Combo

Combo Design Features

Vertical Multi-System

Water-to-Air & Water-to-Water - Optional "On Demand Domestic Hot Water"

Standard Features:

- R410A
- Scroll Compressors
- Return Air Filter Rack with Filter
- Insulated Cabinet
- All Panels Removable for Easy Service
- Stainless Steel Frame with Galvanized Doors
- ECM Blower Motor
- High & Low Pressure Protection
- LED Diagnostics
- Built in Condensate Trap
- 10 Year Limited Warranty

Recommended Accessories:

- Buffer Tank
- Back-up Heater
- Base Pad
- Thermostat
- Flow Center
- Manifold
- Earth Loop Tubing

Optional:

- De-Superheater with Integral Circulating Pump
- Right or Left Hand Air Return
- Top, Side or Bottom Discharge
- Single Phase 220 volt or Three Phase 208, 230, 460 or 575 volt
- Built in Resistance Heat Strip 5, 10 or 15 kW
- Single Stage Compressor
- Dual Stage Compressor
- On Demand Domestic Hot Water

NOTE:

All Combo units must be installed with a buffer tank of 5 to 8 gallons per nominal size with a recommended minimum of 1 1/4" porting and piping.

Combo

Special Notice

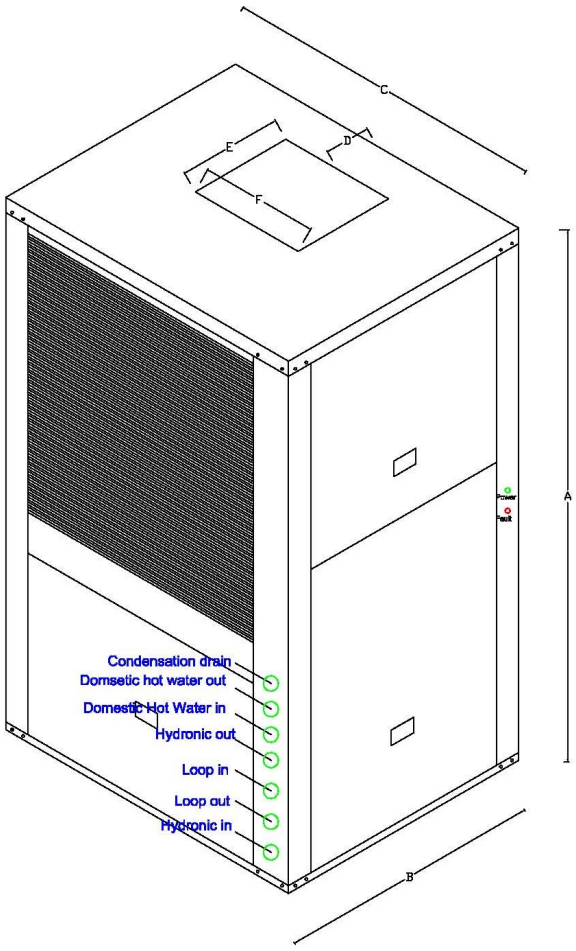
The GeoFurnace Magnum Series Combo ground coupled heat pump is designed to have two main functions within one cabinet. The first function is providing high efficient forced air heating and cooling to desire space. The second function is providing heated water to a hydronic buffer tank. The Combo unit can produce water temperatures to the buffer tank as high as 120 degrees Fahrenheit, but it is recommended that a lower temperature be maintained for higher heat pump efficiencies and tempered load demands.

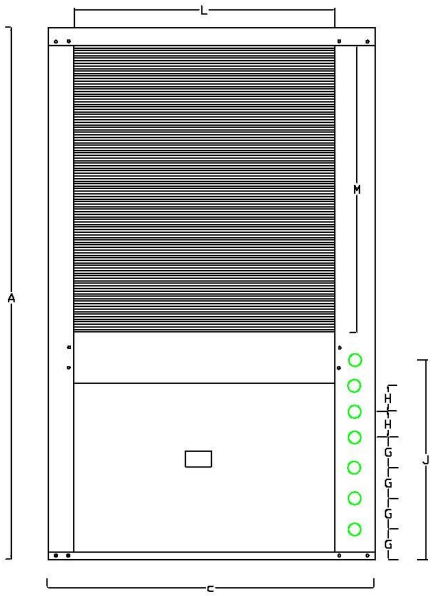
A third function, a De-Superheater, can be ordered with the Combo unit to heat domestic water while the heat pump is operating in first or second function, heating or cooling. This function is designed to remove 900 to 1000 Btu's, per ton of heat pump of super heated refrigerant directly from the compressor and direct it to the domestic hot water heater when there is a call from the domestic hot water. The combo comes equipped with a circulating pump and built in thermostat to monitor calls. Do not use pex pipe for plumbing the De-Superheater to the water heater.

The Combo unit may also be ordered with a double wall coaxial heat exchanger to heat domestic hot water for the second function. This function can heat water temperatures as high as 120 degrees Fahrenheit. External pumps and a set point controller must be added by the installing contractor. Performance data that is presented is calculated using a single wall heat exchanger. If a double wall heat exchanger is used you will have 20% less heat performance.

Correct pipe sizing for the hydronic side of the Combo unit is critical for removing the heat created by the heat pump. One inch ID pipe is adequate for up to 3 ton units, and 1 1/4 inch ID for 4, 5 and 6 ton units. Incorrect pipe sizing can reduce the life expectancy of the heat pump or cause the unit to lockout from high pressure.

2 - 6 Ton Combo





Loop and hydronic 1" MPT
Domestic hot water $\frac{1}{2}$" MPT

Model	Dimension Data (in.)				Supply Air (in.)					Air Coil (in.)		Earth Loop (in.)		Hydronic Loop (in.)		Weight	Filter
	A	B	C	D*	E	F	G	H	J	L	M	In	Out	In	Out	Lbs.	
MC026	52	26	33 1/2	4 1/2	10 1/4	11 5/8	3	2 1/2	19 1/2	24	24	1	1	1	1	375	
MC038	56	26	33 1/2	4 1/2	10 1/4	11 5/8	3	2 1/2	19 1/2	25	30	1	1	1	1	385	
MC050	56	26	33 1/2	4 1/2	11 1/4	13	3	2 1/2	19 1/2	25	30	1	1	1	1	415	
MC062	62	26	33 1/2	4 1/2	11 1/4	13	3	2 1/2	19 1/2	25	36	1	1	1	1	435	
MC071	62	28	33 1/2	4 1/2	12 1/4	13 1/2	3	2 1/2	19 1/2	25	36	1	1	1	1	440	

*** For a Left Return, and Right Return top is rotated 180 degrees.**

Engineering Manual Combo

Single Stage Combination Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GeoFurnace Manufacturing

Magnum

Water Source Heat Pump

(MC-S) Single Stage
Combination - Forced Air & Hydronic Heat

Submittal Data

Models MC 026-071S
60 Hz - R410A

2 - 6 Ton - Two Stage Combination - Forced Air & Hydronic Heat Performance Summary

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

Single Stage Forced Air - R410A **Magnum Series**
Performace ISO 13256-1 **Water Source Heat Pump**

Model	Loading/ Capacity	Water Loop				Ground Water				Ground Loop			
		Heating 68°F EWT		Cooling 86°F EWT		Heating 50°F EWT		Cooling 59°F EWT		Heating 32/41°F EWT Full/Part		Cooling 77/68°F EWT Full/Part	
		kBtu/hr	COP	kBtu/hr	EER	kBtu/hr	COP	kBtu/hr	EER	kBtu/hr	COP	kBtu/hr	EER
26	Full	29.1	4.7	23.6	15.8	23.7	4.1	25.7	22.6	19.3	3.7	24.5	18.1
38	Full	45.5	4.9	37.4	16.4	37.1	4.3	40.7	23.5	30.3	3.8	38.8	18.7
50	Full	57.7	5.0	47.4	16.7	46.3	4.3	51.6	23.7	37.0	3.7	49.2	19.0
62	Full	75.8	5.0	62.5	16.7	61.8	4.3	68.1	24.2	50.4	3.9	64.9	19.2
71	Full	83.0	5.1	68.6	17.0	67.7	4.4	74.8	24.2	52.3	3.7	71.3	19.3

3/26/2010

Hydronics - Heating Only
Performace ISO 13256-2

Model	Loading/ Capacity	Water Loop Heating 104°F ELT 68°F EST		Ground Water Heating 104°F ELT 50°F EST		Ground Loop Heating 104°F ELT 32°F EST Full 41°F EST Part	
		Mbtuh	COP	Mbtuh	COP	Mbtuh	COP
26	Full	27.1	4.5	23.4	3.9	18.1	3.1
38	Full	42.4	4.7	36.4	4.1	28.3	3.2
50	Full	53.6	4.8	45.5	4.1	34.7	3.1
62	Full	70.6	4.8	60.7	4.1	47.1	3.2
71	Full	77.3	4.8	66.4	4.2	51.5	3.3

Operation below 40°F EWT is based upon a 15% antifreeze solution. 3/26/2010
All performance data is based upon the lower voltage of dual voltage rated units.

Electrical Specifications

Model	Voltage	Elect. Symbol	Compressor RLA	Compressor LRA	Source Pump	Load Pump	HWG Pump FLA	Fan Motor FLA	Max Unit FLA	Min. Ampacity*	Max. Fuse/HACR*
26	208/230-1-60	1	10.0	53.0	1.5	1.5	0.4	4.3	14.7	17.2	25
	200/230-3-60	2	#N/A	#N/A	1.5	1.5	0.4	4.3	#N/A	#N/A	#N/A
	460-3-60	3	#N/A	#N/A	1.5	1.5	0.4	4.3	#N/A	#N/A	#N/A
38	208/230-1-60	1	17.0	96.7	1.5	1.5	0.4	4.3	21.7	26.0	40
	200/230-3-60	2	12.8	95.0	1.5	1.5	0.4	4.3	17.5	20.7	30
	460-3-60	3	6.4	45.0	1.5	1.5	0.4	4.3	11.1	12.7	15
50	208/230-1-60	1	21.0	115.0	3.0	1.5	0.4	4.3	25.9	31.2	50
	200/230-3-60	2	16.0	115.0	3.0	1.5	0.4	4.3	20.9	24.9	40
	460-3-60	3	7.7	50.0	3.0	1.5	0.4	4.3	12.6	14.5	20
62	208/230-1-60	1	26.3	150.0	3.0	1.5	0.4	6.8	33.5	40.1	65
	200/230-3-60	2	17.6	120.0	3.0	1.5	0.4	6.8	24.8	29.2	45
	460-3-60	3	8.3	70.0	3.0	1.5	0.4	6.8	15.5	17.6	25
71	208/230-1-60	1	30.1	145.0	3.0	1.5	0.4	9.1	39.6	47.1	75
	200/230-3-60	2	17.6	120.0	3.0	1.5	0.4	9.1	27.1	31.5	45
	460-3-60	3	9.6	70.0	3.0	1.5	0.4	9.1	19.1	21.5	30

**Where calculations are based on:* 3/26/2010
MCA = 1.25 x RLA compressor + FLA other motors
MOP = 2.25 x RLA largest compressor + 1.00 x FLA other motors
Ensure that all loads on the supply line are added into the equations above if some of the cells in the above table are blank
HACR circuit breaker for use in USA only. All fuses Class RK-5
For #N/A, the specified voltage is NOT available

Pressure Drop Specifications

Model	GPM	Pressure Drop (psi)* Entering Water Temperature °F						
		20	30	50	70	90	110	120
26	3.0	2.0	1.9	1.4	1.3	1.2	1.1	1.1
	4.5	2.5	2.4	1.7	1.6	1.5	1.4	1.4
	6.0	3.3	3.2	2.3	2.2	2.1	1.9	1.8
38	4.5	1.9	1.9	1.3	1.3	1.2	1.1	1.0
	6.8	2.4	2.3	1.7	1.6	1.4	1.3	1.3
	9.0	3.2	3.1	2.2	2.1	2.0	1.8	1.8
50	6.0	2.0	1.9	1.4	1.3	1.2	1.1	1.1
	9.0	3.8	3.7	2.7	2.5	2.4	2.2	2.1
	12.0	6.1	5.9	4.3	4.0	3.7	3.5	3.3
62	7.5	1.8	1.8	1.3	1.2	1.1	1.0	1.0
	11.3	3.3	3.2	2.3	2.2	2.0	1.9	1.8
	15.0	5.3	5.1	3.7	3.5	3.3	3.0	2.9
71	9.0	2.3	2.3	1.6	1.5	1.4	1.3	1.3
	13.5	4.4	4.3	3.1	2.9	2.7	2.5	2.4
	18.0	7.1	6.9	5.0	4.7	4.4	4.1	3.9

*Pressure drop thru each coaxial heat exchanger 3/26/2010

GeoFurnace works continually to improve its products. As a result, the design and specifications of each product at the time of order may be changed without notice. Please contact GeoFurnace at 1-605-854-9205 for latest design and specifications. Purchaser's approval of this data set signifies that the equipment is acceptable under the provisions of the job specification. Statements and other information contained herein are not express warranties and do not form the basis of any contract between the parties, but are merely GeoFurnace's opinion or commendation of its products.

Rev: 26 March, 2010 - GFM--AJS

2 Ton - Single Stage Combination - Forced Air Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

MC026S Series - R410A **Magnum Series**
Rated Airflow: 900 Heating / 850 Cooling **Water Source Heat Pump**

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	3.0	2.0	4.6										
20	4.5	2.5	5.7						Operation Not Recommended				
	6.0	3.3	7.7	16.0	1.6	10.7	86.5	3.0					
	3.0	2.1	4.8										
30	4.5	2.4	5.6	17.7	1.6	12.3	88.2	3.3	26.4	19.7	1.1	30.0	24.5
	6.0	3.2	7.5	18.3	1.6	12.9	88.9	3.4	26.7	20.2	1.1	30.4	24.6
	3.0	1.4	3.3	19.5	1.6	14.0	90.1	3.5	25.9	19.5	1.2	29.8	22.3
40	4.5	1.8	4.2	20.2	1.6	14.6	90.8	3.6	26.5	20.0	1.1	30.2	24.1
	6.0	2.4	5.6	20.9	1.7	15.2	91.5	3.7	26.7	20.4	1.1	30.4	24.9
	3.0	1.4	3.2	21.9	1.7	16.2	92.6	3.8	25.7	19.7	1.2	29.9	20.5
50	4.5	1.7	4.0	22.9	1.7	17.1	93.6	3.9	26.3	20.1	1.2	30.3	22.8
	6.0	2.3	5.4	23.7	1.7	17.8	94.4	4.0	26.6	20.6	1.1	30.4	23.8
	3.0	1.3	3.1	24.5	1.8	18.5	95.2	4.1	25.2	19.6	1.4	29.9	18.4
60	4.5	1.7	3.9	25.8	1.8	19.7	96.5	4.3	26.0	20.1	1.2	30.2	20.8
	6.0	2.3	5.3	26.6	1.8	20.5	97.4	4.3	26.2	20.5	1.2	30.3	21.7
	3.0	1.3	3.0	27.0	1.8	20.8	97.8	4.3	24.5	19.4	1.5	29.7	16.1
70	4.5	1.6	3.8	28.7	1.8	22.5	99.6	4.6	25.4	19.9	1.4	30.1	18.4
	6.0	2.2	5.1	29.5	1.8	23.2	100.4	4.7	25.5	20.3	1.3	30.1	19.2
	3.0	1.3	2.9	29.6	1.9	23.2	100.5	4.6	23.6	19.0	1.7	29.4	13.9
80	4.5	1.6	3.7	31.6	1.9	25.3	102.6	5.0	24.5	19.5	1.5	29.7	16.0
	6.0	2.1	4.9	32.5	1.9	26.1	103.4	5.1	24.7	20.0	1.5	29.7	16.6
	3.0	1.2	2.8	32.1	1.9	25.5	103.0	4.9	22.4	18.5	1.9	28.9	11.9
90	4.5	1.5	3.5	34.5	1.9	28.1	105.4	5.4	23.4	19.0	1.7	29.3	13.7
	6.0	2.1	4.7	35.2	1.9	28.9	106.3	5.6	23.6	19.4	1.7	29.2	14.2
	3.0	1.2	2.7						21.0	17.8	2.1	28.1	10.0
100	4.5	1.5	3.4						22.1	18.3	1.9	28.6	11.6
	6.0	2.0	4.6	Operation Not Recommended					22.2	18.7	1.9	28.6	12.0
	3.0	1.1	2.6						19.4	16.9	2.3	27.2	8.4
110	4.5	1.4	3.3						20.5	17.4	2.1	27.7	9.7
	6.0	1.9	4.4						20.7	17.8	2.1	27.8	10.1

Interpolation is permissable; extrapolation is not.
Operation below 40°F EWT is based upon a 15% antifreeze solution.
All performance is based upon the lower voltage of dual voltage rated units.
Table does not reflect fan or pump power corrections for ARI/ISO conditions.
See performance correction tables for operating conditions other than those listed above.

