MITSUBISHI ELECTRIC TRANE HVAC US: CITY MULTI VRF INDOOR UNIT SCHEDULE

	INDOOR ONL CONEDCE															
	System Tag	GHP-1	GHP-1	GHP-1	GHP-1	GHP-1	GHP-1	GHP-2	GHP-2	GHP-2	GHP-2	GHP-2	GHP-2	GHP-2	GHP-2	GHP-2
	Tag Reference	FC-4	FC-6	FC-9	FSU-1	FC-10	FC-11	FC-1	FC-2	FC-3	FC-5	FC-7	FC-8	FSU-2	WMU-1	FC-12
	Room Name															
Data	Model	PEFY-P72NMHSU-E	PVFY-P24NAMU-E1	PEFY-P08NMAU-E4	PFFY-P18NRMU-E	PEFY-P27NMHU-E2	PEFY-P48NMHU-E2	PEFY-P18NMHU-E2	PEFY-P24NMHU-E2	PVFY-P24NAMU-E1	PEFY-P72NMHSU-E	PEFY-P36NMHU-E2	PEFY-P48NMHU-E2	PFFY-P12NRMU-E	PKFY-P08NLMU-ER1.TH	PEFY-P08NMAU-E4
inal	Туре	Ceiling-Concealed (Ducted)	Muli-Position Air Handler	Ceiling-Concealed (Ducted)	Floor-Standing Type (Concealed	d) Ceiling-Concealed (Ducted)	Ceiling-Concealed (Ducted)	Ceiling-Concealed (Ducted)	Ceiling-Concealed (Ducted)	Muli-Position Air Handler	Ceiling-Concealed (Ducted)	Ceiling-Concealed (Ducted)	Ceiling-Concealed (Ducted)	Floor-Standing Type (Concealed)	Wall -Mounted	Ceiling-Concealed (Ducted
Nom	Nominal Cooling Capacity (BTU/h)	72,000	24,000	8,000	18,000	27,000	48,000	18,000	24,000	24,000	72,000	36,000	48,000	12,000	8,000	8,000
•	Nominal Heating Capacity (BTU/h)	80,000	27,000	9,000	20,000	30,000	54,000	20,000	27,000	27,000	80,000	40,000	54,000	13,500	9,000	9,000
v	Cooling Design Entering Temp DB/WB (°F)	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0	80.0/67.0
dition	Heating Design Entering Temp DB/WB (°F)	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
Conc	Cooling Diversity Full/Partial (See Note 5, 6)	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND
esign	Heating Diversity Full/Partial (See Note 5, 6)	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND	FULL DEMAND
	Refrig Pipe Dim Liquid/Suction (inch)	3/8 / 3/4	3/8 / 5/8	1/4 / 1/2	1/4 / 1/2	3/8 / 5/8	3/8 / 5/8	1/4 / 1/2	3/8 / 5/8	3/8 / 5/8	3/8 / 3/4	3/8 / 5/8	3/8 / 5/8	1/4 / 1/2	1/4 / 1/2	1/4 / 1/2
nce	Cooling Total Capacity (BTU/h)	69,126.6	23,042.2	7,680.7	17,281.7	25,922.5	46,084.4	15,981.3	21,308.4	21,308.4	63,925.1	31,962.6	42,616.8	10,654.2	7,102.8	7,102.8
ormai Data	Cooling Sensible Capacity (BTU/h)	55,668.1	16,909.4	6,305.8	12,029.9	17,997.2	31,891.9	11,260.0	15,443.8	16,219.6	53,680.7	26,224.2	30,463.2	7,513.7	5,199.5	6,086.5
red F	Heating Capacity (BTU/h)	62,819.4	21,201.6	7,067.2	15,704.9	23,557.3	42,403.1	15,543.0	20,983.0	20,983.0	62,172.0	31,086.0	41,966.1	10,491.5	6,994.3	6,994.3
<u>×</u>	Fan Speed Setting	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
ta Fi	Peak Fan Airflow (cfm)	2154	735	212	459	547	1342	494	671	625	2154	936	1342	318	237	300
/ Wat	Max Fan ESP Setting 208V/230V (IN WG)	1	0.3/0.5/0.8	0.6/0.6		1.0/1.0	1.0/1.0	1.0/1.0	1.0/1.0	0.3/0.5/0.8	1	1.0/1.0	1.0/1.0			0.6/0.6
Fan	Sound Pressure Per Fan Speed 208V/230V (dBA)	36-39-43/36-39-43	30-34-38	24-28-30	38-43/38-43	38-44	40-46	39-45	40-46	30-34-38	36-39-43/36-39-43	40-46	40-46	37-41/37-41	22-27-31-35	24-28-30
rical	Voltage / Phase	208/230/1-phase	208/230V/1-phase	208/230V/1-phase	208/230V/1-phase	208/230V/1-phase	208/230V/1-phase	208/230V/1-phase	208/230V/1-phase	208/230V/1-phase	208/230/1-phase	208/230V/1-phase	208/230V/1-phase	208/230V/1-phase	208/230V/1-phase	208/230V/1-phase
Elect Da	Electrical MCA/MFS															
	Condensate Removal Rate (gal/hr)															
es / Opti ons	Applicable System Notes - See Notes Below	7.7/15	3.00/3.00/15	1.75/15	0.48/0.53/15	2.35(208V)/2.13(230V)/	4.16(208V)/3.67(230V)/	1.63(208V)/1.50(230V)/	2.11(208V)/1.83(230V)/	3.00/3.00/15	7.7/15	4.16(208V)/3.67(230V)/	4.16(208V)/3.67(230V)/	0.34/0.38/15	0.24/0.24/15	1.75/15
		1.83	0.82	0.28	0.69	1.04	1.87	0.72	0.90	0.82	1.83	0.99	1.87	0.48	0.38	0.28
		1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6

