

ROOFTOP UNITS

EQUIPMENT NO.	LOCATION	QUANTITY	AREA SERVED	PERFORMANCE/ CONSTRUCTION REQUIREMENTS																	BASIS OF DESIGN INFORMATION							NOTES	
				SUPPLY FAN			OUTSIDE AIR FLOW (CFM)	COOLING COIL				MIN TOTAL CAPACITY (MBH)	HEATING COIL						MNF	MODEL NO.	NOMINAL DIMENSIONS LxWxH (IN.)	NOMINAL OPERATION WEIGHT (LBS)	ELECTRICAL DATA						
				MAXIMUM FLOW (CFM)	EXT. S.P. (IN W.G)	BHP		REFRIGERANT TYPE	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EER		SEER	AIR DATA		HOT WATER COIL							VOLTS/ PHASE	SUPPLY FAN HP	UNIT MCA/MOCP				
														ENT. DB/WB (°F)	LVG. DB/WB (°F)	FLOW RATE (GPM)	EWT (°F)	LWT (°F)								COIL WATER ΔP (FT H2O)	EAT (°F)		COIL LAT (°F)
RTU-207	ROOF	1	207 TRAINING ROOM	1,200	0.60	0.57	325	R-410A	33.0	26.7	12.2	14.7	80.0 / 67.0	59.4 / 58.4	65.6	4.4	150	119.9	0.8	55	105.1	TEMPMASTER	ZR037C00B2B6ACA1A2	89 x 59 x 42	962	208/3	1.50	41.3 / 50	1-18

NOTES:

1. 4" PLEATED MERV-13 FILTERS WITH FOUR (4) SETS OF SPARE FILTER MEDIA.
2. HINGED ACCESS DOORS.
3. DISCONNECT SWITCH (FACTORY MOUNTED).
4. DIRTY FILTER INDICATOR SWITCH.
5. POWERED CONVENIENCE OUTLET.
6. CONDENSER HAIL GUARD.
7. LOW LEAK COMPARATIVE ENTHALPY ECONOMIZER.
8. ELECTRICAL CONTRACTOR TO FURNISH AND WIRE SUPPLY AND RETURN AIR SMOKE DETECTORS.
9. MECHANICAL CONTRACTOR TO INSTALL VERTICAL SUPPLY/RETURN CONNECTIONS
10. BACNET DDC COMMUNICATION. INTERLOCK WITH BMS.
11. 14" ROOF CURB AND THRU BASE ELECTRICAL CONNECTIONS.
12. PHASE MONITOR (PHASE LOSS PROTECTION.)
13. PROVIDE SPACE TEMPERATURE SENSOR(S) WITH DIGITAL DISPLAY, SETPOINT ADJUSTMENT, OCCUPANCY SCHEDULE.
14. SINGLE ZONE VARIABLE AIR VOLUME CONFIGURATION.
15. VARIABLE FREQUENCY DRIVE.
16. SINGLE POINT POWER FEED TO RTU AND CONVENIENCE OUTLET
17. HOT GAS REHEAT DEHUMIDIFICATION
18. TWO STAGES OF COOLING