2 Ton - Single Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Magnum Series

MC026S Series - R410A — **Water Source Heat Pump**

Source				Load	Load Flow 3 GPM						Load Flow 4.5 GPM						Load Flow 6 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	17	1.13	13	4.4	71	16	18	1.17	14	4.5	68	15	18	1.23	14	4.4	66	15
20	6.0	3.3	7.7	80	16	1.34	12	3.5	91	16	16	1.27	12	3.7	87	16	16	1.23	12	3.8	85	16
				100	16	1.79	10	2.6	111	17	16	1.70	10	2.7	107	17	16	1.65	10	2.8	105	17
				60	18	1.12	14	4.7	72	21	18	1.14	14	4.7	68	20	19	1.19	15	4.7	66	20
				80	17	1.32	13	3.8	91	22	17	1.25	13	4.0	88	21	17	1.22	13	4.1	86	21
	3.0	1.9	4.4	100	17	1.77	11	2.9	111	23	17	1.67	11	3.0	108	22	17	1.62	11	3.1	106	22
				120	18	2.26	10	2.3	132	23	17	2.17	10	2.3	128	24	17	2.12	10	2.3	126	24
				60	19	1.11	15	5.1	73	23	20	1.11	16	5.2	69	23	20	1.13	16	5.1	67	23
				80	19	1.33	14	4.2	93	24	19	1.25	15	4.4	88	24	19	1.22	15	4.5	86	23
30	4.5	2.4	5.6	100	19	1.77	13	3.1	113	24	19	1.68	13	3.3	108	24	19	1.62	13	3.3	106	24
				120	19	2.27	11	2.4	133	25	19	2.17	11	2.5	128	25	18	2.12	11	2.5	126	25
				60	19	1.11	15	4.9	72	25	19	1.12	15	5.0	68	25	19	1.14	15	5.0	66	25
				80	18	1.33	14	4.0	92	25	18	1.26	14	4.2	88	25	18	1.23	14	4.3	86	25
	6.0	3.2	7.5	100	18	1.79	12	3.0	112	26	18	1.69	12	3.1	108	26	18	1.64	12	3.2	106	26
				120	18	2.27	10	2.3	132	27	18	2.18	10	2.4	128	27	17	2.13	10	2.4	126	27
				60	20	1.11	16	5.2	73	29	20	1.11	16	5.3	69	29	20	1.13	16	5.2	67	29
				80	19	1.32	15	4.3	93	30	19	1.25	15	4.5	89	30	19	1.22	15	4.6	86	30
	3.0	1.4	3.3	100	19	1.77	13	3.2	113	31	19	1.67	14	3.4	109	31	19	1.62	14	3.5	106	31
				120	20	2.28	12	2.5	133	32	19	2.17	12	2.6	129	32	19	2.12	12	2.6	126	32
				60	22	1.11	19	5.9	75	32	23	1.10	19	6.0	70	32	23	1.10	19	6.0	68	32
				80	22	1.34	18	4.9	95	32	22	1.27	18	5.2	90	32	22	1.24	18	5.3	87	32
40	4.5	1.8	4.2	100	22	1.79	16	3.7	115	33	22	1.69	17	3.9	110	33	22	1.64	17	4.0	107	33
				120	22	2.30	14	2.8	135	34	22	2.20	14	2.9	130	34	22	2.14	14	3.0	127	34
				60	21	1.11	17	5.5	74	34	21	1.10	17	5.6	69	34	21	1.11	17	5.6	67	34
				80	20	1.35	16	4.4	94	35	20	1.27	16	4.7	89	35	20	1.24	16	4.8	87	35
	6.0	2.4	5.6	100	20	1.79	14	3.3	114	35	20	1.70	14	3.5	109	35	20	1.64	14	3.6	107	35
				120	20	2.29	12	2.6	133	36	20	2.19	12	2.6	129	36	19	2.13	12	2.7	126	36
				60	22	1.11	18	5.7	74	38	22	1.10	18	5.8	70	38	22	1.11	18	5.8	67	38
				80	22	1.34	17	4.8	94	39	22	1.27	17	5.0	90	38	22	1.23	17	5.1	87	38
	3.0	1.4	3.2	100	22	1.78	16	3.6	114	40	22	1.68	16	3.8	110	39	21	1.63	16	3.9	107	39
				120	22	2.30	14	2.8	135	41	22	2.19	14	2.9	130	41	21	2.14	14	2.9	127	41
				60	23	1.11	19	6.0	75	42	23	1.10	19	6.1	70	41	23	1.10	19	6.1	68	41
				80	23	1.35	18	4.9	95	42	23	1.28	18	5.2	90	42	23	1.25	19	5.4	88	42
50	4.5	1.7	4.0	100	23	1.80	17	3.7	115	43	23	1.70	17	3.9	110	43	22	1.65	17	4.0	107	43
				120	22	2.31	15	2.9	135	43	22	2.20	15	3.0	130	43	22	2.15	15	3.0	127	43
				60	24	1.12	20	6.2	76	43	24	1.10	20	6.4	71	43	24	1.10	20	6.4	68	43
				80	24	1.37	19	5.1	96	44	24	1.30	20	5.4	91	43	24	1.26	20	5.6	88	43
	6.0	2.3	5.4	100	24	1.81	18	3.8	116	44	24	1.72	18	4.0	110	44	24	1.66	18	4.1	108	44
				120	23	2.31	15	2.9	135	45	23	2.21	15	3.0	130	45	23	2.15	15	3.1	128	45
				60	23	1.12	19	5.9	75	47	23	1.10	19	6.1	70	47	23	1.10	19	6.1	68	47
				80	23	1.34	18	5.0	95	48	23	1.27	19	5.3	90	48	23	1.24	19	5.4	88	47
	3.0	1.3	3.1	100	23	1.78	17	3.9	116	48	23	1.68	18	4.1	110	48	23	1.63	18	4.2	108	48
				120	24	2.31	16	3.0	136	49	24	2.20	16	3.2	131	49	24	2.15	16	3.2	128	49
				60	24	1.12	20	6.2	76	51	24	1.10	20	6.4	71	51	24	1.10	20	6.4	68	51
				80	24	1.36	20	5.2	96	51	24	1.29	20	5.5	91	51	24	1.26	20	5.7	88	51
60	4.5	1.7	3.9	100	25	1.80	18	4.0	116	52	24	1.70	19	4.2	111	52	24	1.65	19	4.3	108	52
				120	25	2.32	17	3.1	137	53	25	2.21	17	3.2	131	52	24	2.16	17	3.3	128	52
				60	25	1.13	21	6.5	77	53	25	1.11	22	6.7	71	53	25	1.10	22	6.8	68	53
				80	25	1.38	21	5.4	97	53	26	1.31	21	5.7	91	53	26	1.27	21	5.9	89	53
	6.0	2.3	5.3	100	26	1.82	20	4.1	117	53	26	1.72	20	4.4	111	53	26	1.67	20	4.5	109	53
				120	26	2.33	18	3.2	137	54	25	2.22	18	3.3	131	54	25	2.17	18	3.4	128	54
				60	24	1.12	20	6.2	76	57	24	1.11	20	6.3	71	57	24	1.10	20	6.4	68	57
				80	24	1.34	20	5.3	96	57	24	1.28	20	5.6	91	57	24	1.24	20	5.7	88	57
	3.0	1.3	3.0	100	25	1.78	19	4.1	117	57	25	1.68	19	4.4	111	57	25	1.63	19	4.5	108	57
				120	26	2.31	18	3.3	137	58	26	2.20	18	3.4	131	58	26	2.15	18	3.5	129	58
				60	25	1.13	21	6.5	77	61	25	1.11	21	6.7	71	60	25	1.10	22	6.7	68	60
				80	26	1.36	21	5.5	97	61	26	1.30	21	5.8	91	61	26	1.26	21	6.0	89	60
70	4.5	1.6	3.8	100	26	1.80	20	4.3	118	61	26	1.70	20	4.5	112	61	26	1.65	21	4.6	109	61
				120	27	2.32	19	3.4	138	62	27	2.22	19	3.5	132	61	27	2.16	19	3.6	129	61
				60	26	1.13	23	6.8	78	62	27	1.11	23	7.0	72	62	27	1.10	23	7.1	69	62
				80	27	1.38	22	5.7	98	63	27	1.31	23	6.1	92	62	27	1.28	23	6.2	89	62
	6.0	2.2	5.1	100	28	1.82	21	4.5	118	63	28	1.72	22	4.7	112	63	28	1.67	22	4.8	109	63
				120	28	2.33	20	3.5	139	63	28	2.22	20	3.7	132	63	28	2.17	20	3.7	129	63
				60	25	1.13	21	6.4	76	66	25	1.11	21	6.6	71	66	25	1.10	21	6.6	68	66
				80	26	1.35	21	5.6	97	66	26	1.28	21	5.9	91	66	26	1.25	21	6.0	89	66
	3.0	1.3	2.9	100	27	1.77	21	4.4	118	66	27	1.67	21	4.7	112	66	26	1.62	21	4.8	109	66
				120	28	2.29	20	3.6	139	67	28	2.19	20	3.7	132	66	28	2.14	20	3.8	129	66
				60	26	1.14	22	6.7	77	70	26	1.11	23	7.0	72	70	26	1.10	23	7.0	69	70
				80	27	1.37	22	5.8	98	70	27	1.30	23	6.2	92	70	27	1.26	23	6.3	89	70
80	4.5	1.6	3.7	100	28	1.79	22	4.6	119	70	28	1.69	22	4.9	112	70	28	1.65	22	5.0	109	70
				120	29	2.30	21	3.7	139	71	29	2.20	21	3.9	133	70	29	2.15	22	3.9	130	70
				60	28	1.14	24	7.1	79	72	28	1.11	24	7.4	72	72	28	1.10	24	7.5	69	72
				80	29	1.38	24	6.1	99	72	29	1.31	24	6.4	93	72	29	1.28	24	6.6	90	72
	6.0	2.1	4.9	100	30	1.81	23	4.8	120	72	30	1.71	24	5.1	113	72	29	1.66	24	5.2	110	72
				120	30	2.30	22	3.8	140	73	30	2.20	23	4.0	133	72	30	2.15	23	4.1	130	72

3 Ton - Single Stage Combination - Forced Air Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

MC038S Series - R410A **Magnum Series**
Rated Airflow: 1270 Heating / 1200 Cooling **Water Source Heat Pump**

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	4.5	1.9	4.4										
20	6.8	2.4	5.4						Operation Not Recommended				
	9.0	3.2	7.4	25.0	2.3	17.1	88.3	3.1					
	4.5	2.0	4.7										
30	6.8	2.3	5.3	27.8	2.4	19.7	90.3	3.4	42.3	27.8	1.4	47.1	30.2
	9.0	3.1	7.1	28.8	2.4	20.6	91.0	3.5	43.2	28.5	1.3	47.6	33.7
	4.5	1.4	3.2	30.7	2.4	22.3	92.4	3.7	41.0	27.6	1.7	46.9	23.8
40	6.8	1.7	3.9	31.7	2.5	23.3	93.1	3.8	42.2	28.2	1.6	47.5	27.2
	9.0	2.3	5.3	32.8	2.5	24.2	93.9	3.8	42.8	28.9	1.4	47.8	29.6
	4.5	1.3	3.1	34.3	2.5	25.7	95.0	4.0	40.6	27.7	1.9	47.1	21.4
50	6.8	1.7	3.8	35.8	2.6	27.1	96.1	4.1	41.8	28.4	1.7	47.7	24.3
	9.0	2.2	5.2	37.0	2.6	28.1	97.0	4.2	42.3	29.0	1.6	47.8	26.0
	4.5	1.3	3.0	38.1	2.6	29.2	97.8	4.2	39.9	27.7	2.1	47.0	19.0
60	6.8	1.6	3.7	40.2	2.7	31.1	99.3	4.4	41.1	28.3	1.9	47.6	21.6
	9.0	2.2	5.0	41.4	2.7	32.3	100.2	4.5	41.5	29.0	1.8	47.7	22.8
	4.5	1.3	2.9	42.2	2.7	32.8	100.7	4.5	38.8	27.4	2.3	46.7	16.7
70	6.8	1.6	3.6	44.9	2.8	35.5	102.7	4.8	40.1	28.0	2.1	47.3	19.0
	9.0	2.1	4.9	46.2	2.8	36.7	103.7	4.9	40.4	28.7	2.0	47.3	19.9
	4.5	1.2	2.8	46.4	2.8	36.7	103.8	4.8	37.3	26.9	2.6	46.0	14.5
80	6.8	1.5	3.5	49.9	2.9	40.1	106.4	5.1	38.7	27.5	2.3	46.7	16.6
	9.0	2.0	4.7	51.4	2.9	41.5	107.5	5.2	39.0	28.2	2.3	46.7	17.2
	4.5	1.2	2.7	50.8	3.0	40.7	107.0	5.0	35.4	26.1	2.8	45.1	12.5
90	6.8	1.4	3.3	55.3	3.0	45.1	110.3	5.4	37.0	26.8	2.6	45.8	14.3
	9.0	2.0	4.5	56.9	3.0	46.6	111.5	5.5	37.2	27.4	2.5	45.8	14.8
	4.5	1.1	2.6						33.1	25.1	3.1	43.8	10.5
100	6.8	1.4	3.2						34.8	25.8	2.9	44.6	12.2
	9.0	1.9	4.4	Operation Not Recommended					35.1	26.4	2.8	44.6	12.6
	4.5	1.1	2.5						30.3	23.9	3.5	42.1	8.7
110	6.8	1.3	3.1						32.2	24.6	3.2	43.1	10.1
	9.0	1.8	4.2						32.6	25.2	3.1	43.2	10.6

Interpolation is permissable; extrapolation is not.
Operation below 40°F EWT is based upon a 15% antifreeze solution.
All performance is based upon the lower voltage of dual voltage rated units.
Table does not reflect fan or pump power corrections for ARI/ISO conditions.
See performance correction tables for operating conditions other than those listed above.