Notes & Options:

1 Nominal cooling capacities are based on indoor coil EAT of 80/67°F (DB/WB), outdoor of 95°F (DB)

2 Nominal heating capacities are based on indoor coil EAT of 70°F (DB), outdoor of 43°F (WB)

3 See outdoor unit schedule for outdoor ambient conditions, connected capacity, and other factors associated with corrected capacities 4 See schematic piping/control diagram for indication of required indoor unit remote controllers, system controllers, and integration devices.

5 Full demand corrected capacity includes de-rate associated with indoor vs. outdoor connected capacity indicated on outdoor unit schedule for associated system. Partial corrected capacity assumes sufficient diversity exists such that the connected capacity de-rate does not apply.

It is the designer's responsibility to ensure "Diamond System Builder" is set in the appropriate output capacity setting (full demand/partial demand) prior to generating this schedule.

6 It is recommended to always base heating corrected capacity on full demand. 7 Provide Filter Box with MERV 13 Filters

8 Provide Sauermann Condensate Pump - 230 volt

MITSUBISHI ELECTRIC TRANE HVAC US: CITY MULTI VRF

VRF HEAT RECOVERY BRANCH CIRCUIT CONTROLLER

	WATER SOURCE UNIT S	SCHEDULE	
	System Tag	GHP-1	GHP-2
	Tag Reference	GHP-1	GHP-1
	M-NET Address	51	57
)ata	Model Number	PQRY-P192TLMU-A1	PQRY-P240TLMU-A1
Nominal Data	Modules	P192	P240
Nom	Nominal Cooling Capacity (BTU/h)	192,000	224,000
	Nominal Heating Capacity (BTU/h)	215,000	270,000
su	Design Inlet Water Temp DB (°F)	50.0	50.0
Design Conditions	Design HTG Inlet Water Temp WB (°F)	40.0	40.0
	Flow Rate Nominal / Actual (gpm) (G(US)/min)	31.7	50.7
orma Data	Corrected Cooling Total Capacity (BTU/h)	189,138.1	221,962.3
Performa nce Data	Corrected Heating Capacity (BTU/h)	172,753.4	217,213.3
g	Voltage / Phase	208/230V / 3-phase 3-wire	208/230V / 3-phase 3-wire
Electrical Data	MCA 208/230 208/230 or [460V]	54/49	79/71
ectric	Recommended Fuse Size (RFS)		
ä	Maximum Fuse Size (MFS)	90/80	125/125
Notes / Options	Applicable System Notes - See Notes Below	1, 2 , 3	1, 2 , 3

