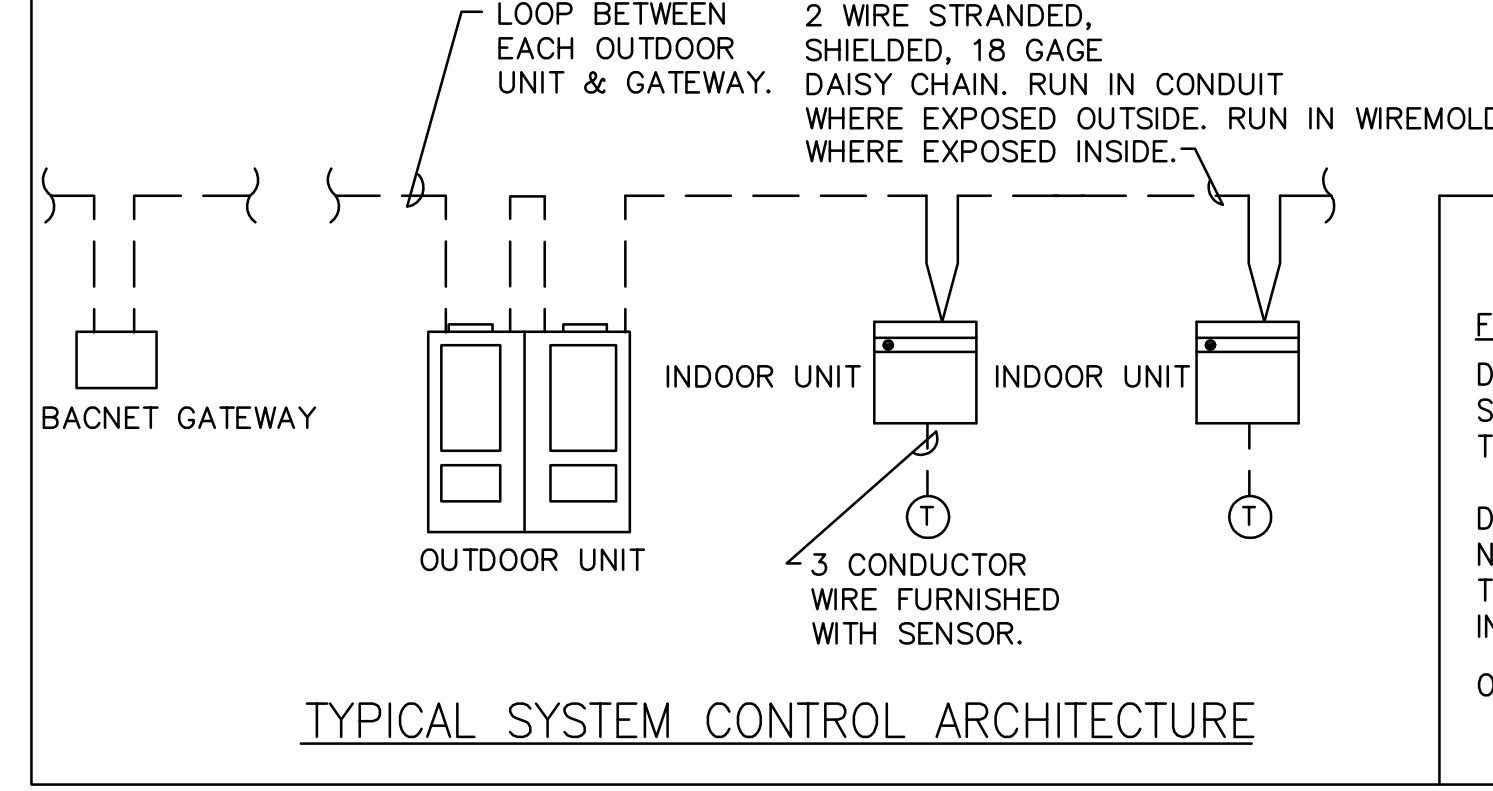


FAN COIL UNIT - 4 PIPE
 MANUFACTURER: TITUS

REF	MODEL	FCU
HEATING COIL:	CFM S.A.	THHP-16
EWT	°F	HORIZONTAL
EAT	°F	CONCEALED
OUTPUT	MBH	HIGH CAPACITY
MAX WPD	ft	1200 (210 O.A.)
COOLING COIL:		
EWT	°F	45
EAT db/wb	°F	79/65
SENSIBLE	MBH	30
TOTAL	MBH	37
FLOW RATE	GPM	5
MAX WPD	ft	1.6
ELECTRICAL:		
SUPPLY	V/PH/Hz	115/1/60
MOTOR	HP	(2) 1/4
ESP	IN WC	0.50
MCA/MOCP		11.02/15



OCCUPIED/UNOCCUPIED MODE:
 THERMOSTAT SHALL ENERGIZE COOLING OR HEATING BASED ON SPACE TEMPERATURE. BAS SHALL SET OCCUPIED/UNOCCUPIED TIMES, SET POINTS, AND OVER RIDE CAPABILITIES. BAS SHALL RECEIVE AN ALARM SHOULD THE SPACE TEMPERATURE NOT ACHIEVE SET POINT.

FAN COIL UNIT:
 DURING OCCUPIED OPERATION THE FAN SHALL BE ENERGIZED AND THE TERMINAL EQUIPMENT CONTROLLER SHALL MODULATE THE HOT WATER AND CHILLED WATER VALVE IN SEQUENCE TO MAINTAIN THE SETPOINT TEMPERATURE OF THE ROOM TEMPERATURE SENSOR.

DURING UNOCCUPIED OPERATION THE FAN SHALL BE DE-ENERGIZED AND ALL VALVES SHALL ASSUME THEIR NORMAL POSITIONS. IF NIGHT SETBACK ROOM TEMPERATURE SETPOINT IS EXCEEDED, THE BAS SHALL CYCLE THE FAN ON FULL HEAT TO MAINTAIN SETBACK SETPOINT. UPON ENERGIZING TWO HOUR PUSHBUTTON LOCATED IN THE SPACE, THE UNIT SHALL BE INDEXED TO OCCUPIED OPERATION.

OPEN OUTSIDE AIR DAMPER DURING OCCUPIED PERIOD.

OCCUPIED MODE:
 THE SUPPLY FAN SHALL BE STARTED AND THE UNIT PLACED INTO OCCUPIED MODE FROM THE OCCUPIED TIMER. WHEN THE SUPPLY FAN STARTS THE OUTSIDE AIR DAMPER WILL OPEN. THE EXHAUST FAN AND ENERGY RECOVERY WHEEL SHALL ALSO BE STARTED AT THIS TIME.