3 Ton - Single Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Magnum Series

MC038S Series - R410A — **Water Source Heat Pump**

Source				Load	Load Flow 4.5 GPM						Load Flow 6.8 GPM						Load Flow 9 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	25	1.61	20	4.6	71	16	25	1.53	20	4.8	67	16	25	1.50	20	4.9	66	16
20	9.0	3.2	7.4	80	25	2.03	18	3.6	91	16	25	1.93	18	3.8	87	16	25	1.88	19	3.9	86	16
				100	25	2.66	16	2.7	111	17	24	2.52	16	2.8	107	16	24	2.45	16	2.9	105	16
				60	27	1.60	21	4.9	72	21	27	1.53	22	5.2	68	20	27	1.49	22	5.3	66	20
				80	27	2.03	20	3.9	92	21	27	1.92	20	4.1	88	21	27	1.87	20	4.2	86	21
	4.5	1.9	4.3	100	27	2.65	18	3.0	112	22	27	2.51	18	3.1	108	22	27	2.44	18	3.2	106	22
				120	26	3.47	15	2.2	132	24	26	3.29	15	2.3	128	23	26	3.20	15	2.4	126	23
				60	30	1.61	24	5.4	73	23	30	1.53	24	5.7	69	23	30	1.48	25	5.9	67	23
				80	30	2.04	23	4.3	93	23	30	1.93	23	4.5	89	23	30	1.88	23	4.6	87	23
30	6.8	2.3	5.3	100	29	2.66	20	3.2	113	24	29	2.52	21	3.4	109	24	29	2.45	21	3.5	106	24
				120	29	3.48	17	2.4	133	25	28	3.30	17	2.5	128	25	28	3.21	17	2.6	126	25
				60	29	1.61	23	5.2	73	25	29	1.53	23	5.5	68	25	29	1.49	24	5.6	66	25
				80	29	2.05	22	4.1	93	25	29	1.95	22	4.3	88	25	29	1.89	22	4.4	86	25
	9.0	3.1	7.1	100	28	2.68	19	3.1	113	26	28	2.54	19	3.2	108	26	28	2.47	19	3.3	106	26
				120	27	3.49	15	2.3	132	27	27	3.31	15	2.4	128	27	27	3.22	16	2.4	126	27
				60	30	1.60	25	5.5	73	29	30	1.53	25	5.8	69	29	30	1.48	25	6.0	67	29
				80	31	2.03	24	4.4	94	30	31	1.93	24	4.6	89	29	31	1.88	24	4.8	87	29
	4.5	1.4	3.2	100	30	2.66	21	3.4	114	31	30	2.52	22	3.5	109	30	30	2.45	22	3.6	107	30
				120	30	3.48	18	2.5	133	32	29	3.30	18	2.6	129	32	29	3.21	18	2.7	126	32
				60	35	1.61	29	6.4	76	31	35	1.52	30	6.8	70	31	35	1.48	30	7.0	68	31
				80	35	2.05	28	5.1	96	32	35	1.94	29	5.3	90	31	35	1.89	29	5.5	88	31
40	6.8	1.7	3.9	100	35	2.68	26	3.8	116	32	35	2.54	26	4.0	110	32	35	2.46	26	4.1	108	32
				120	34	3.49	22	2.8	135	33	34	3.31	22	3.0	130	33	33	3.22	22	3.0	127	33
				60	32	1.61	27	5.8	74	34	32	1.53	27	6.2	69	34	32	1.49	27	6.3	67	34
				80	32	2.07	25	4.6	94	34	32	1.96	26	4.8	89	34	32	1.91	26	5.0	87	34
	9.0	2.3	5.3	100	32	2.69	23	3.5	114	35	32	2.55	23	3.6	109	35	31	2.48	23	3.7	107	35
				120	30	3.50	19	2.6	134	36	30	3.32	19	2.7	129	36	30	3.23	19	2.7	127	36
				60	34	1.61	28	6.1	75	37	34	1.52	29	6.5	70	37	34	1.48	29	6.7	68	37
				80	34	2.04	27	4.9	95	38	34	1.94	28	5.2	90	38	34	1.88	28	5.3	88	38
	4.5	1.3	3.1	100	34	2.67	25	3.7	115	39	34	2.53	25	3.9	110	39	34	2.46	25	4.0	107	39
				120	33	3.50	21	2.8	135	41	33	3.31	22	2.9	130	40	33	3.22	22	3.0	127	40
				60	35	1.61	30	6.5	76	41	36	1.53	30	6.8	70	41	36	1.49	31	7.0	68	41
				80	36	2.06	29	5.1	96	41	36	1.95	29	5.4	91	41	36	1.90	29	5.5	88	41
50	6.8	1.7	3.8	100	35	2.69	26	3.9	116	42	35	2.55	27	4.1	110	42	35	2.48	27	4.2	108	42
				120	34	3.50	22	2.9	135	43	34	3.32	23	3.0	130	43	34	3.23	23	3.1	128	43
				60	37	1.61	32	6.8	77	43	38	1.53	32	7.2	71	43	38	1.49	32	7.4	68	43
				80	38	2.08	30	5.3	97	43	38	1.97	31	5.6	91	43	38	1.92	31	5.8	88	43
	9.0	2.2	5.2	100	37	2.71	28	4.0	116	44	37	2.57	28	4.2	111	44	37	2.50	28	4.3	108	44
				120	35	3.50	23	3.0	136	45	35	3.32	24	3.1	130	45	35	3.23	24	3.2	128	45
				60	35	1.62	30	6.4	76	47	36	1.53	30	6.8	70	47	36	1.50	30	7.0	68	46
				80	36	2.04	29	5.2	96	47	36	1.94	30	5.5	91	47	36	1.88	30	5.6	88	47
	4.5	1.3	3.0	100	36	2.66	27	4.0	116	48	36	2.52	28	4.2	111	48	36	2.45	28	4.3	108	48
				120	37	3.49	25	3.1	136	49	36	3.31	25	3.2	131	49	36	3.22	25	3.3	128	49
				60	37	1.62	32	6.7	77	51	38	1.54	32	7.2	71	50	38	1.50	32	7.4	68	50
				80	38	2.06	31	5.4	97	51	38	1.96	32	5.7	91	51	38	1.90	32	5.9	88	51
60	6.8	1.6	3.7	100	38	2.69	29	4.2	117	51	38	2.55	29	4.4	111	51	38	2.48	30	4.5	108	51
				120	38	3.51	26	3.2	137	52	38	3.33	26	3.3	131	52	38	3.23	27	3.4	128	52
				60	39	1.63	34	7.1	78	52	40	1.55	34	7.5	72	52	40	1.50	35	7.7	69	52
				80	40	2.09	33	5.6	98	53	40	1.98	33	6.0	92	53	40	1.92	34	6.1	89	53
	9.0	2.2	5.0	100	40	2.72	31	4.3	118	53	40	2.58	31	4.6	112	53	40	2.50	31	4.7	109	53
				120	39	3.52	27	3.3	138	54	39	3.34	28	3.4	132	54	39	3.25	28	3.5	129	54
				60	37	1.63	31	6.6	76	56	37	1.55	32	7.0	71	56	37	1.51	32	7.2	68	56
				80	38	2.04	31	5.5	97	56	38	1.94	32	5.8	91	56	38	1.88	32	6.0	88	56
	4.5	1.3	2.9	100	39	2.65	30	4.3	117	57	39	2.51	30	4.5	111	57	39	2.44	31	4.7	109	56
				120	40	3.49	28	3.4	138	57	40	3.30	29	3.5	132	57	40	3.21	29	3.6	129	57
				60	39	1.64	34	7.0	77	60	40	1.55	34	7.5	72	60	40	1.51	34	7.7	69	60
				80	40	2.07	33	5.7	98	60	40	1.96	34	6.0	92	60	40	1.91	34	6.2	89	60
70	6.8	1.6	3.6	100	41	2.69	32	4.5	118	61	41	2.55	32	4.7	112	60	41	2.48	32	4.8	109	60
				120	42	3.51	30	3.5	139	61	42	3.33	30	3.7	132	61	41	3.24	30	3.7	129	61
				60	42	1.64	36	7.4	78	62	42	1.56	37	7.9	72	62	42	1.52	37	8.1	69	62
				80	43	2.10	35	5.9	99	62	43	1.98	36	6.3	93	62	43	1.93	36	6.5	89	62
	9.0	2.1	4.9	100	43	2.73	34	4.6	119	62	43	2.59	34	4.9	113	62	43	2.51	34	5.0	110	62
				120	43	3.54	31	3.6	139	63	43	3.36	32	3.8	133	63	43	3.26	32	3.9	130	63
				60	39	1.65	33	6.9	77	65	39	1.56	34	7.3	71	65	39	1.52	34	7.5	69	65
				80	40	2.04	33	5.8	98	65	40	1.94	34	6.1	92	65	40	1.88	34	6.3	89	65
	4.5	1.2	2.8	100	42	2.64	33	4.6	118	66	42	2.50	33	4.9	112	65	41	2.44	33	5.0	109	65
				120	44	3.49	32	3.7	139	66	43	3.30	32	3.9	133	66	43	3.21	32	3.9	130	66
				60	41	1.65	36	7.3	78	69	41	1.57	36	7.8	72	69	42	1.52	36	8.0	69	69
				80	43	2.07	35	6.0	99	69	43	1.96	36	6.4	93	69	43	1.91	36	6.6	90	69
80	6.8	1.5	3.5	100	44	2.69	35	4.8	119	70	44	2.55	35	5.1	113	70	44	2.48	35	5.2	110	70
				120	45	3.52	33	3.8	140	70	45	3.33	34	4.0	133	70	45	3.24	34	4.1	130	70
				60	44	1.66	38	7.7	79	72	44	1.57	39	8.2	73	71	44	1.53	39	8.5	70	71
				80	45	2.11	38	6.3	100	72	45	2.00	38	6.6	93	71	45	1.94	39	6.8	90	71
	9.0	2.0	4.7	100	46	2.74	37	4.9	121	72	46	2.59	37	5.2	114	72	46	2.52	38	5.4	110	72
				120	47	3.56	35	3.9	141	72	47	3.37	36	4.1	134	72	47	3.28	36	4.2	130	72

4 Ton - Single Stage Combination - Forced Air Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

MC050S Series - R410A **Magnum Series**
Rated Airflow: 1600 Heating / 1550 Cooling **Water Source Heat Pump**

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	6.0	2.0	4.6										
20	9.0	3.8	8.9						Operation Not Recommended				
	12.0	6.1	14.0	30.3	2.9	20.3	87.6	3.0					
	6.0	2.1	4.8										
30	9.0	3.7	8.6	33.9	3.0	23.6	89.6	3.3	53.5	35.9	1.8	59.8	29.2
	12.0	5.9	13.6	35.2	3.0	24.8	90.4	3.4	54.5	36.8	1.7	60.4	31.7
	6.0	1.4	3.3	37.7	3.1	27.2	91.8	3.6	52.0	35.6	2.2	59.4	23.8
40	9.0	2.8	6.4	39.1	3.1	28.4	92.6	3.7	53.5	36.4	2.0	60.3	26.8
	12.0	4.4	10.2	40.5	3.1	29.7	93.4	3.8	54.2	37.3	1.9	60.7	28.7
	6.0	1.4	3.2	42.6	3.2	31.7	94.7	3.9	51.5	35.8	2.4	59.6	21.5
50	9.0	2.7	6.3	44.7	3.2	33.7	95.8	4.1	53.0	36.7	2.2	60.5	24.3
	12.0	4.3	9.9	46.2	3.3	35.1	96.7	4.2	53.6	37.5	2.1	60.7	25.8
	6.0	1.3	3.1	47.8	3.3	36.5	97.7	4.2	50.6	35.8	2.6	59.5	19.2
60	9.0	2.6	6.1	50.6	3.3	39.3	99.3	4.4	52.2	36.6	2.4	60.3	21.8
	12.0	4.1	9.5	52.3	3.4	40.8	100.3	4.5	52.6	37.4	2.3	60.4	22.9
	6.0	1.3	3.0	53.3	3.4	41.6	100.8	4.5	49.2	35.4	2.9	59.1	17.0
70	9.0	2.5	5.9	57.0	3.5	45.2	103.0	4.8	50.9	36.2	2.6	59.9	19.3
	12.0	4.0	9.2	58.7	3.5	46.8	104.0	4.9	51.2	37.1	2.5	59.9	20.1
	6.0	1.3	2.9	59.0	3.6	46.8	104.1	4.8	47.4	34.7	3.2	58.3	14.8
80	9.0	2.5	5.7	63.6	3.6	51.3	106.8	5.2	49.1	35.5	2.9	59.1	16.8
	12.0	3.9	8.9	65.5	3.6	53.1	107.9	5.3	49.4	36.4	2.8	59.1	17.5
	6.0	1.2	2.8	64.8	3.7	52.1	107.5	5.1	45.1	33.7	3.6	57.3	12.7
90	9.0	2.4	5.5	70.4	3.7	57.7	110.7	5.5	47.0	34.6	3.2	58.0	14.5
	12.0	3.7	8.6	72.4	3.8	59.6	111.9	5.7	47.2	35.4	3.1	58.0	15.0
	6.0	1.2	2.7						42.4	32.5	4.0	55.9	10.7
100	9.0	2.3	5.3						44.4	33.3	3.6	56.7	12.3
	12.0	3.6	8.3	Operation Not Recommended					44.7	34.1	3.5	56.6	12.8
	6.0	1.1	2.6						39.2	30.9	4.4	54.3	8.9
110	9.0	2.2	5.1						41.4	31.7	4.0	55.1	10.3
	12.0	3.5	8.0						41.7	32.5	3.9	55.0	10.7

Interpolation is permissable; extrapolation is not.
Operation below 40°F EWT is based upon a 15% antifreeze solution.
All performance is based upon the lower voltage of dual voltage rated units.
Table does not reflect fan or pump power corrections for ARI/ISO conditions.
See performance correction tables for operating conditions other than those listed above.