DEDICATED OUTDOOR AIR UNITS

EQUIPMENT NO.	AREA SERVED	PERFORMANCE/ CONSTRUCTION REQUIREMENTS																				BASIS OF DESIGN INFORMATION								NOTES									
		SUPPLY FAN					EXHAUST FAN					COOLING COIL										HEATING COIL									MNF	MODEL NO.	NOMINAL DIMENSIONS L' x W' x H'	NOMINAL OPERATION WEIGHT (LBS)	ELECTRICAL DATA				
		OUTSIDE AIR FLOW (CFM)	MOTOR HP	BHP	EXT. S.P. (IN W.C.)	TOTAL S.P. (IN W.C.)	AIR FLOW (CFM)	MOTOR HP	BHP	EXT. S.P. (IN W.C.)	TOTAL S.P. (IN W.C.)	REFRIGERANT TYPE	ISMRE	TOTAL SYSTEM CAPACITY (MBH)	SENSIBLE UNIT CAPACITY (MBH)	AIR DATA								MIN TOTAL CAPACITY (MBH)	HOT WATER														
																COIL AIR ΔP (IN. W.C.)	OA DB/WB (°F)	RA DB / WB (°F)	ENT. DB / WB (°F)	COIL LVG DB/WB (°F)	UNIT LVG DB/RH (°F)	FLOW RATE (GPM)	EWT (°F)		LWT (°F)	COIL WATER ΔP (IN. W.C.)	OA DB (°F)	RA DB (°F)	EAT (°F)						MAX COIL LAT (°F)	UNIT LAT (°F)			
DOAS-1	1ST AND 2ND FLOOR VENTILATION	4,500	5	2.97	1.00	2.677	2,800	2	1.16	1.00	1.596	R-410A	6.8	206.9	143.7	0.24	95.0 / 75.0	75.0 / 63.0	84.2 / 69.2	55.1 / 54.7	75 / 50%	295.8	18.1	150	120	0.7	12.0	70.0	40.8	95.7	75	LG	ARDE-212-52-15H-15D	180.5 x 98.5 x 76.5	4,527	208/3	84.4	100	1-19

NOTES:

1. ENERGY RECOVERY WHEEL
2. HORIZONTAL DISCHARGE/EXHAUST CONFIGURATION
3. FACTORY PROVIDED INTEGRAL NONFUSED DISCONNECT
4. POWERED CONVENIENCE OUTLET
5. PROVIDE 14" ROOF CURB W/ THRU BASE CONNECTIONS
6. SINGLE POINT POWER FEED
7. BACNET DDC COMMUNICATION, INTEGRATE WITH BMS
8. FROST CONTROL (MODULATING WHEEL)
9. STAINLESS STEEL DRAIN PAN
10. DIRTY FILTER INDICATOR SWITCH
11. HAIL GUARDS
12. MODULATING HOT GAS REHEAT
13. DIGITAL SCROLL COMPRESSOR FOR ALL CIRCUITS
14. MANUFACTURER TO PROVIDE FACTORY INSTALLED UNIT CONTOLLER
15. PHASE/BROWN OUT PROTECTION
16. SUPPLY AIR FLOW MONITORING
17. 2" PLEATED MERV-8 FILTERS,PROVIDE WITH FOUR (4) SETS OF SPARE FILTER MEDIA.
18. ELECTRICAL CONTRACTOR TO FURNISH AND WIRE SUPPLY AND RETURN AIR SMOKE DETECTORS.
19. MECHANICAL CONTRACTOR TO INSTALL.
19. HINGED ACCESS DOORS

SPLIT CONDENSING UNITS

EQMT. #	LOCATION	TYPE	INDOOR UNITS SERVED											BASIS OF DESIGN INFORMATION										NOTES
				REFRIGERANT	ESTIMATED CONDENSER CHARGE (LB)	COOLING PERFORMANCE					HEATING PERFORMANCE					MANUF.	MODEL #	NOMINAL DIMENSIONS L x W x H (IN.)	NOMINAL OPERATING WEIGHT (LBS.)	ELECTRICAL DATA				
TOTAL CAPACITY (MBH)	MIN OPER. TEMP. (°F)	MAX OPER. TEMP. (°F)	EER			IEER [SEER]	TOTAL CAPACITY (MBH) @ 0°F DB / -2°F WB [-3°F DB / -4°F WB]	MIN OPER. TEMP. (°F)	MAX OPER. TEMP. (°F)	COP @ 47°F [HSPF]	COP @ 17°F	VOLTS / PHASE / HZ	MCA	MOCP										
CU-1	ROOF	MULTI-ZONE HEAT RECOVERY	SEE EVAPORATOR UNIT SCHEDULE	R410A	26.5	168	5	122	11.1	21.9	163.8	-22	61	3.20	2.38	LG	ARUM168BTES	49 x 30 x 67	639	208/60/3	53.6	70	1-8	
CU-2	ROOF	MULTI-ZONE HEAT RECOVERY	SEE EVAPORATOR UNIT SCHEDULE	R410A	26.5	168	5	122	11.1	21.9	163.7	-22	61	3.20	2.38	LG	ARUM168BTES	49 x 30 x 67	639	208/60/3	53.6	70	1-8	
OU-1	ROOF	1 TO 1 HEAT PUMP	IU-1	R410A	2.21	13.8	14	118	12.5	22.7	[10.36]	-4	65	[11.4]	-	LG	LSU120HSV5	30.5 x 12.5 x 21.5	74	208-230/60/1	10.0	15	1-4,7,8	