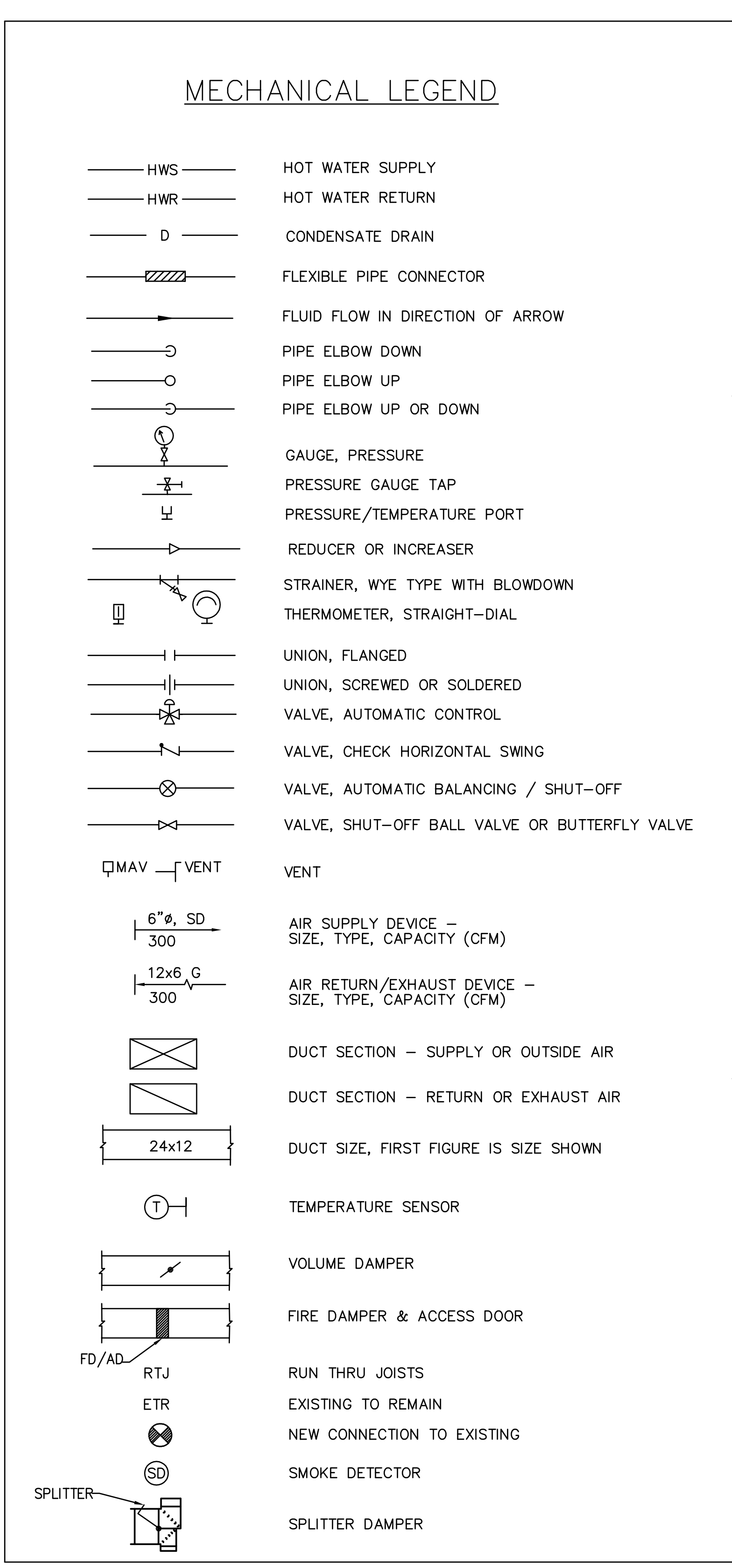
DEHUMIDIFICATION MODE:
 WHEN THE RETURN AIR HUMIDITY RISES ABOVE SETPOINT (50% ADJUSTABLE), THE COMPRESSORS SHALL BE STAGED ON UNTIL THE HUMIDITY DROPS BELOW SETPOINT.

THE HOT WATER HEATING COIL VALVE SHALL MODULATE AS REQUIRED DURING WINTER TO MAINTAIN NEUTRAL DISCHARGE SETPOINT.

SMOKE DETECTOR: WIRE TO SHUT DOWN UNIT AND SEND ALARM UPON SENSING SMOKE.

UNOCCUPIED MODE:
 WHEN THE RETURN AIR HUMIDITY RISES ABOVE SETPOINT (50% ADJUSTABLE), THE COMPRESSORS SHALL BE STAGED ON UNTIL THE HUMIDITY DROPS BELOW SETPOINT, THE WHEEL SHALL REMAIN OFF AND THE BYPASS DAMPER OPENED. OA AND EA DAMPER SHALL REMAIN CLOSED. EXHAUST FAN SHALL REMAIN OFF.