4 Ton - Single Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Magnum Series

MC050S Series - R410A **Water Source Heat Pump**

Source				Load	Load Flow 6 GPM						Load Flow 9 GPM						Load Flow 12 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	28	1.74	22	4.8	69	16	28	1.53	23	5.3	66	16	27	1.40	22	5.7	65	16
20	12.0	6.1	14.0	80	30	2.51	21	3.5	90	16	30	2.34	22	3.7	87	16	29	2.26	22	3.8	85	16
				100	30	3.41	19	2.6	110	17	30	3.22	19	2.7	107	17	30	3.12	19	2.8	105	17
				60	31	1.76	25	5.1	70	22	30	1.58	25	5.6	67	22	30	1.46	25	5.9	65	22
				80	32	2.49	24	3.8	91	22	32	2.32	24	4.0	87	22	32	2.25	24	4.2	85	22
	6.0	1.9	4.4	100	33	3.36	21	2.9	111	23	32	3.18	22	3.0	107	23	32	3.09	22	3.1	105	23
				120	33	4.42	18	2.2	131	24	32	4.20	18	2.3	127	24	32	4.09	18	2.3	125	24
				60	35	1.82	28	5.6	72	24	34	1.67	29	6.0	68	24	34	1.58	29	6.3	66	24
				80	36	2.51	27	4.2	92	24	36	2.34	28	4.5	88	24	36	2.27	28	4.6	86	24
30	9.0	3.7	8.6	100	36	3.37	25	3.2	112	24	36	3.18	25	3.3	108	24	36	3.09	25	3.4	106	24
				120	36	4.43	21	2.4	132	25	35	4.20	21	2.5	128	25	35	4.09	21	2.5	126	25
				60	33	1.81	27	5.4	71	25	33	1.66	27	5.8	67	25	33	1.56	27	6.1	65	25
				80	35	2.52	26	4.0	92	26	34	2.37	26	4.3	88	26	34	2.28	26	4.4	86	26
	12.0	5.9	13.6	100	35	3.40	23	3.0	112	26	34	3.21	23	3.1	108	26	34	3.12	23	3.2	106	26
				120	34	4.45	19	2.3	131	27	33	4.23	19	2.3	127	27	33	4.11	19	2.4	126	27
				60	36	1.83	29	5.7	72	30	35	1.69	30	6.1	68	30	35	1.60	30	6.4	66	30
				80	37	2.50	29	4.3	92	30	37	2.35	29	4.6	88	30	37	2.27	29	4.7	86	30
	6.0	1.4	3.3	100	37	3.36	26	3.3	112	31	37	3.17	26	3.4	108	31	37	3.08	26	3.5	106	31
				120	38	4.43	23	2.5	133	32	37	4.19	23	2.6	128	32	36	4.08	23	2.6	126	32
				60	42	1.92	36	6.5	74	32	43	1.80	36	6.9	69	32	42	1.73	36	7.2	67	32
				80	44	2.53	35	5.0	95	32	44	2.39	35	5.3	90	32	43	2.32	36	5.5	87	32
40	9.0	2.8	6.4	100	44	3.37	32	3.8	115	33	43	3.18	32	4.0	110	33	43	3.09	33	4.1	107	33
				120	43	4.43	28	2.9	134	34	42	4.20	28	3.0	129	34	42	4.08	28	3.0	127	34
				60	38	1.88	32	6.0	73	35	38	1.75	32	6.4	68	35	38	1.68	32	6.6	66	35
				80	39	2.55	31	4.5	93	35	39	2.39	31	4.8	89	35	39	2.32	31	4.9	87	35
	12.0	4.4	10.2	100	39	3.40	28	3.4	113	35	39	3.21	28	3.6	109	35	39	3.12	28	3.6	106	35
				120	39	4.45	23	2.5	133	36	38	4.21	23	2.6	128	36	37	4.10	23	2.7	126	36
				60	41	1.90	34	6.3	74	39	41	1.77	35	6.7	69	38	40	1.71	35	6.9	67	38
				80	42	2.52	33	4.9	94	39	42	2.38	34	5.2	89	39	42	2.30	34	5.3	87	39
	6.0	1.4	3.2	100	42	3.36	31	3.7	114	40	42	3.18	31	3.9	109	40	42	3.08	31	4.0	107	40
				120	42	4.44	27	2.8	134	41	42	4.20	27	2.9	129	41	41	4.09	27	3.0	127	41
				60	43	1.93	37	6.6	74	42	43	1.82	37	7.0	70	42	43	1.75	37	7.2	67	42
				80	44	2.55	36	5.1	95	42	44	2.41	36	5.4	90	42	44	2.33	36	5.6	87	42
50	9.0	2.7	6.3	100	44	3.38	33	3.8	115	43	44	3.20	33	4.0	110	43	44	3.11	33	4.1	107	43
				120	44	4.45	29	2.9	135	44	43	4.21	29	3.0	130	44	43	4.09	29	3.1	127	44
				60	46	1.96	39	6.8	75	43	46	1.85	40	7.3	70	43	46	1.80	40	7.5	68	43
				80	47	2.58	38	5.3	96	44	47	2.44	38	5.6	90	44	47	2.37	39	5.8	88	44
	12.0	4.3	9.9	100	46	3.41	35	4.0	115	44	46	3.23	35	4.2	110	44	46	3.13	35	4.3	108	44
				120	45	4.45	30	3.0	135	45	45	4.21	30	3.1	130	45	44	4.09	30	3.2	127	45
				60	43	1.94	36	6.5	74	48	43	1.82	37	6.9	70	48	43	1.77	37	7.1	67	48
				80	45	2.53	36	5.2	95	48	45	2.39	37	5.5	90	48	45	2.31	37	5.7	87	48
	6.0	1.3	3.1	100	46	3.34	34	4.0	115	49	45	3.16	35	4.2	110	48	45	3.07	35	4.3	108	48
				120	47	4.44	32	3.1	136	49	46	4.19	32	3.2	130	49	46	4.08	32	3.3	128	49
				60	46	1.98	39	6.8	75	51	46	1.86	40	7.3	70	51	46	1.81	40	7.5	68	51
				80	47	2.56	39	5.4	96	51	47	2.43	39	5.7	91	51	47	2.35	39	5.9	88	51
60	9.0	2.6	6.1	100	48	3.38	37	4.2	116	52	48	3.19	37	4.4	111	52	48	3.11	37	4.5	108	52
				120	49	4.46	34	3.2	136	53	48	4.21	34	3.4	131	52	48	4.09	34	3.4	128	52
				60	49	2.01	42	7.1	76	53	49	1.91	43	7.6	71	53	49	1.85	43	7.8	68	53
				80	50	2.60	41	5.6	97	53	50	2.46	42	6.0	91	53	50	2.39	42	6.1	88	53
	12.0	4.1	9.5	100	50	3.42	39	4.3	117	54	50	3.23	39	4.6	111	53	50	3.14	39	4.7	108	53
				120	51	4.48	35	3.3	137	54	50	4.23	36	3.5	131	54	50	4.11	36	3.5	128	54
				60	45	1.98	39	6.7	75	57	46	1.87	39	7.1	70	57	46	1.81	39	7.4	68	57
				80	47	2.53	39	5.5	96	57	48	2.40	39	5.8	91	57	47	2.32	40	6.0	88	57
	6.0	1.3	3.0	100	49	3.33	38	4.3	116	57	49	3.15	38	4.5	111	57	49	3.06	38	4.7	108	57
				120	52	4.43	37	3.4	137	58	51	4.19	37	3.6	131	58	51	4.07	37	3.6	128	58
				60	49	2.02	42	7.1	76	61	49	1.91	42	7.5	71	61	49	1.86	43	7.7	68	61
				80	50	2.58	42	5.7	97	61	51	2.44	42	6.1	91	61	51	2.37	42	6.2	88	61
70	9.0	2.5	5.9	100	52	3.37	40	4.5	117	61	52	3.19	41	4.7	111	61	51	3.11	41	4.9	109	61
				120	54	4.46	39	3.5	138	61	53	4.22	39	3.7	132	61	53	4.10	39	3.8	129	61
				60	52	2.05	45	7.4	77	63	52	1.95	46	7.9	72	62	52	1.90	46	8.1	69	62
				80	53	2.62	45	6.0	98	63	54	2.48	45	6.4	92	62	54	2.41	45	6.5	89	62
	12.0	4.0	9.2	100	55	3.42	43	4.7	118	63	54	3.24	43	4.9	112	63	54	3.15	44	5.1	109	63
				120	56	4.50	41	3.6	139	63	55	4.25	41	3.8	132	63	55	4.12	41	3.9	129	63
				60	48	2.02	41	6.9	76	66	48	1.92	42	7.4	71	66	48	1.86	42	7.6	68	66
				80	50	2.54	42	5.8	97	66	50	2.41	42	6.1	91	66	50	2.34	42	6.3	88	66
	6.0	1.3	2.9	100	52	3.32	41	4.6	117	66	52	3.13	42	4.9	112	66	52	3.05	42	5.0	109	66
				120	56	4.43	41	3.7	139	66	56	4.18	41	3.9	132	66	55	4.06	41	4.0	129	66
				60	51	2.06	44	7.3	77	70	52	1.96	45	7.8	72	70	52	1.90	45	8.0	69	70
				80	53	2.59	45	6.1	98	70	54	2.45	45	6.4	92	70	54	2.38	46	6.6	89	70
80	9.0	2.5	5.7	100	56	3.37	44	4.8	119	70	56	3.19	45	5.1	112	70	55	3.10	45	5.2	109	70
				120	59	4.47	43	3.8	140	70	58	4.22	44	4.0	133	70	58	4.10	44	4.1	130	70
				60	55	2.09	48	7.7	78	72	55	1.99	49	8.2	72	72	55	1.94	49	8.4	69	72
				80	57	2.63	48	6.3	99	72	57	2.50	49	6.7	93	72	57	2.43	49	6.9	90	72
	12.0	3.9	8.9	100	59	3.43	47	5.0	120	72	59	3.24	48	5.3	113	72	59	3.15	48	5.4	110	72
				120	61	4.52	46	4.0	140	72	61	4.26	46	4.2	133	72	60	4.14	46	4.3	130	72

5 Ton - Single Stage Combination - Forced Air Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

MC062S Series - R410A **Magnum Series**
Rated Airflow: 2000 Heating / 1850 Cooling **Water Source Heat Pump**

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	7.5	1.8	4.2										
20	11.3	3.3	7.6						Operation Not Recommended				
	15.0	5.3	12.2	38.4	3.8	25.4	87.8	2.9					
	7.5	1.9	4.4										
30	11.3	3.2	7.4	45.3	3.9	32.0	91.0	3.4	71.0	42.9	2.3	78.8	31.3
	15.0	5.1	11.9	48.0	4.0	34.4	92.2	3.5	72.5	43.9	2.1	79.6	34.9
	7.5	1.3	3.0	51.1	4.0	37.4	93.7	3.7	68.8	42.5	2.8	78.3	24.6
40	11.3	2.4	5.5	52.8	4.1	39.0	94.5	3.8	70.8	43.5	2.5	79.4	28.1
	15.0	3.8	8.9	54.6	4.1	40.5	95.3	3.9	71.9	44.5	2.3	79.8	30.7
	7.5	1.3	2.9	57.2	4.2	43.0	96.5	4.0	68.1	42.8	3.1	78.6	22.0
50	11.3	2.3	5.3	59.7	4.2	45.3	97.6	4.1	70.1	43.8	2.8	79.6	25.1
	15.0	3.7	8.6	61.6	4.3	47.0	98.5	4.2	70.9	44.8	2.6	79.9	26.9
	7.5	1.2	2.8	63.6	4.3	48.8	99.4	4.3	66.8	42.7	3.4	78.5	19.5
60	11.3	2.2	5.2	67.0	4.4	52.1	101.0	4.5	68.9	43.7	3.1	79.5	22.2
	15.0	3.6	8.3	69.1	4.4	54.0	102.0	4.6	69.5	44.7	3.0	79.6	23.5
	7.5	1.2	2.8	70.3	4.5	54.9	102.5	4.6	64.9	42.2	3.8	77.9	17.1
70	11.3	2.2	5.0	74.9	4.5	59.4	104.7	4.8	67.2	43.2	3.4	78.9	19.5
	15.0	3.5	8.1	77.1	4.6	61.4	105.7	4.9	67.6	44.2	3.3	78.9	20.4
	7.5	1.2	2.7	77.3	4.7	61.3	105.8	4.8	62.4	41.4	4.2	76.8	14.8
80	11.3	2.1	4.8	83.2	4.7	67.1	108.5	5.2	64.8	42.4	3.8	77.9	16.9
	15.0	3.4	7.8	85.7	4.8	69.4	109.7	5.3	65.2	43.4	3.7	77.9	17.6
	7.5	1.1	2.6	84.7	4.9	68.0	109.2	5.1	59.2	40.3	4.7	75.1	12.6
90	11.3	2.0	4.7	92.2	4.9	75.3	112.7	5.5	61.9	41.3	4.3	76.4	14.5
	15.0	3.3	7.5	94.9	5.0	77.8	113.9	5.6	62.3	42.3	4.1	76.3	15.1
	7.5	1.1	2.5						55.2	38.7	5.2	73.0	10.6
100	11.3	1.9	4.5						58.2	39.7	4.7	74.4	12.3
	15.0	3.1	7.3	Operation Not Recommended					58.7	40.7	4.6	74.4	12.8
	7.5	1.0	2.4						50.5	36.9	5.8	70.3	8.7
110	11.3	1.9	4.3						53.9	37.9	5.3	71.8	10.2
	15.0	3.0	7.0						54.5	38.8	5.1	71.9	10.7

Interpolation is permissable; extrapolation is not.
Operation below 40°F EWT is based upon a 15% antifreeze solution.
All performance is based upon the lower voltage of dual voltage rated units.
Table does not reflect fan or pump power corrections for ARI/ISO conditions.
See performance correction tables for operating conditions other than those listed above.