NOTES:

1. REFRIGERANT CHARGE IS SOLELY PRE-CHARGE FROM CONDENSERS. CONTRACTOR TO NOTIFY ENGINEER IF ADDITIONAL SYSTEM CHARGE IS REQUIRED.
2. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT SWITCH FOR OUTDOOR UNIT IN NEMA-4X ENCLOSURE.
3. PROVIDE AND INSTALL REFRIGERANT PIPING SPECIALALTIES PER MANUFACTURER'S RECOMMENDATIONS.
4. CONTRACTOR TO PROVIDE 14" HIGH RAILS.
5. MANUFACTURER TO PROVIDE HAIL GUARD KIT
6. MANUFACTURER PROVIDED AIR GUIDE
7. MANUFACTURER PROVIDED LOW AMBIENT BAFFLE KIT
8. MANUFACTURER PROVIDED BASE PAN HEATER

SPLIT EVAPORATING UNITS

UNIT TAG	UNIT LOCATION	TYPE	PAIRED EQUIPMENT	PERFORMANCE/ CONSTRUCTION REQUIREMENTS									BASIS OF DESIGN INFORMATION							NOTES
				REFRIGERANT	SUPPLY UNIT DATA					MANUF.	MODEL	NOMINAL DIMENSIONS L" x W" x H"	NOMINAL OPERATING WEIGHT (LBS.)	ELECTRICAL DATA						
					DRY AIRFLOW (CFM) [HI-MED-LO]	EXTERNAL STATIC (IN. W.C.) [HI TO LO]	SOUND LEVEL LOW TO HIGH dB(A)	NOMINAL SIZE (MBH)	TOTAL COOLING CAPACITY (MBH)					SENSIBLE COOLING CAPACITY (MBH)	HEATING CAPACITY (MBH) @ 0°F DB / -2°F WB [-3°F DB / -4°F WB]	VOLTS/ PHASE/ HZ	MCA (A)	MOCP (A)		
EU-102	RADIO ROOM 102	CEILING CASSETTE	BC-1	CU-1	R410A	396-388-353	-	34/35/37	18	19.15	13.82	22.2	LG	ARNU183TDQ4	24.5 x 24.5 x 10	35	208/1/60	0.25	15	1-6
EU-114	114 QUARTERMASTER	CEILING CASSETTE			R410A	265-247-212	-	26/27/29	5	5.52	3.90	6.3	LG	ARNU053TRD4	22.5 x 22.5 x 8.5	29	208/1/60	0.25	15	1-6
EU-118	118 KITCHEN	CEILING CASSETTE			R410A	396-388-353	-	34/35/37	18	19.15	13.82	22.2	LG	ARNU183TDQ4	24.5 x 24.5 x 10	35	208/1/60	0.25	15	1-6
EU-120	120 READY ROOM	CEILING CASSETTE	BC-2	CU-1	R410A	283-265-251	-	27/29/30	9	9.63	6.91	11.2	LG	ARNU093TRD4	24.5 x 24.5 x 10	32	208/1/60	0.25	15	1-6
FCU-116-1	116 MEETING	CONCEALED FAN COIL			R410A	1554-676	0.71 - 0.16	60/62/65	36	36.31	26.84	42.0	LG	ARNU363M2A4	27.5 x 54 x 11	86	208/1/60	2.90	15	1-6
FCU-116-2	116 MEETING	CONCEALED FAN COIL			R410A	1554-676	0.71 - 0.16	60/62/65	36	36.31	26.84	42.0	LG	ARNU363M2A4	27.5 x 54 x 11	86	208/1/60	2.90	15	1-6
FCU-116-3	116 MEETING	CONCEALED FAN COIL	BC-3	CU-1	R410A	1554-676	0.71 - 0.16	60/62/65	36	36.31	26.84	42.0	LG	ARNU363M2A4	27.5 x 54 x 11	86	208/1/60	2.90	15	1-6
EU-125A	125A LOBBY	CEILING CASSETTE			R410A	307-283-247	-	27/30/32	12	12.34	8.91	14.1	LG	ARNU123TRD4	24.5 x 24.5 x 10	32	208/1/60	0.25	15	1-6