	System Tag	GHP-1	GHP-2
	Tag Reference	BC-1	BC-2
	M-NET Address	52	58
)ata	Model Number	CMB-P108NU-JA2	CMB-P1012NU-JA1
Nominal Data	Type (double / Main / Sub)	Main	Main
Nom	Number of Ports	8	12
	Connected Capacity to BC	197,000.0	250,000.0
Data	Voltage / Phase	208/230V / 1-phase	208/230V / 1-phase
Electrical Data	Power Heating 208V/230V (kW)	0.076/0.098	0.106/0.137
Elect	MCA 208/230	0.83/0.97	1.19/1.39
Notes / Options	Applicable System Notes - See Notes Below	1	1

1 Include Diamondback Ball Valves BV-Series, 700PSIG working pressure, full port, 410A rated.
2 For sub BC controller CMB-P-NU-GB1 or -GB, the total connectable indoor unit capacity can be 126,000 BTUs or less. If two sub BC controllers are used, the total indoor unit capacity connected to BOTH sub BC controllers also cannot exceed 126,000 BTUs. For sub BC controller CMB-P1016NU-HB1 the total connectable indoor unit capacity can be 126,000 BTUs or less. However, if two sub controllers are used, and one of them is CMB-1016NU-HB1, the total indoor unit capacity connected to BOTH sub controllers must NOT exceed 168,000 BTUs.

Notes & Options:

1 Nominal cooling capacities are based on indoor coil EAT of 80/67°F (DB/WB), condenser water inlet of 85°F

2 Nominal heating capacities are based on indoor coil EAT of 70°F (DB), condenser water inlet of 70°F 3 For systems with multiple modules, refrigerant pipe dimensions indicate total system combined piping downstream of module

			GROUN	ND WATER	PUM	P SCHE	DULE							
						PUMF						WA	TER	
MARK	TYPE	DESIGNATION	MFR	MODEL			IMPELLER	WEIGHT	MOTOR	EFF	VOLT/PH/HZ		HEAD	REMARKS
					RPM	MATERIAL	DIA	LBS	HP	%		GPM	(FT.H2O)	
GWP-1A, GWP-1B	SelfSensing Variable Speed Pump	GHP-1, -2	TACO	SFI1506D-A-2P-PD	3500	Iron	5.25	1904	7.5	67.0	208/3/60	110	96	1, 2
REMARKS:														
	1) Provide Franklin model BAS Variable Frequency Drive. Refer to pump detail for additional information.													

2) Provide Taco Suction Diffuser with Strainer.

				CONDENS	SATE	PUMP S	SCHE	DULE						
						PUMF	1			ELECTRI	CAL	PERFO	RMANCE	
MARK	TYPE	DESIGNATION	MFR	MODEL	RPM	CASING	TANK SIZE GAL	WEIGHT LBS	MOTOR HP	AMPS	VOLT/PH/HZ	GPH	HEAD (FT.H2O)	REMARKS
	CONDENSATE DRAIN					OACING .	0/.2					0111	(1.11.20)	
CP-1	PUMP	FCU'S	Little Giant	VCMA-20ULST	_	-	-	2.5	1/30		115/1/60	20	16	1