5 Ton - Single Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Magnum Series

MC062S Series - R410A — **Water Source Heat Pump**

Source				Load	Load Flow 7.5 GPM						Load Flow 11.3 GPM						Load Flow 15 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	42	2.60	33	4.7	71	16	42	2.48	33	4.9	67	16	42	2.43	34	5.0	66	16
20	15.0	5.3	12.2	80	42	3.31	30	3.7	91	16	42	3.14	31	3.9	87	16	41	3.05	31	4.0	86	16
				100	41	4.38	26	2.8	111	17	41	4.14	27	2.9	107	16	40	4.02	27	2.9	105	16
				60	45	2.60	36	5.0	72	20	45	2.48	36	5.3	68	20	45	2.42	37	5.4	66	20
				80	45	3.30	34	4.0	92	21	45	3.12	34	4.2	88	21	45	3.04	34	4.3	86	21
	7.5	1.8	4.1	100	45	4.35	30	3.0	112	22	44	4.11	30	3.2	108	22	44	4.00	30	3.2	106	22
				120	44	5.76	24	2.2	132	24	43	5.45	25	2.3	128	23	43	5.29	25	2.4	126	23
				60	49	2.60	40	5.5	73	23	50	2.48	41	5.9	69	23	50	2.41	41	6.0	67	23
				80	50	3.32	38	4.4	93	23	50	3.14	39	4.6	89	23	49	3.06	39	4.7	87	23
30	11.3	3.2	7.4	100	49	4.38	34	3.3	113	24	49	4.14	35	3.5	109	24	48	4.02	35	3.5	106	24
				120	48	5.78	28	2.4	133	25	47	5.48	28	2.5	128	25	47	5.31	28	2.6	126	25
				60	48	2.61	39	5.3	73	25	48	2.49	39	5.6	68	25	48	2.42	40	5.8	66	25
				80	48	3.34	36	4.2	93	25	48	3.17	37	4.4	88	25	48	3.08	37	4.5	86	25
	15.0	5.1	11.9	100	47	4.41	32	3.1	113	26	47	4.17	32	3.3	108	26	46	4.05	33	3.4	106	26
				120	45	5.80	26	2.3	132	27	45	5.49	26	2.4	128	27	44	5.33	26	2.4	126	27
				60	50	2.60	41	5.7	73	29	51	2.47	42	6.0	69	29	51	2.41	42	6.2	67	29
				80	51	3.31	40	4.5	94	29	51	3.14	40	4.8	89	29	51	3.06	40	4.9	87	29
	7.5	1.3	3.0	100	51	4.37	36	3.4	114	30	50	4.14	36	3.6	109	30	50	4.01	36	3.7	107	30
				120	50	5.79	30	2.5	133	32	49	5.47	30	2.6	129	32	49	5.31	30	2.7	126	32
				60	58	2.60	49	6.6	76	31	59	2.47	50	7.0	70	31	59	2.40	51	7.2	68	31
				80	59	3.34	48	5.2	96	32	59	3.16	48	5.5	90	31	59	3.07	48	5.6	88	31
40	11.3	2.4	5.5	100	58	4.40	43	3.9	116	32	58	4.17	44	4.1	110	32	58	4.04	44	4.2	108	32
				120	57	5.80	37	2.9	135	33	56	5.49	37	3.0	130	33	56	5.33	37	3.1	127	33
				60	53	2.62	45	6.0	74	34	54	2.49	45	6.3	70	34	54	2.42	46	6.5	67	34
				80	54	3.37	42	4.7	94	34	54	3.18	43	5.0	90	34	54	3.10	43	5.1	87	34
	15.0	3.8	8.9	100	53	4.43	38	3.5	114	35	53	4.19	38	3.7	109	35	52	4.07	38	3.8	107	35
				120	51	5.82	31	2.6	134	36	50	5.50	31	2.7	129	36	50	5.34	32	2.7	127	36
				60	56	2.61	47	6.3	75	37	56	2.47	48	6.7	70	37	56	2.41	48	6.9	68	37
				80	57	3.33	46	5.0	95	38	57	3.16	46	5.3	90	38	57	3.06	46	5.4	88	38
	7.5	1.3	2.9	100	57	4.39	42	3.8	115	39	56	4.16	42	4.0	110	39	56	4.03	42	4.1	107	39
				120	56	5.81	36	2.8	135	40	55	5.49	36	2.9	130	40	55	5.34	36	3.0	127	40
				60	59	2.61	50	6.6	76	41	60	2.48	51	7.0	71	41	60	2.41	51	7.2	68	41
				80	60	3.36	48	5.2	96	41	60	3.18	49	5.5	91	41	60	3.09	49	5.7	88	41
50	11.3	2.3	5.3	100	59	4.42	44	3.9	116	42	59	4.19	45	4.1	110	42	59	4.07	45	4.2	108	42
				120	57	5.82	37	2.9	135	43	57	5.50	38	3.0	130	43	56	5.35	38	3.1	128	43
				60	62	2.62	53	7.0	77	43	63	2.49	54	7.4	71	43	63	2.41	54	7.6	68	43
				80	63	3.40	51	5.4	97	43	63	3.21	52	5.7	91	43	63	3.12	52	5.9	88	43
	15.0	3.7	8.6	100	62	4.46	46	4.0	116	44	61	4.22	47	4.3	111	44	61	4.10	47	4.4	108	44
				120	59	5.82	39	3.0	136	45	58	5.51	40	3.1	130	45	58	5.35	40	3.2	128	45
				60	59	2.62	50	6.6	76	47	59	2.49	51	7.0	70	46	59	2.43	51	7.2	68	46
				80	60	3.33	49	5.3	96	47	60	3.16	50	5.6	91	47	60	3.06	50	5.8	88	47
	7.5	1.2	2.8	100	61	4.38	46	4.1	116	48	61	4.14	46	4.3	111	48	60	4.02	47	4.4	108	48
				120	61	5.81	41	3.1	136	49	61	5.49	42	3.2	131	49	60	5.33	42	3.3	128	49
				60	62	2.64	53	6.9	77	51	63	2.49	54	7.4	71	50	63	2.43	55	7.6	68	50
				80	63	3.37	52	5.5	97	51	64	3.19	53	5.9	91	51	64	3.10	53	6.0	88	51
60	11.3	2.2	5.2	100	64	4.42	49	4.2	117	51	64	4.19	49	4.5	111	51	63	4.07	50	4.6	108	51
				120	63	5.84	44	3.2	137	52	63	5.52	44	3.3	131	52	63	5.35	44	3.4	128	52
				60	66	2.64	57	7.3	78	52	66	2.51	58	7.7	72	52	66	2.44	58	8.0	69	52
				80	67	3.41	55	5.7	98	53	67	3.23	56	6.1	92	53	67	3.14	56	6.3	89	52
	15.0	3.6	8.3	100	67	4.48	51	4.4	118	53	67	4.23	52	4.6	112	53	67	4.11	53	4.7	109	53
				120	66	5.86	46	3.3	138	54	65	5.54	46	3.4	132	54	65	5.39	46	3.5	129	54
				60	62	2.65	53	6.8	76	56	62	2.51	54	7.2	71	56	62	2.44	54	7.5	68	56
				80	64	3.33	52	5.6	97	56	64	3.15	53	5.9	91	56	64	3.06	53	6.1	89	56
	7.5	1.2	2.8	100	65	4.37	50	4.4	117	57	65	4.13	51	4.6	111	56	65	4.01	51	4.7	109	56
				120	67	5.80	47	3.4	138	57	67	5.48	48	3.6	132	57	66	5.33	48	3.6	129	57
				60	66	2.66	56	7.2	77	60	66	2.52	57	7.7	72	60	66	2.45	58	7.9	69	60
				80	67	3.38	56	5.8	98	60	68	3.20	57	6.2	92	60	68	3.11	57	6.4	89	60
70	11.3	2.2	5.0	100	68	4.43	53	4.5	118	61	68	4.19	54	4.8	112	60	68	4.07	54	4.9	109	60
				120	70	5.85	50	3.5	139	61	69	5.53	50	3.7	132	61	69	5.37	51	3.8	129	61
				60	69	2.67	60	7.6	78	62	70	2.52	61	8.1	72	62	70	2.46	62	8.3	69	62
				80	71	3.42	59	6.1	99	62	71	3.24	60	6.5	93	62	71	3.14	61	6.6	90	62
	15.0	3.5	8.1	100	72	4.49	57	4.7	119	62	72	4.26	57	5.0	113	62	72	4.13	58	5.1	110	62
				120	72	5.90	52	3.6	139	63	72	5.58	53	3.8	133	63	72	5.41	53	3.9	130	63
				60	65	2.67	55	7.1	77	65	65	2.54	56	7.5	72	65	65	2.47	57	7.7	69	65
				80	67	3.33	56	5.9	98	65	67	3.15	56	6.3	92	65	67	3.06	57	6.4	89	65
	7.5	1.2	2.7	100	69	4.35	54	4.7	118	66	69	4.11	55	4.9	112	65	69	4.00	55	5.1	109	65
				120	73	5.80	53	3.7	139	66	72	5.48	54	3.9	133	66	72	5.32	54	4.0	130	66
				60	69	2.69	60	7.5	78	69	69	2.54	61	8.0	72	69	69	2.47	61	8.2	69	69
				80	71	3.39	59	6.1	99	69	71	3.20	60	6.5	93	69	71	3.11	61	6.7	90	69
80	11.3	2.1	4.8	100	73	4.43	58	4.8	119	70	73	4.19	59	5.1	113	70	73	4.07	59	5.3	110	69
				120	76	5.86	56	3.8	140	70	75	5.54	57	4.0	133	70	75	5.38	57	4.1	130	70
				60	73	2.69	64	7.9	79	72	74	2.55	65	8.5	73	71	74	2.48	65	8.7	70	71
				80	75	3.44	63	6.4	100	72	75	3.25	64	6.8	93	71	75	3.16	65	7.0	90	71
	15.0	3.4	7.8	100	77	4.52	62	5.0	121	72	77	4.27	63	5.3	114	72	77	4.14	63	5.5	110	72
				120	79	5.92	59	3.9	141	72	79	5.60	60	4.1	134	72	78	5.44	60	4.2	130	72

6 Ton - Single Stage Combination - Forced Air Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

MC071S Series - R410A **Magnum Series**
Rated Airflow: 2100 Heating / 2100 Cooling **Water Source Heat Pump**

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	9.0	2.3	5.4										
20	13.5	4.4	10.2						Operation Not Recommended				
	18.0	7.1	16.5	39.6	4.2	25.4	87.4	2.8					
	9.0	2.5	5.7										
30	13.5	4.3	9.9	46.5	4.3	32.0	90.5	3.2	77.9	48.7	2.5	86.5	31.0
	18.0	6.9	16.0	49.5	4.3	34.8	91.8	3.4	79.5	49.8	2.3	87.4	34.6
	9.0	1.7	3.9	54.9	4.4	40.0	94.2	3.7	75.5	48.2	3.1	86.0	24.5
40	13.5	3.2	7.4	57.8	4.4	42.8	95.5	3.8	77.7	49.4	2.8	87.2	27.9
	18.0	5.2	11.9	59.7	4.5	44.5	96.3	3.9	78.8	50.5	2.6	87.7	30.4
	9.0	1.6	3.8	62.6	4.5	47.2	97.6	4.1	74.7	48.6	3.4	86.3	22.0
50	13.5	3.1	7.2	65.3	4.6	49.8	98.8	4.2	76.9	49.7	3.1	87.4	25.0
	18.0	5.0	11.6	67.4	4.6	51.6	99.7	4.3	77.8	50.8	2.9	87.7	26.7
	9.0	1.6	3.7	69.6	4.7	53.6	100.7	4.3	73.3	48.5	3.7	86.1	19.6
60	13.5	3.0	7.0	73.3	4.7	57.2	102.3	4.5	75.6	49.6	3.4	87.2	22.2
	18.0	4.9	11.2	75.6	4.8	59.3	103.3	4.6	76.3	50.7	3.3	87.4	23.4
	9.0	1.5	3.6	76.9	4.9	60.3	103.9	4.6	71.3	47.9	4.1	85.4	17.2
70	13.5	2.9	6.7	81.9	4.9	65.2	106.1	4.9	73.7	49.1	3.8	86.6	19.6
	18.0	4.7	10.9	84.4	4.9	67.5	107.2	5.0	74.2	50.2	3.6	86.6	20.4
	9.0	1.5	3.4	84.5	5.1	67.3	107.3	4.9	68.5	47.0	4.6	84.1	15.0
80	13.5	2.8	6.5	91.0	5.1	73.7	110.1	5.3	71.2	48.2	4.2	85.4	17.1
	18.0	4.5	10.5	93.7	5.1	76.2	111.3	5.3	71.6	49.3	4.0	85.4	17.7
	9.0	1.4	3.3	92.6	5.3	74.7	110.8	5.2	65.0	45.7	5.0	82.2	12.9
90	13.5	2.7	6.3	100.8	5.3	82.8	114.4	5.6	67.9	46.8	4.6	83.6	14.8
	18.0	4.4	10.1	103.7	5.3	85.5	115.7	5.7	68.4	48.0	4.5	83.6	15.3
	9.0	1.4	3.2						60.7	44.0	5.6	79.7	10.9
100	13.5	2.6	6.1						63.9	45.1	5.1	81.3	12.6
	18.0	4.2	9.8	Operation Not Recommended					64.5	46.2	5.0	81.4	13.0
	9.0	1.3	3.1						55.5	41.8	6.2	76.5	9.0
110	13.5	2.5	5.8						59.2	43.0	5.6	78.4	10.5
	18.0	4.1	9.4						59.9	44.1	5.5	78.6	10.9

Interpolation is permissable; extrapolation is not.
Operation below 40°F EWT is based upon a 15% antifreeze solution.
All performance is based upon the lower voltage of dual voltage rated units.
Table does not reflect fan or pump power corrections for ARI/ISO conditions.
See performance correction tables for operating conditions other than those listed above.