INSTALLATION NOTES:
 ① DAMPER BY UNIT MFR.
 ② SMOKE DETECTOR PROVIDED, MOUNTED, AND WIRED BY DIVISION 26. SEE PLANS FOR QUANTITY.



VRF SPLIT SYSTEM HEAT RECOVERY OUTDOOR UNIT

MANUFACTURER: LG ELECTRONICS

HEAT RECOVERY OUTDOOR UNIT:	VRF-OU-1	VRF-OU-2	HEAT RECOVERY BOX
MODEL	ARUM216DTE5	ARUM168DTE5	VARIES
INVERTER SCROLL COMPRESSORS	No.	2	-
STAGES	VARIES	VARIES	-
REFRIGERANT	TYPE	R410A	R410A
ELECTRICAL:			
SUPPLY	V/PH/Hz	480/3/60	208/1/60
MCA	AMPS	38.3	28.5
MOCP	AMPS	50	35
WEIGHT	lbs	666	49
RATED CAPACITY:			
CONDENSER EAT	°F db	95	95
COOLING	MBH	216	168
HEATING	MBH	243	189
EER		11.1	11.1
HSPF		8.5	8.5

PROVIDE REFRIGERANT PIPING BETWEEN INDOOR AND OUTDOOR UNITS INCLUDING HEAT RECOVERY UNITS. VERIFY SIZING WITH MANUFACTURER. INSULATE LIQUID, VAPOR, AND HOT GAS PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND LOCAL CODES. SET OUTDOOR UNITS ON THYCRUB TMS-3, 14" TALL EQUIPMENT RAILS FLASHED INTO ROOF. PROVIDE BACNET INTERFACE FOR BAS. CONTRACTOR SHALL PROVIDE PERMANENT PLASTIC LAMINATE LABEL WITH 1" TALL LETTERS.

VRF SPLIT SYSTEM INDOOR UNITS

MANUFACTURER: LG ELECTRONICS

REF	INDOOR UNIT:	CC-A	CC-B	CC-C	CC-D
MODEL	ARNU093TRC4	ARNU123TRC4	ARNU183TQC4	ARNU243TP	
AIRFLOW	CFM (LOW SPEED)	300	247	353	459
EXT. SP	in. wg	-	-	-	-
RATED CAPACITY:					
COIL EAT	°F db/wb	78/65	78/65	78/65	78/65
COOLING (SC/TC)	MBH	6.7/9.6	8.6/12.3	13.0/19.0	18.5/21.5
HEATING (TC)	MBH	10.9	13.6	21.5	26.6
ELECTRICAL:					
SUPPLY	V/PH/Hz	208/1/60	208/1/60	208/1/60	208/1/60
MCA	AMPS	0.2	0.2	0.2	0.2
WEIGHT	lbs	32	32	35	48

ALL UNITS SHALL HAVE BUILT IN SAFETY SWITCH TO SHUT DOWN UNIT IF CONDENSATE DRAIN BECOMES BLOCKED. FURNISH WIRE, AND INSTALL DOWNSTREAM OF FILTER IN EACH UNIT A PLASMA AIR MODEL PA600 ION GENERATOR AIR PURIFICATION UNIT TO COMPLY WITH IMC IAQ PROCEDURE FOR CONTAMINANT DILUTION DESIGN.

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SIMMONS, ROCKECHEARLE & PRINCE INC.
 Mechanical and Electrical Engineers
 PROJECT NUMBER: 17009

AHS MODERNIZATION/HVAC UPGRADE

ALBEMARLE COUNTY PUBLIC SCHOOLS

2775 HYDRAULIC ROAD
 CHARLOTTESVILLE, VA 22901

PROJECT NUMBER: 2016.40

PROJECT MANAGER: TAR

DRAWN BY: TAR III

ISSUE DATE: 3/24/2017

BID DOCUMENTS

REVISIONS:

PROFESSIONAL ENGINEER