1) PROVIDE DRAIN INTO CP-1 (WITH FLAOT SWITCH) AND PUMP DISCHARGE PIPE RECONNECT TO EXISTING DRAIN PIPING

AIR SEPARATOR SCHEDULE											
						UNIT					
TYPE	DESIGNATION	MFR	MODEL	OPTIMUM FLOW	DIA	HEIGHT	PIPE SIZE	WEIGHT	REMARKS		
				GPM	INCH	INCH	INCH	LBS			
Air / Dirt Separator	GW Loop	TACO	4904AD-125	110.0	12.0	25.2	4	90	1		
	1) PROVIDE UNIT WITH	304 S.S. COALE	SCENCE PALL RINGS a	ind CL300 flange connec	tion and sup	port.					
	Air / Dirt Separator	TYPE DESIGNATION Air / Dirt Separator GW Loop	TYPE DESIGNATION MFR Air / Dirt Separator GW Loop TACO	TYPE DESIGNATION MFR MODEL Air / Dirt Separator GW Loop TACO 4904AD-125	TYPE DESIGNATION MFR MODEL OPTIMUM FLOW GPM Air / Dirt Separator GW Loop TACO 4904AD-125 110.0	TYPE DESIGNATION MFR MODEL OPTIMUM FLOW GPM DIA INCH Air / Dirt Separator GW Loop TACO 4904AD-125 110.0 12.0	TYPE DESIGNATION MFR MODEL OPTIMUM FLOW DIA HEIGHT GPM INCH INCH	TYPE DESIGNATION MFR MODEL OPTIMUM FLOW DIA HEIGHT PIPE SIZE GPM INCH INCH Air / Dirt Separator GW Loop TACO 4904AD-125 110.0 12.0 25.2 4	TYPE DESIGNATION MFR MODEL OPTIMUM FLOW DIA HEIGHT PIPE SIZE WEIGHT GPM INCH INCH INCH LBS Air / Dirt Separator GW Loop TACO 4904AD-125 110.0 12.0 25.2 4 90		

MECHANICAL SCHEDULES BEDFORD HOUSE (GEO-EXCH VRF) M-300 N.T.S.

Qty	Qty Model Description		Tag
15	PAR-41MAAU	MA remote controller	CTR1-FC-4,CTR2-FC-6,CTR3-FC-9,CTR4-FSU-1,CTR5-FC-10,CTR6-FC-11,CTR1-FC-1,CTR2-FC-2,CTR3-FC-3,CTR4-FC-5,CTR5-FC-7,CTR6-FC-8,CTR7-FSU-2,CTR8-WMU-1,CTR9-FC-12
1	PQRY-P192TLMU-A1	R410A WR2 Series Outdoor Unit	GHP-1
1	PQRY-P240TLMU-A1	R410A WR2 Series Outdoor Unit	GHP-1
1	CMB-P108NU-JA2	BC Controller Main	BC-1
1	CMB-P1012NU-JA1	BC Controller Main	BC-2
2	CMY-R160-J1	Joint Pipe	GHP-1,GHP-1
2	PEFY-P72NMHSU-E	Ceiling-Concealed (Ducted) Indoor Unit	FC-4,FC-5
2	PVFY-P24NAMU-E1	Muli-Position Air Handler Indoor Unit	FC-6,FC-3
2	PEFY-P08NMAU-E4	Ceiling-Concealed (Ducted) Indoor Unit	FC-9,FC-12
1	PFFY-P18NRMU-E	Floor-Standing Type (Concealed) Indoor Unit	FSU-1
1	PEFY-P27NMHU-E2	Ceiling-Concealed (Ducted) Indoor Unit	FC-10
2	PEFY-P48NMHU-E2	Ceiling-Concealed (Ducted) Indoor Unit	FC-11,FC-8
1	PEFY-P18NMHU-E2	Ceiling-Concealed (Ducted) Indoor Unit	FC-1
1	PEFY-P24NMHU-E2	Ceiling-Concealed (Ducted) Indoor Unit	FC-2
1	PEFY-P36NMHU-E2	Ceiling-Concealed (Ducted) Indoor Unit	FC-7
1	PFFY-P12NRMU-E	Floor-Standing Type (Concealed) Indoor Unit	FSU-2
1	PKFY-P08NLMU-ER1.TH	Wall -Mounted Indoor Unit	WMU-1
1	AE-200A	System Remote Controller	CTR1
1	BACNET Master	Software License	
2	FBH4-4	Filter Box	FC-4,FC-5
6	SI30-230	230V Sauermann Condensate Pump	FC-6,FSU-1,FC-3,FSU-2,WMU-1,FC-12
2	FBM2-1-A	Filter Box	FC-9,FC-12
1	FBH2-2	Filter Box	FC-10
3	FBH2-3	Filter Box	FC-11,FC-7,FC-8
20	BV38BBSI	Ball Valve 3/8"	BC-1,BC-2
20	BV58BBSI	Ball Valve 5/8"	BC-1,BC-2
2	CMY-R302S-G1	Reducer	BC-1,BC-2
2	FBH2-1	Filter Box	FC-1,FC-2