6 Ton - Single Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Magnum Series

MC071S Series - R410A — **Water Source Heat Pump**

Source				Load	Load Flow 9 GPM						Load Flow 13.5 GPM						Load Flow 18 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	46	2.88	36	4.7	70	16	46	2.74	37	4.9	67	16	46	2.68	37	5.0	65	16
20	18.0	7.1	16.5	80	46	3.64	33	3.7	90	16	46	3.46	34	3.9	87	16	46	3.36	34	4.0	85	16
				100	45	4.74	29	2.8	110	17	44	4.50	29	2.9	107	17	44	4.37	29	3.0	105	17
				60	49	2.87	39	5.0	71	21	49	2.73	40	5.3	67	21	49	2.66	40	5.4	65	21
				80	49	3.63	37	4.0	91	22	49	3.44	38	4.2	87	22	49	3.35	38	4.3	85	22
	9.0	2.3	5.2	100	49	4.71	33	3.0	111	23	48	4.47	33	3.2	107	23	48	4.35	33	3.3	105	23
				120	48	6.15	27	2.3	131	24	47	5.83	27	2.4	127	24	46	5.67	27	2.4	125	24
				60	54	2.88	44	5.5	72	23	54	2.73	45	5.8	68	23	54	2.66	45	6.0	66	23
				80	54	3.65	42	4.4	92	24	54	3.45	43	4.6	88	24	54	3.37	43	4.7	86	24
30	13.5	4.3	9.9	100	54	4.74	37	3.3	112	24	53	4.50	38	3.5	108	24	53	4.37	38	3.6	106	24
				120	52	6.17	31	2.5	132	25	51	5.86	31	2.6	128	25	51	5.69	31	2.6	126	25
				60	52	2.89	42	5.3	72	25	53	2.75	43	5.6	68	25	53	2.67	43	5.8	66	25
				80	52	3.67	40	4.2	92	26	52	3.48	40	4.4	88	26	52	3.39	41	4.5	86	25
	18.0	6.9	16.0	100	51	4.77	35	3.2	111	26	51	4.53	36	3.3	108	26	51	4.40	36	3.4	106	26
				120	49	6.19	28	2.3	131	27	48	5.87	28	2.4	127	27	48	5.71	28	2.5	125	27
				60	55	2.88	45	5.6	72	30	56	2.73	46	6.0	68	30	56	2.66	47	6.1	66	30
				80	56	3.64	43	4.5	92	30	56	3.45	44	4.7	88	30	56	3.37	44	4.9	86	30
	9.0	1.7	3.9	100	55	4.73	39	3.4	112	31	55	4.49	40	3.6	108	31	55	4.36	40	3.7	106	31
				120	54	6.17	33	2.6	132	33	53	5.85	33	2.7	128	33	53	5.69	33	2.7	126	33
				60	64	2.88	54	6.5	74	32	65	2.73	55	6.9	70	32	65	2.65	55	7.1	67	32
				80	65	3.66	52	5.2	94	32	65	3.48	53	5.5	90	32	65	3.38	53	5.6	87	32
40	13.5	3.2	7.4	100	64	4.76	47	3.9	114	33	64	4.52	48	4.1	109	33	63	4.39	48	4.2	107	33
				120	61	6.18	40	2.9	134	34	61	5.87	41	3.0	129	34	60	5.70	41	3.1	127	34
				60	59	2.89	49	6.0	73	35	59	2.75	50	6.3	69	34	59	2.67	50	6.5	67	34
				80	59	3.69	46	4.7	93	35	59	3.50	47	4.9	89	35	59	3.41	47	5.1	87	35
	18.0	5.2	11.9	100	58	4.79	41	3.5	113	35	58	4.55	42	3.7	109	35	57	4.42	42	3.8	106	35
				120	55	6.20	34	2.6	132	36	55	5.88	35	2.7	128	36	54	5.72	35	2.8	126	36
				60	62	2.88	52	6.3	74	38	62	2.72	53	6.7	69	38	62	2.66	53	6.8	67	38
				80	62	3.65	50	5.0	94	39	63	3.47	51	5.3	89	39	63	3.37	51	5.4	87	39
	9.0	1.6	3.8	100	62	4.75	46	3.8	114	40	62	4.51	46	4.0	109	40	61	4.38	46	4.1	107	40
				120	60	6.19	39	2.9	133	41	60	5.87	40	3.0	129	41	59	5.71	40	3.0	127	41
				60	65	2.89	55	6.6	74	42	65	2.74	56	7.0	70	42	65	2.66	56	7.2	67	42
				80	66	3.68	53	5.2	95	42	66	3.50	54	5.5	90	42	66	3.40	54	5.7	87	42
50	13.5	3.1	7.2	100	65	4.78	48	4.0	114	43	64	4.54	49	4.2	110	43	64	4.42	49	4.3	107	43
				120	62	6.20	41	2.9	134	44	62	5.88	42	3.1	129	44	61	5.72	42	3.1	127	44
				60	68	2.89	58	6.9	75	44	69	2.75	59	7.3	70	43	69	2.67	60	7.6	68	43
				80	69	3.72	56	5.4	95	44	69	3.52	57	5.7	90	44	69	3.43	57	5.9	88	44
	18.0	5.0	11.6	100	67	4.82	51	4.1	115	44	67	4.57	52	4.3	110	44	67	4.45	52	4.4	107	44
				120	64	6.20	43	3.0	134	45	64	5.89	44	3.2	129	45	63	5.72	44	3.2	127	45
				60	65	2.90	55	6.5	74	48	65	2.75	56	6.9	70	48	65	2.68	56	7.1	67	48
				80	66	3.65	54	5.3	95	48	66	3.47	55	5.6	90	48	66	3.37	55	5.8	87	48
	9.0	1.6	3.7	100	66	4.73	50	4.1	115	49	66	4.49	51	4.3	110	49	66	4.37	51	4.4	107	49
				120	67	6.18	45	3.2	135	50	66	5.86	46	3.3	130	50	66	5.71	46	3.4	127	50
				60	68	2.91	59	6.9	75	51	69	2.76	59	7.3	70	51	69	2.69	60	7.5	68	51
				80	70	3.69	57	5.5	95	52	70	3.50	58	5.9	90	51	70	3.41	58	6.0	88	51
60	13.5	3.0	7.0	100	70	4.78	53	4.3	115	52	70	4.54	54	4.5	110	52	70	4.42	54	4.6	108	52
				120	69	6.21	48	3.3	135	53	69	5.89	48	3.4	130	53	68	5.73	49	3.5	128	53
				60	72	2.92	62	7.3	76	53	73	2.77	63	7.7	71	53	73	2.69	64	7.9	68	53
				80	73	3.73	61	5.8	96	53	74	3.54	62	6.1	91	53	74	3.44	62	6.3	88	53
	18.0	4.9	11.2	100	73	4.83	57	4.4	116	54	73	4.58	57	4.7	111	54	73	4.46	58	4.8	108	54
				120	71	6.24	50	3.4	136	54	71	5.91	51	3.5	131	54	71	5.76	51	3.6	128	54
				60	68	2.92	58	6.8	75	57	68	2.78	59	7.2	70	57	68	2.70	59	7.4	68	57
				80	70	3.65	57	5.6	96	57	70	3.46	58	5.9	90	57	70	3.37	59	6.1	88	57
	9.0	1.5	3.6	100	71	4.72	55	4.4	116	58	71	4.48	56	4.7	111	58	71	4.35	56	4.8	108	58
				120	73	6.18	52	3.5	136	58	73	5.85	53	3.6	131	58	72	5.70	53	3.7	128	58
				60	72	2.94	62	7.2	76	61	72	2.78	63	7.6	71	61	73	2.70	63	7.9	68	61
				80	74	3.70	61	5.8	96	61	74	3.51	62	6.2	91	61	74	3.41	62	6.4	88	61
70	13.5	2.9	6.7	100	75	4.78	59	4.6	117	61	75	4.54	59	4.8	111	61	75	4.42	60	5.0	108	61
				120	76	6.22	55	3.6	137	62	75	5.90	55	3.7	131	62	75	5.74	56	3.8	128	62
				60	76	2.94	66	7.6	77	63	77	2.79	67	8.1	71	63	77	2.72	68	8.3	69	62
				80	78	3.74	65	6.1	97	63	78	3.55	66	6.5	92	63	78	3.45	66	6.6	89	63
	18.0	4.7	10.9	100	79	4.85	62	4.8	117	63	79	4.60	63	5.0	112	63	79	4.48	63	5.1	109	63
				120	79	6.27	57	3.7	137	64	78	5.94	58	3.9	132	64	78	5.78	58	4.0	129	64
				60	71	2.95	61	7.0	76	66	71	2.80	62	7.5	71	66	71	2.72	62	7.7	68	66
				80	73	3.65	61	5.9	96	66	74	3.46	62	6.2	91	66	74	3.37	62	6.4	88	66
	9.0	1.5	3.4	100	76	4.70	60	4.7	117	67	76	4.46	61	5.0	111	67	76	4.34	61	5.1	108	66
				120	79	6.17	58	3.8	138	67	79	5.85	59	4.0	132	67	78	5.69	59	4.0	129	67
				60	75	2.96	65	7.5	77	70	76	2.81	66	7.9	71	70	76	2.73	67	8.2	68	70
				80	78	3.70	65	6.2	97	70	78	3.51	66	6.5	92	70	78	3.41	67	6.7	89	70
80	13.5	2.8	6.5	100	80	4.78	64	4.9	118	71	80	4.53	65	5.2	112	70	80	4.42	65	5.3	109	70
				120	83	6.23	61	3.9	138	71	82	5.90	62	4.1	132	71	82	5.75	62	4.2	129	71
				60	80	2.97	70	7.9	78	72	81	2.81	71	8.4	72	72	81	2.74	71	8.7	69	72
				80	82	3.76	70	6.4	98	72	83	3.57	71	6.8	92	72	83	3.47	71	7.0	89	72
	18.0	4.5	10.5	100	84	4.87	68	5.1	119	72	85	4.61	69	5.4	113	72	84	4.49	69	5.5	109	72
				120	86	6.29	65	4.0	139	73	86	5.96	66	4.2	133	73	86	5.81	66	4.3	130	73

Two Stage Combination Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GeoFurnace Manufacturing

Magnum

Water Source Heat Pump

(MC-T) Two Stage
Combination - Forced Air & Hydronic Heat

Submittal Data

Models MC 026-071T
60 Hz - R410A

2 - 6 Ton - Two Stage Combination - Forced Air & Hydronic Heat Performance Summary

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Two Stage Forced Air - R410A **Magnum Series**
Performace ISO 13256-1 **Water Source Heat Pump**

Model	Loading/ Capacity	Water Loop				Ground Water				Ground Loop			
		Heating 68°F EWT		Cooling 86°F EWT		Heating 50°F EWT		Cooling 59°F EWT		Heating 32/41°F EWT Full/Part		Cooling 77/68°F EWT Full/Part	
		kBtu/hr	COP	kBtu/hr	EER	kBtu/hr	COP	kBtu/hr	EER	kBtu/hr	COP	kBtu/hr	EER
26	Full	30.6	4.6	24.8	15.1	25.1	4.1	27.3	21.4	20.7	3.7	25.8	17.2
	Part	23.0	5.6	20.0	16.9	18.3	4.7	22.1	27.5	14.5	4.2	20.9	23.2
38	Full	45.1	4.8	36.8	15.9	37.0	4.3	40.2	22.0	30.3	4.0	38.2	17.9
	Part	31.4	5.8	27.5	17.8	25.3	4.8	29.9	27.8	20.1	4.2	28.6	24.2
50	Full	60.0	4.9	49.4	16.3	49.2	4.4	53.9	22.2	40.3	4.0	51.3	18.4
	Part	43.5	5.9	38.1	18.1	35.2	4.9	41.3	28.1	28.2	4.3	39.5	24.5
62	Full	75.5	4.9	62.1	16.4	62.0	4.4	67.7	22.8	50.6	4.0	64.5	18.6
	Part	54.8	5.8	47.8	17.5	44.1	4.8	52.4	28.0	35.0	4.2	49.7	23.8
71	Full	86.5	4.9	70.9	16.1	70.7	4.3	77.0	21.8	53.0	3.6	73.6	18.0
	Part	65.0	5.8	57.0	17.9	52.2	4.7	61.7	27.4	41.8	4.0	59.0	24.1

3/26/2010

Hydronics - Heating Only
Performace ISO 13256-2

Model	Loading/ Capacity	Water Loop		Ground Water		Ground Loop	
		Heating		Heating		Heating	
		104°F ELT 68°F EST		104°F ELT 50°F EST		104°F ELT 32°F EST Full 41°F EST Part	
		Mbtuh	COP	Mbtuh	COP	Mbtuh	COP
26	Full	28.6	4.5	24.6	3.9	19.4	3.1
	Part	22.0	4.8	18.8	4.1	16.4	3.5
38	Full	42.2	4.7	36.4	4.1	28.5	3.4
	Part	30.2	4.9	25.9	4.2	22.4	3.6
50	Full	56.1	4.8	48.3	4.2	37.8	3.4
	Part	41.8	5.0	36.1	4.3	31.4	3.7
62	Full	70.6	4.8	60.9	4.2	47.5	3.4
	Part	52.5	4.9	45.2	4.2	39.1	3.6
71	Full	80.7	4.7	69.3	4.2	54.2	3.3
	Part	62.6	5.0	53.9	4.2	47.1	3.6

Operation below 40°F EWT is based upon a 15% antifreeze solution. 3/26/2010
All performance data is based upon the lower voltage of dual voltage rated units.

Electrical Specifications

Model	Voltage	Elect. Symbol	Compressor		Source Pump	Load Pump	HWG Pump FLA	Fan Motor FLA	Max Unit FLA	Min. Ampacity*	Max. Fuse/HACR*
			RLA	LRA							
26	208/230-1-60	1	10.3	52.0	1.5	1.5	0.4	4.3	15.0	17.6	25
	200/230-3-60	2	7.1	59.0	1.5	1.5	0.4	4.3	11.8	13.6	20
	460-3-60	3	3.5	29.7	1.5	1.5	0.4	4.3	8.2	9.1	15
38	208/230-1-60	1	16.7	82.0	1.5	1.5	0.4	4.3	21.4	25.6	40
	200/230-3-60	2	11.2	58.0	1.5	1.5	0.4	4.3	15.9	18.7	25
	460-3-60	3	4.5	29.0	1.5	1.5	0.4	4.3	9.2	10.3	15
50	208/230-1-60	1	21.2	96.0	3.0	1.5	0.4	4.3	26.1	31.4	50
	200/230-3-60	2	13.5	88.0	3.0	1.5	0.4	4.3	18.4	21.8	35
	460-3-60	3	6.4	41.0	3.0	1.5	0.4	4.3	11.3	12.9	15
62	208/230-1-60	1	25.6	118.0	3.0	1.5	0.4	6.8	32.8	39.2	60
	200/230-3-60	2	17.6	123.0	3.0	1.5	0.4	6.8	24.8	29.2	45
	460-3-60	3	9.0	62.0	3.0	1.5	0.4	6.8	16.2	18.5	25
71	208/230-1-60	1	27.2	150.0	3.0	1.5	0.4	9.1	36.7	43.5	70
	200/230-3-60	2	19.7	123.0	3.0	1.5	0.4	9.1	29.2	34.1	50
	460-3-60	3	9.9	62.0	3.0	1.5	0.4	9.1	19.4	21.9	30

3/26/2010

**Where calculations are based on:*
MCA = 1.25 x RLA compressor + FLA other motors
MOP = 2.25 x RLA largest compressor + 1.00 x FLA other motors
Ensure that all loads on the supply line are added into the equations above if some of the cells in the above table are blank
HACR circuit breaker for use in USA only. All fuses Class RK-5
For #N/A, the specified voltage is NOT available

Pressure Drop Specifications

Model	GPM	Pressure Drop (psi)* Entering Water Temperature °F						
		20	30	50	70	90	110	120
26	3.0	2.0	1.9	1.4	1.3	1.2	1.1	1.1
	4.5	2.5	2.4	1.7	1.6	1.5	1.4	1.4
	6.0	3.3	3.2	2.3	2.2	2.1	1.9	1.8
38	4.5	1.9	1.9	1.3	1.3	1.2	1.1	1.0
	6.8	2.4	2.3	1.7	1.6	1.4	1.3	1.3
	9.0	3.2	3.1	2.2	2.1	2.0	1.8	1.8
50	6.0	2.0	1.9	1.4	1.3	1.2	1.1	1.1
	9.0	3.8	3.7	2.7	2.5	2.4	2.2	2.1
	12.0	6.1	5.9	4.3	4.0	3.7	3.5	3.3
62	7.5	1.8	1.8	1.3	1.2	1.1	1.0	1.0
	11.3	3.3	3.2	2.3	2.2	2.0	1.9	1.8
	15.0	5.3	5.1	3.7	3.5	3.3	3.0	2.9
71	9.0	2.3	2.3	1.6	1.5	1.4	1.3	1.3
	13.5	4.4	4.3	3.1	2.9	2.7	2.5	2.4
	18.0	7.1	6.9	5.0	4.7	4.4	4.1	3.9

*Pressure drop thru each coaxial heat exchanger 3/26/2010

GeoFurnace works continually to improve its products. As a result, the design and specifications of each product at the time of order may be changed without notice. Please contact GeoFurnace at 1-605-854-9205 for latest design and specifications. Purchaser's approval of this data set signifies that the equipment is acceptable under the provisions of the job specification. Statements and other information contained herein are not express warranties and do not form the basis of any contract between the parties, but are merely GeoFurnace's opinion or commendation of its products.