EU-202	202 MEETING	CEILING CASSETTE			R410A	396-388-353	-	34/35/37	18	19.15	13.82	22.2	LG	ARNU183TDQ4	24.5 x 24.5 x 10	35	208/1/60	0.25	15	1-6
EU-203	203 VESTIBULE	CEILING CASSETTE	BC-4	CU-1	R410A	265-247-212	-	26/27/29	5	5.52	3.90	6.3	LG	ARNU053TRD4	22.5 x 22.5 x 8.5	29	208/1/60	0.25	15	1-6
FCU-203A	203A COMPANY ROOM	CONCEALED FAN COIL			R410A	2076-522	0.79 - 0.16	62/64/67	48	48.24	36.16	56.0	LG	ARNU483M3A4	27.5 x 50.5 x 12	96.10	208/1/60	3.10	15	1-6
FCU-206	206 TRAINING	CONCEALED FAN COIL			R410A	1554-676	0.71 - 0.16	60/62/65	36	36.31	26.84	42.0	LG	ARNU363M2A4	27.5 x 54 x 9	86	208/1/60	2.90	15	1-6
EU-210	210 CORRIDOR	CEILING CASSETTE	BC-4	CU-1	R410A	283-265-251	-	27/29/30	9	9.63	6.91	11.2	LG	ARNU093TRD4	24.5 x 24.5 x 10	32	208/1/60	0.25	15	1-6
EU-211	211 OFFICE	CEILING CASSETTE			R410A	265-247-212	-	26/27/29	5	5.52	3.90	6.3	LG	ARNU053TRD4	22.5 x 22.5 x 8.5	29	208/1/60	0.25	15	1-6
EU-212	212 OFFICE	CEILING CASSETTE			R410A	265-247-212	-	26/27/29	5	5.52	3.90	6.3	LG	ARNU053TRD4	22.5 x 22.5 x 8.5	29	208/1/60	0.25	15	1-6
EU-213	213 OFFICE	CEILING CASSETTE	BC-4	CU-1	R410A	265-247-212	-	26/27/29	5	5.52	3.90	6.3	LG	ARNU053TRD4	22.5 x 22.5 x 8.5	29	208/1/60	0.25	15	1-6
EU-214	214 OFFICE	CEILING CASSETTE			R410A	265-247-212	-	26/27/29	5	5.52	3.90	6.3	LG	ARNU053TRD4	22.5 x 22.5 x 8.5	29	208/1/60	0.25	15	1-6
EU-215	215 OFFICE	CEILING CASSETTE			R410A	265-247-212	-	26/27/29	5	5.52	3.90	6.3	LG	ARNU053TRD4	22.5 x 22.5 x 8.5	29	208/1/60	0.25	15	1-6
IU-1	219 IT	WALL MOUNT	OU-1		R410A	338-317-229	-	39/33/23	12	13.785	-	[10.36]	LG	LSN120HSV5	30 x 12 x 7.5	18.30	208-230/1/60	-	-	1-3,5-8

NOTES:

1. MANUFACTURER TO PROVIDE HARDWIRED, WALL MOUNTED, PROGRAMMABLE THERMOSTAT.
2. PROVIDE WITH 208V / 1 CONDENSATE PUMP TAGGED AS CDP-A (LITTLE GIANT MODEL VCCA-20ULST)
3. DRAIN PAIN LEVEL SENSOR THE UNIT SHALL TURN OFF IF WATER IS SENSED.
4. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT SWITCH
5. FURNISH AND INSTALL BACNET INTERFACE AND INTEGRATE WITH BMS.
6. INSTALL ALL EQUIPMENT AND COMPONENTS ACCORDING TO MANUFACTURER'S INSTRUCTIONS.POWERED BY PAIRED CONDENSER,
7. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT SWITCH BETWEEN INDOOR AND OUTDOOR UNIT
8. PROVIDE PIPE COVER FOR ALL EXPOSED REFRIGERANT PIPING. PROVIDE CJ INNOVATIONS OR APPROVED EQUAL. COORDINATE FINISH WITH ARCHITECT/OWNER.