	ELECTRIC DUCT HEATER SCHEDULE											
							HEATING		ELECT	RICAL		
MARK	MFR	MODEL	DUCT SIZE	FLOW	EAT	EAT	CAPACITY	INPUT	AMPS	VOLT/PH/HZ	REMARKS	
			WxHxL	CFM	DEF.F	DEF.F	(BTU/HR)	KW				
EDH-4	INDEECO	QUA	14"x16"x24"	2,154	83	90.2	17,065	5.00		208/3/60	1,2,3	
EDH-5	INDEECO	QUA	18"x12"x24"	2,154	80	90.8	25,598	7.50		208/3/60	1,2,3	
EDH-10	INDEECO	QUA	10"x8"x24"	494	76	94.8	10,239	3.00		208/3/60	1,2,3	

1 PROVIDE WALL THERMOSTAT AND INTEGRAL DISCONNECT SWITCH 2 2-Stage "G" Control 3 TYPE OF HEATERS: Slip in heater

			GLYC	OL FEED	ER SC	HEDULE							
						PUMP			ELE	CTRICAL	WA	TER	
MARK	TYPE	DESIGNATION	MFR	MODEL			Tank	WEIGHT	Amps	VOLT/PH/HZ			REMARKS
					RPM	MATERIAL	GAL	LBS			GPM	@ PSIG	
GT-1	Glycol Feed Tank Unit	GEOEXCH System	AXIOM	SF100	3500	Iron	55	35	0.7	115/60/1	1	50	1, 2
REMARKS:									·				

1) Provide RIA10-1-SAA Low Level Alarm 2) Provide 2 PRV - 2nd Pressure Reducing Valve, Pressure Gauge Kit

MARK TYPE DESIGN	ATION MFR	MODEL	VOLUME					
			VOLUME	MAX. ACCEPT. VAL.	DIA	HEIGHT	CONN. SIZE	REMARKS
			GAL.	GAL	INCH	INCH	INCH	
CA and C	K Series							
ET-1 CA90-125 Expansio	n Tanks Taco	CA90-125	23.0	23.0	20.0	32.0	1	



Governor Kathy Hochul Commissioner Pro Tempore Randy Simons

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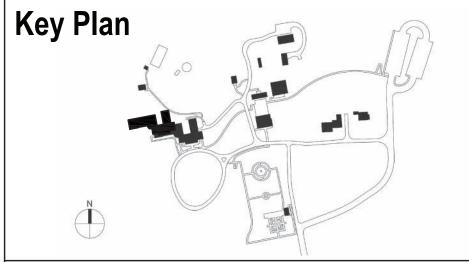
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BEDFORD HOUSE MECHANICAL SCHEDULES

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