Rev: 26 March, 2010 - GFM--AJS

2 Ton - Two Stage Combination - Forced Air Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Full Load
MC026T Series - R410A **Magnum Series**
Rated Airflow: 900 Heating / 850 Cooling **Water Source Heat Pump**

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	3.0	2.0	4.6										
20	4.5	2.5	5.7						Operation Not Recommended				
	6.0	3.3	7.7	17.3	1.7	11.7	87.8	3.1					
	3.0	2.1	4.8										
30	4.5	2.4	5.6	19.1	1.7	13.3	89.6	3.3	28.3	19.7	1.1	32.0	26.0
	6.0	3.2	7.5	19.7	1.7	13.9	90.2	3.4	28.7	20.2	1.0	32.2	28.0
	3.0	1.4	3.3	20.9	1.7	15.0	91.5	3.6	27.6	19.5	1.3	31.9	21.6
40	4.5	1.8	4.2	21.5	1.7	15.6	92.2	3.6	28.3	20.0	1.2	32.3	24.1
	6.0	2.4	5.6	22.2	1.8	16.2	92.9	3.7	28.7	20.4	1.1	32.5	25.7
	3.0	1.4	3.2	23.2	1.8	17.2	93.9	3.8	27.2	19.7	1.4	32.0	19.5
50	4.5	1.7	4.0	24.2	1.8	18.1	94.9	3.9	28.1	20.1	1.3	32.4	21.9
	6.0	2.3	5.4	25.0	1.8	18.7	95.7	4.0	28.4	20.6	1.2	32.6	23.2
	3.0	1.3	3.1	25.7	1.9	19.4	96.5	4.1	26.6	19.6	1.5	31.9	17.4
60	4.5	1.7	3.9	27.1	1.9	20.7	97.9	4.2	27.6	20.1	1.4	32.3	19.7
	6.0	2.3	5.3	27.9	1.9	21.4	98.7	4.3	27.8	20.5	1.3	32.4	20.7
	3.0	1.3	3.0	28.4	1.9	21.7	99.2	4.3	25.8	19.4	1.7	31.5	15.3
70	4.5	1.6	3.8	30.2	2.0	23.5	101.1	4.5	26.8	19.9	1.5	32.0	17.4
	6.0	2.2	5.1	31.1	2.0	24.2	102.0	4.5	27.0	20.3	1.5	32.1	18.2
	3.0	1.3	2.9	31.2	2.1	24.2	102.1	4.4	24.7	19.0	1.9	31.0	13.3
80	4.5	1.6	3.7	33.5	2.1	26.4	104.5	4.7	25.7	19.5	1.7	31.5	15.2
	6.0	2.1	4.9	34.5	2.1	27.2	105.5	4.7	25.9	20.0	1.6	31.5	15.8
	3.0	1.2	2.8	34.1	2.2	26.7	105.1	4.6	23.4	18.5	2.0	30.3	11.5
90	4.5	1.5	3.5	37.0	2.2	29.4	108.1	4.9	24.5	19.0	1.9	30.8	13.1
	6.0	2.1	4.7	38.1	2.3	30.3	109.2	4.9	24.7	19.4	1.8	30.8	13.6
	3.0	1.2	2.7						21.8	17.8	2.2	29.5	9.7
100	4.5	1.5	3.4						23.0	18.3	2.1	30.0	11.2
	6.0	2.0	4.6	Operation Not Recommended					23.2	18.7	2.0	30.0	11.6
	3.0	1.1	2.6						20.1	16.9	2.5	28.6	8.1
110	4.5	1.4	3.3						21.3	17.4	2.3	29.1	9.4
	6.0	1.9	4.4						21.6	17.8	2.2	29.1	9.8

Part Load
Rated Airflow: 800 Heating / 700 Cooling

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	2.8	1.9	4.5										
20	4.2	2.4	5.5						Operation Not Recommended				
	5.7	3.1	7.2	12.1	1.1	8.4	84.0	3.3					
	2.8	2.0	4.7										
30	4.2	2.3	5.3	13.7	1.1	10.0	85.9	3.7	21.3	16.4	0.6	23.3	35.3
	5.7	3.0	7.0	13.9	1.1	10.2	86.1	3.7	21.4	16.6	0.6	23.6	33.3
	2.8	1.4	3.2	15.2	1.1	11.4	87.6	4.0	21.1	16.5	0.8	23.7	28.1
40	4.2	1.7	4.0	15.8	1.1	11.9	88.2	4.1	21.5	16.6	0.7	23.9	31.0
	5.7	2.3	5.2	16.0	1.1	12.1	88.5	4.1	21.9	16.8	0.7	24.2	32.0
	2.8	1.4	3.1	17.2	1.2	13.2	89.9	4.3	21.0	16.6	0.9	23.9	24.6
50	4.2	1.7	3.9	18.0	1.2	14.0	90.8	4.5	21.4	16.8	0.8	24.1	27.1
	5.7	2.2	5.1	18.2	1.2	14.2	91.1	4.5	22.1	16.9	0.8	24.6	29.4
	2.8	1.3	3.0	19.3	1.2	15.2	92.4	4.7	20.6	16.5	1.0	23.9	21.3
60	4.2	1.6	3.7	20.4	1.2	16.3	93.6	5.0	21.1	16.7	0.9	24.1	23.4
	5.7	2.1	4.9	20.7	1.2	16.5	93.9	5.0	21.9	16.9	0.8	24.8	26.2
	2.8	1.3	2.9	21.6	1.2	17.4	95.0	5.1	20.0	16.4	1.1	23.7	18.3
70	4.2	1.6	3.6	23.0	1.2	18.8	96.7	5.4	20.5	16.5	1.0	24.0	20.1
	5.7	2.1	4.7	23.4	1.3	19.1	97.0	5.5	21.4	16.7	0.9	24.6	22.5
	2.8	1.2	2.9	24.1	1.3	19.7	97.9	5.5	19.1	16.1	1.2	23.3	15.6
80	4.2	1.5	3.5	25.9	1.3	21.5	100.0	5.9	19.7	16.2	1.1	23.6	17.1
	5.7	2.0	4.6	26.3	1.3	21.9	100.4	6.0	20.5	16.4	1.1	24.2	19.0
	2.8	1.2	2.8	26.7	1.3	22.2	100.9	5.9	18.1	15.6	1.4	22.8	13.1
90	4.2	1.5	3.4	29.1	1.3	24.5	103.6	6.4	18.6	15.8	1.3	23.0	14.4
	5.7	1.9	4.4	29.4	1.3	24.9	104.1	6.5	19.4	16.0	1.2	23.6	15.7
	2.8	1.1	2.7						16.9	15.0	1.5	22.1	11.0
100	4.2	1.4	3.3						17.5	15.2	1.4	22.4	12.0
	5.7	1.8	4.3	Operation Not Recommended					18.1	15.4	1.4	22.8	12.9
	2.8	1.1	2.6						15.6	14.3	1.7	21.5	9.0
110	4.2	1.4	3.1						16.2	14.5	1.6	21.7	9.9
	5.7	1.8	4.1						16.7	14.7	1.6	22.1	10.6

Interpolation is permissable; extrapolation is not.
Operation below 40°F EWT is based upon a 15% antifreeze solution.
All performance is based upon the lower voltage of dual voltage rated units.
Table does not reflect fan or pump power corrections for ARI/ISO conditions.
See performance correction tables for operating conditions other than those listed above.

2 Ton - Two Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Full Load Heating **Magnum Series**
MC026T Series - R410A **Water Source Heat Pump**

Source				Load	Load Flow 3 GPM						Load Flow 4.5 GPM						Load Flow 6 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	16	1.00	13	4.8	71	16	16	0.90	13	5.2	67	16	15	0.84	13	5.4	65	16
20	6.0	3.3	7.7	80	17	1.41	12	3.6	91	16	17	1.32	13	3.8	88	16	17	1.27	13	3.9	86	16
				100	17	1.92	11	2.6	112	16	17	1.82	11	2.8	108	16	17	1.76	11	2.8	106	16
				60	18	1.02	14	5.0	72	21	17	0.93	14	5.4	68	21	17	0.88	14	5.6	66	21
				80	18	1.40	14	3.9	92	21	18	1.31	14	4.1	88	21	18	1.27	14	4.2	86	21
	3.0	1.9	4.4	100	19	1.89	12	2.9	112	22	18	1.78	12	3.0	108	22	18	1.73	12	3.1	106	22
				120	19	2.48	10	2.2	132	23	18	2.36	10	2.3	128	23	18	2.30	10	2.3	126	23
				60	20	1.06	16	5.4	73	23	19	0.99	16	5.8	69	23	19	0.95	16	5.9	66	23
				80	20	1.41	15	4.2	93	23	20	1.32	16	4.5	89	23	20	1.28	16	4.6	87	23
30	4.5	2.4	5.6	100	20	1.88	14	3.1	113	24	20	1.78	14	3.3	109	24	20	1.73	14	3.4	107	24
				120	20	2.46	12	2.4	133	25	20	2.34	12	2.5	129	25	19	2.28	12	2.5	126	25
				60	19	1.05	15	5.3	73	25	19	0.98	15	5.6	68	25	18	0.93	15	5.8	66	25
				80	19	1.42	15	4.0	93	25	19	1.33	15	4.3	89	25	19	1.29	15	4.4	86	25
	6.0	3.2	7.5	100	19	1.90	13	3.0	113	26	19	1.80	13	3.1	109	26	19	1.74	13	3.2	106	26
				120	19	2.48	11	2.3	133	26	19	2.37	11	2.3	128	26	19	2.30	11	2.4	126	26
				60	20	1.06	16	5.5	73	29	20	1.00	16	5.8	69	29	20	0.96	16	6.0	67	29
				80	21	1.41	16	4.3	94	29	21	1.33	16	4.6	89	29	21	1.29	16	4.7	87	29
	3.0	1.4	3.3	100	21	1.87	14	3.2	114	30	21	1.77	15	3.4	109	30	20	1.72	15	3.5	107	30
				120	21	2.45	12	2.5	134	32	20	2.33	12	2.6	129	32	20	2.27	12	2.6	127	32
				60	23	1.11	20	6.2	76	31	23	1.06	20	6.5	70	31	23	1.03	20	6.7	68	31
				80	24	1.43	19	4.9	96	32	24	1.36	19	5.2	91	31	24	1.32	19	5.3	88	31
40	4.5	1.8	4.2	100	24	1.88	17	3.7	116	32	24	1.78	17	3.9	110	32	23	1.73	18	4.0	108	32
				120	23	2.45	15	2.8	135	33	23	2.32	15	2.9	130	33	23	2.26	15	2.9	128	33
				60	21	1.09	18	5.8	74	34	21	1.03	18	6.1	69	34	21	0.99	18	6.2	67	34
				80	22	1.43	17	4.5	95	34	22	1.35	17	4.7	90	34	22	1.31	17	4.9	87	34
	6.0	2.4	5.6	100	22	1.89	15	3.3	114	35	21	1.79	15	3.5	110	35	21	1.74	15	3.6	107	35
				120	21	2.46	13	2.5	134	36	21	2.34	13	2.6	129	36	21	2.28	13	2.6	127	36
				60	22	1.10	19	6.0	75	38	22	1.04	19	6.3	70	37	22	1.01	19	6.5	67	37
				80	23	1.42	18	4.8	95	38	23	1.35	19	5.0	90	38	23	1.31	19	5.2	88	38
	3.0	1.4	3.2	100	23	1.88	17	3.6	115	39	23	1.78	17	3.8	110	39	23	1.72	17	3.9	108	39
				120	23	2.45	14	2.7	135	40	23	2.32	15	2.8	130	40	22	2.26	15	2.9	127	40
				60	24	1.12	20	6.2	76	41	24	1.07	20	6.6	71	41	24	1.04	20	6.7	68	41
				80	24	1.44	19	4.9	96	41	24	1.37	20	5.2	91	41	24	1.33	20	5.4	88	41
50	4.5	1.7	4.0	100	24	1.89	18	3.7	116	42	24	1.79	18	3.9	111	42	24	1.74	18	4.0	108	42
				120	24	2.45	15	2.8	136	43	23	2.33	15	2.9	130	43	23	2.27	15	3.0	128	43
				60	25	1.14	21	6.5	77	43	25	1.09	21	6.8	71	43	25	1.06	22	7.0	68	43
				80	25	1.47	20	5.1	97	43	26	1.39	21	5.4	91	43	26	1.35	21	5.5	89	43
	6.0	2.3	5.4	100	25	1.91	18	3.8	117	44	25	1.81	19	4.0	111	44	25	1.76	19	4.1	108	44
				120	24	2.46	16	2.9	136	45	24	2.33	16	3.0	131	45	24	2.27	16	3.1	128	45
				60	24	1.12	20	6.2	76	47	24	1.07	20	6.5	71	47	24	1.04	20	6.7	68	47
				80	24	1.43	20	5.0	96	47	25	1.36	20	5.3	91	47	25	1.32	20	5.5	88	47
	3.0	1.3	3.1	100	25	1.87	18	3.9	116	48	25	1.77	19	4.1	111	48	25	1.72	19	4.2	108	48
				120	25	2.45	17	3.0	137	49	25	2.32	17	3.1	131	49	25	2.26	17	3.2	128	49
				60	25	1.15	21	6.4	77	51	25	1.09	22	6.8	71	50	25	1.07	22	6.9	68	50
				80	26	1.46	21	5.2	97	51	26	1.38	21	5.5	92	51	26	1.34	21	5.6	89	51
60	4.5	1.7	3.9	100	26	1.90	19	4.0	117	51	26	1.80	20	4.2	111	51	26	1.75	20	4.3	109	51
				120	26	2.47	18	3.1	137	52	26	2.34	18	3.2	131	52	25	2.27	18	3.3	128	52
				60	27	1.17	23	6.7	78	52	27	1.12	23	7.0	72	52	27	1.09	23	7.2	69	52
				80	27	1.48	22	5.4	98	53	27	1.41	22	5.7	92	53	27	1.37	23	5.8	89	52
	6.0	2.3	5.3	100	27	1.93	20	4.1	118	53	27	1.82	21	4.3	112	53	27	1.77	21	4.5	109	53
				120	27	2.49	18	3.2	138	54	27	2.36	18	3.3	132	54	26	2.29	19	3.4	129	54
				60	25	1.15	21	6.4	77	56	25	1.09	21	6.7	71	56	25	1.07	21	6.9	68	56
				80	26	1.44	21	5.3	97	56	26	1.37	21	5.6	92	56	26	1.33	21	5.7	89	56
	3.0	1.3	3.0	100	26	1.88	20	4.1	118	57	26	1.78	20	4.3	112	57	26	1.73	20	4.5	109	56
				120	27	2.47	19	3.2	138	57	27	2.34	19	3.4	132	57	27	2.27	19	3.5	129	57
				60	27	1.17	23	6.6	78	60	27	1.12	23	7.0	72	60	27	1.09	23	7.2	69	60
				80	27	1.47	22	5.4	98	60	27	1.40	23	5.8	92	60	27	1.36	23	5.9	89	60
70	4.5	1.6	3.8	100	28	1.91	21	4.2	118	61	28	1.81	21	4.5	112	60	28	1.76	22	4.6	109	60
				120	28	2.50	20	3.3	139	61	28	2.37	20	3.5	132	61	28	2.30	20	3.6	129	61
				60	28	1.19	24	6.9	79	62	28	1.14	24	7.3	73	62	28	1.12	25	7.4	69	62
				80	29	1.50	24	5.6	99	62	29	1.43	24	6.0	93	62	29	1.39	24	6.1	90	62
	6.0	2.2	5.1	100	29	1.95	22	4.4	119	63	29	1.85	23	4.6	113	62	29	1.80	23	4.7	110	62
				120	29	2.54	21	3.4	140	63	29	2.40	21	3.6	133	63	29	2.33	21	3.7	130	63
				60	26	1.17	22	6.5	77	65	26	1.12	22	6.9	72	65	26	1.09	23	7.0	69	65
				80	27	1.45	22	5.5	98	65	27	1.38	23	5.8	92	65	27	1.34	23	6.0	89	65
	3.0	1.3	2.9	100	28	1.88	22	4.4	119	66	28	1.78	22	4.6	112	65	28	1.73	22	4.7	109	65
				120	30	2.50	21	3.5	140	66	29	2.36	21	3.6	133	66	29	2.29	21	3.7	130	66
				60	28	1.20	24	6.8	79	69	28	1.14	24	7.2	72	69	28	1.12	24	7.4	69	69
				80	29	1.49	24	5.7	99	69	29	1.41	24	6.0	93	69	29	1.37	24	6.2	90	69
80	4.5	1.6	3.7	100	30	1.92	23	4.5	120	70	30	1.83	23	4.8	113	70	30	1.78	23	4.9	110	70
				120	31	2.54	22	3.5	141	70	31	2.40	22	3.7	134	70	30	2.34	22	3.8	130	70
				60	30	1.22	26	7.1	80	71	30	1.16	26	7.5	73	71	30	1.14	26	7.7	70	71
				80	30	1.52	25	5.9	100	72	31	1.45	26	6.2	94	71	31	1.41	26	6.4	90	71
	6.0	2.1	4.9	100	31	1.98	24	4.6	121	72	31	1.87	25	4.9	114	72	31	1.82	25	5.0	110	72
				120	32	2.59	23	3.6	141	72	32	2.45	24	3.8	134	72	32	2.38	24	3.9	131	72