VRF BRANCH CONTROL BOXES

EQMT NO.	LOCATION	CNDSR. PAIRING	# OF INDOOR UNIT PORTS	BASIS OF DESIGN INFORMATION							NOTES
				MNF	MODEL NO.	NOMINAL DIMENSIONS L" x W" x H"	NOMINAL OPERATING WEIGHT (LBS.)	ELECTRICAL DATA			
								VOLTS/ PHASE	MCA	MOCP	
BC-1	FIRST FLOOR	CU-1	4	LG	PRHR043A	19 x 19 x 8.5	40	208-230/1	0.17	15	1, 2
BC-2	FIRST FLOOR	CU-2	4	LG	PRHR043A	19 x 19 x 8.5	40	208-230/1	0.17	15	1, 2
BC-3	SECOND FLOOR	CU-3	4	LG	PRHR043A	19 x 19 x 8.5	40	208-230/1	0.17	15	1, 2
BC-4	SECOND FLOOR	CU-3	6	LG	PRHR063A	31 x 19 x 8.5	60	208-230/1	0.27	15	1, 2

NOTES:

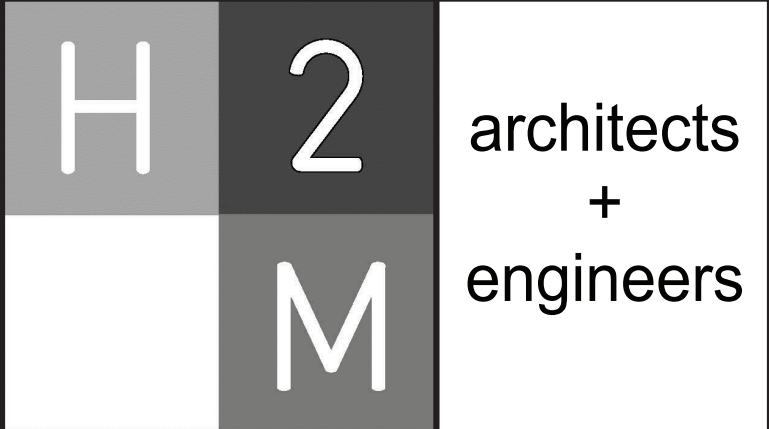
1. PROVIDE BALL VALVES
2. CONDENSATE DRAIN NOT REQUIRED FOR THIS MANUFACTURER

REFRIGERANT DENSITY CALCS

SYSTEM	EFFECTIVE PIPE LENGTH (FT.)	EFFECTIVE FURTHEST PIPE RUN (FT.)	TOTAL NUMBER OF ELBOWS	TOTAL REFRIGERANT AMOUNT (LBS)	ZONE SMALLEST SPACE, TOTAL AREA (SQFT.)	ZONE SMALLEST SPACE, TOTAL VOLUME (FT³)	REFRIGERANT DENSITY (LB/1000FT³)
CU-1 & 2	-	-	-	39.15 [NOTE 1]	503	4,024	19.64
	-	-	-	39.82 [NOTE 1]			
OU-1	88	88	0	3.34	42	336	9.91

NOTES:

1. LINE LENGTHS ARE ESTIMATED BY MANUFACTURER VRF DESIGN SOFTWARE. REFRIGERANT LINE LENGTHS, SIZES & CHARGES TO BE VERIFIED BY EQUIPMENT MANUFACTURER.
2. CONTRACTOR TO NOTIFY ENGINEER IF ADDITIONAL SYSTEM CHARGE IS REQUIRED.



538 Broad Hollow Road, 4th Floor East
Melville, NY 11747
631.756.8000 • www.h2m.com

CONSULTANTS:

MARK	DATE	DESCRIPTION