2 Ton - Two Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Part Load Heating **Magnum Series**
MC026T Series - R410A **Water Source Heat Pump**

Source				Load	Load Flow 3 GPM						Load Flow 4.5 GPM						Load Flow 6 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	11	0.66	9	4.9	67	17	10	0.57	8	5.2	64	17	9	0.52	7	5.2	63	18
20	6.0	3.3	7.7	80	13	1.02	9	3.7	89	17	13	0.94	9	3.9	86	17	12	0.90	9	4.0	84	17
				100	13	1.44	8	2.7	109	17	13	1.35	8	2.8	106	17	13	1.31	8	2.9	104	17
				60	12	0.67	10	5.3	68	23	11	0.59	9	5.7	65	24	11	0.53	9	5.8	64	24
				80	14	1.00	10	4.0	89	23	14	0.93	10	4.3	86	23	13	0.89	10	4.4	84	23
	3.0	1.9	4.4	100	14	1.41	9	2.9	109	24	14	1.32	9	3.1	106	24	14	1.28	9	3.1	105	24
				120	14	1.90	8	2.2	129	25	14	1.80	8	2.3	126	25	14	1.75	8	2.3	125	25
				60	14	0.68	12	6.0	69	25	13	0.61	11	6.4	66	25	13	0.57	11	6.7	64	25
				80	15	1.00	12	4.4	90	25	15	0.93	12	4.7	87	25	15	0.89	12	4.9	85	25
30	4.5	2.4	5.6	100	15	1.40	10	3.2	110	25	15	1.32	11	3.4	107	25	15	1.28	11	3.5	105	25
				120	15	1.89	9	2.4	130	26	15	1.79	9	2.4	127	26	15	1.74	9	2.5	125	26
				60	13	0.68	11	5.7	69	26	13	0.61	11	6.1	66	26	12	0.56	10	6.3	64	27
				80	15	1.01	11	4.2	90	26	14	0.94	11	4.5	86	26	14	0.90	11	4.6	85	26
	6.0	3.2	7.5	100	15	1.42	10	3.0	110	27	15	1.34	10	3.2	106	27	14	1.29	10	3.3	105	27
				120	15	1.91	8	2.2	130	27	14	1.81	8	2.3	126	27	14	1.75	8	2.4	125	27
				60	14	0.68	12	6.1	69	32	14	0.61	12	6.6	66	32	13	0.57	11	6.8	64	32
				80	16	1.00	12	4.6	90	32	15	0.93	12	4.9	87	32	15	0.89	12	5.0	85	32
	3.0	1.4	3.3	100	16	1.40	11	3.3	110	33	16	1.31	11	3.5	107	33	15	1.27	11	3.6	105	33
				120	16	1.88	9	2.5	131	34	16	1.78	9	2.6	127	34	15	1.73	9	2.6	125	34
				60	17	0.70	15	7.2	71	33	17	0.64	15	7.8	68	33	17	0.61	15	8.1	66	33
				80	18	1.00	15	5.3	92	33	18	0.94	15	5.7	88	33	18	0.90	15	5.9	86	33
40	4.5	1.8	4.2	100	18	1.39	13	3.8	112	34	18	1.31	13	4.0	108	34	18	1.27	14	4.1	106	34
				120	18	1.87	11	2.8	132	35	18	1.77	11	2.9	128	35	17	1.71	11	3.0	126	35
				60	15	0.70	13	6.5	70	36	15	0.63	13	7.0	67	36	15	0.60	13	7.3	65	36
				80	16	1.02	13	4.7	91	36	16	0.94	13	5.1	87	36	16	0.91	13	5.2	85	36
	6.0	2.4	5.6	100	16	1.41	12	3.4	111	36	16	1.33	12	3.6	107	36	16	1.28	12	3.7	105	36
				120	16	1.89	10	2.5	131	37	16	1.79	10	2.6	127	37	16	1.74	10	2.6	125	37
				60	16	0.70	14	6.9	71	41	16	0.63	14	7.5	67	41	16	0.60	14	7.7	65	41
				80	17	1.00	14	5.1	92	41	17	0.93	14	5.5	88	40	17	0.90	14	5.7	86	40
	3.0	1.4	3.2	100	17	1.39	13	3.7	112	42	17	1.31	13	3.9	108	41	17	1.26	13	4.0	106	41
				120	18	1.87	11	2.7	132	43	17	1.77	11	2.9	128	43	17	1.72	11	2.9	126	43
				60	18	0.71	15	7.3	72	43	17	0.65	15	7.8	68	43	17	0.62	15	8.1	66	43
				80	18	1.01	15	5.3	92	43	18	0.94	15	5.7	88	43	18	0.91	15	5.9	86	43
50	4.5	1.7	4.0	100	18	1.40	14	3.8	112	44	18	1.31	14	4.1	108	44	18	1.27	14	4.2	106	44
				120	18	1.87	12	2.8	132	45	18	1.77	12	2.9	128	45	18	1.72	12	3.0	126	45
				60	19	0.72	16	7.6	72	45	19	0.66	16	8.2	68	45	18	0.63	16	8.5	66	45
				80	19	1.03	16	5.5	93	45	19	0.96	16	6.0	89	45	19	0.92	16	6.2	86	45
	6.0	2.3	5.4	100	19	1.41	14	4.0	113	45	19	1.33	15	4.2	108	45	19	1.28	15	4.3	106	45
				120	19	1.87	12	2.9	132	46	18	1.77	12	3.0	128	46	18	1.72	12	3.1	126	46
				60	17	0.71	15	7.2	72	50	17	0.65	15	7.8	68	50	17	0.62	15	8.0	66	50
				80	19	1.00	15	5.4	92	50	19	0.93	15	5.8	88	50	19	0.90	15	6.0	86	50
	3.0	1.3	3.1	100	19	1.38	14	4.0	113	51	19	1.30	14	4.2	108	50	19	1.26	14	4.4	106	50
				120	19	1.86	13	3.0	133	51	19	1.76	13	3.2	128	51	19	1.71	13	3.2	126	51
				60	19	0.73	16	7.6	73	53	19	0.67	16	8.2	68	53	19	0.64	16	8.5	66	53
				80	20	1.01	16	5.7	93	53	20	0.95	16	6.1	89	53	20	0.91	17	6.3	87	53
60	4.5	1.7	3.9	100	20	1.39	15	4.2	113	53	20	1.31	15	4.4	109	53	20	1.27	15	4.5	107	53
				120	20	1.87	14	3.1	133	54	20	1.76	14	3.3	129	54	20	1.71	14	3.3	127	54
				60	20	0.74	18	8.0	73	54	20	0.68	18	8.6	69	54	20	0.65	18	8.9	67	54
				80	21	1.03	17	5.9	94	54	21	0.96	18	6.3	89	54	21	0.93	18	6.6	87	54
	6.0	2.3	5.3	100	21	1.41	16	4.3	114	55	21	1.32	16	4.6	109	55	21	1.28	16	4.7	107	55
				120	21	1.87	14	3.2	134	55	20	1.77	14	3.4	129	55	20	1.72	14	3.5	127	55
				60	19	0.73	16	7.5	72	59	18	0.67	16	8.0	68	59	18	0.64	16	8.3	66	59
				80	20	1.00	16	5.8	93	59	20	0.93	17	6.2	89	59	20	0.90	17	6.4	87	59
	3.0	1.3	3.0	100	20	1.37	15	4.3	113	60	20	1.29	16	4.6	109	60	20	1.25	16	4.7	107	59
				120	21	1.85	15	3.3	134	60	21	1.75	15	3.5	129	60	21	1.70	15	3.6	127	60
				60	20	0.74	17	7.9	73	62	20	0.69	18	8.5	69	62	20	0.66	18	8.8	67	62
				80	21	1.02	17	6.0	94	62	21	0.95	18	6.4	89	62	21	0.92	18	6.7	87	62
70	4.5	1.6	3.8	100	21	1.39	16	4.5	114	63	21	1.31	17	4.8	109	63	21	1.27	17	4.9	107	63
				120	22	1.86	16	3.4	135	63	22	1.76	16	3.6	130	63	21	1.71	16	3.7	127	63
				60	21	0.75	19	8.3	74	64	21	0.70	19	9.0	70	64	21	0.67	19	9.3	67	64
				80	22	1.04	19	6.3	95	64	22	0.97	19	6.7	90	64	22	0.94	19	7.0	87	64
	6.0	2.2	5.1	100	22	1.41	18	4.6	115	64	22	1.33	18	4.9	110	64	22	1.29	18	5.1	107	64
				120	23	1.87	16	3.6	135	65	23	1.77	16	3.7	130	65	22	1.72	16	3.8	127	65
				60	20	0.75	17	7.7	73	69	20	0.69	17	8.3	69	69	19	0.66	17	8.6	66	69
				80	21	1.00	17	6.1	94	68	21	0.94	18	6.5	89	68	21	0.90	18	6.8	87	68
	3.0	1.3	2.9	100	21	1.36	17	4.6	114	69	21	1.28	17	4.9	110	69	21	1.24	17	5.1	107	69
				120	23	1.84	17	3.6	135	69	23	1.74	17	3.8	130	69	22	1.69	17	3.9	127	69
				60	21	0.76	19	8.1	74	72	21	0.70	19	8.8	69	72	21	0.68	19	9.1	67	72
				80	22	1.02	19	6.3	95	72	22	0.96	19	6.8	90	72	22	0.92	19	7.1	87	72
80	4.5	1.6	3.7	100	23	1.39	18	4.8	115	72	23	1.30	18	5.1	110	72	23	1.27	18	5.3	108	72
				120	24	1.86	17	3.8	136	72	24	1.75	18	3.9	130	72	23	1.70	18	4.0	128	72
				60	23	0.77	20	8.6	75	73	23	0.72	20	9.3	70	73	23	0.69	20	9.6	68	73
				80	24	1.04	20	6.6	96	73	24	0.98	20	7.1	91	73	24	0.95	20	7.3	88	73
	6.0	2.1	4.9	100	24	1.41	19	5.0	116	74	24	1.33	20	5.3	111	73	24	1.29	20	5.5	108	73
				120	25	1.88	18	3.9	137	74	25	1.77	19	4.1	131	74	25	1.72	19	4.2	128	74

3 Ton - Two Stage Combination - Forced Air Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Full Load
MC038T Series - R410A **Magnum Series**
Rated Airflow: 1270 Heating / 1200 Cooling **Water Source Heat Pump**

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	4.5	1.9	4.4										
20	6.8	2.4	5.4						Operation Not Recommended				
	9.0	3.2	7.4	25.4	2.2	17.8	88.5	3.4					
	4.5	2.0	4.7										
30	6.8	2.3	5.3	28.0	2.3	20.2	90.4	3.6	41.6	27.8	1.6	46.9	26.8
	9.0	3.1	7.1	28.9	2.3	21.0	91.1	3.7	42.2	28.5	1.5	47.2	29.1
	4.5	1.4	3.2	30.7	2.4	22.7	92.4	3.8	40.6	27.6	1.8	46.8	22.1
40	6.8	1.7	3.9	31.7	2.4	23.6	93.1	3.9	41.6	28.2	1.7	47.4	24.6
	9.0	2.3	5.3	32.8	2.4	24.5	93.9	3.9	42.1	28.9	1.6	47.6	26.3
	4.5	1.3	3.1	34.3	2.5	25.8	95.0	4.1	40.1	27.7	2.0	46.9	20.1
50	6.8	1.7	3.8	35.8	2.5	27.2	96.1	4.2	41.3	28.4	1.8	47.6	22.4
	9.0	2.2	5.2	36.9	2.6	28.1	96.9	4.2	41.7	29.0	1.8	47.7	23.7
	4.5	1.3	3.0	38.0	2.6	29.1	97.7	4.3	39.4	27.7	2.2	46.8	18.1
60	6.8	1.6	3.7	40.0	2.7	31.0	99.2	4.4	40.6	28.3	2.0	47.4	20.3
	9.0	2.2	5.0	41.2	2.7	32.1	100.1	4.5	40.9	29.0	1.9	47.5	21.2
	4.5	1.3	2.9	41.9	2.7	32.6	100.6	4.5	38.2	27.4	2.4	46.3	16.1
70	6.8	1.6	3.6	44.6	2.8	35.0	102.5	4.7	39.6	28.0	2.2	47.0	18.1
	9.0	2.1	4.9	45.8	2.8	36.2	103.4	4.7	39.8	28.7	2.1	47.1	18.8
	4.5	1.2	2.8	46.0	2.9	36.1	103.5	4.7	36.7	26.9	2.6	45.6	14.1
80	6.8	1.5	3.5	49.3	2.9	39.3	105.9	4.9	38.2	27.5	2.4	46.3	15.9
	9.0	2.0	4.7	50.6	3.0	40.5	106.9	5.0	38.4	28.2	2.3	46.3	16.5
	4.5	1.2	2.7	50.1	3.0	39.7	106.5	4.8	34.9	26.1	2.9	44.7	12.2
90	6.8	1.4	3.3	54.2	3.1	43.7	109.5	5.1	36.4	26.8	2.6	45.4	13.9
	9.0	2.0	4.5	55.6	3.1	45.0	110.6	5.2	36.7	27.4	2.6	45.4	14.3
	4.5	1.1	2.6						32.8	25.1	3.2	43.7	10.3
100	6.8	1.4	3.2						34.4	25.8	2.9	44.3	11.9
	9.0	1.9	4.4	Operation Not Recommended					34.7	26.4	2.8	44.3	12.3
	4.5	1.1	2.5						30.4	23.9	3.5	42.4	8.6
110	6.8	1.3	3.1						32.1	24.6	3.2	43.0	10.0
	9.0	1.8	4.2						32.4	25.2	3.1	43.0	10.4

Part Load
Rated Airflow: 1100 Heating / 1000 Cooling

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	4.2	1.9	4.3										
20	6.4	2.3	5.2						Operation Not Recommended				
	8.5	3.0	6.9	16.6	1.5	11.6	84.0	3.3					
	4.2	2.0	4.6										
30	6.4	2.2	5.1	18.9	1.5	13.8	85.9	3.7	28.8	23.4	0.9	31.9	32.6
	8.5	2.9	6.7	19.2	1.5	14.0	86.2	3.7	28.9	23.7	0.9	32.1	31.3
	4.2	1.4	3.1	21.0	1.5	15.7	87.7	4.0	28.6	23.5	1.0	32.2	27.4
40	6.4	1.6	3.8	21.8	1.6	16.4	88.3	4.1	29.1	23.8	1.0	32.4	29.7
	8.5	2.2	5.0	22.1	1.6	16.7	88.6	4.1	29.6	24.1	1.0	32.9	30.7
	4.2	1.3	3.1	23.7	1.6	18.3	90.0	4.4	28.5	23.7	1.2	32.5	24.6
50	6.4	1.6	3.7	24.8	1.6	19.4	90.9	4.6	29.0	23.9	1.1	32.7	26.7
	8.5	2.1	4.8	25.1	1.6	19.7	91.2	4.6	29.8	24.2	1.0	33.3	28.8
	4.2	1.3	3.0	26.6	1.6	21.1	92.4	4.8	28.1	23.6	1.3	32.5	21.9
60	6.4	1.5	3.5	28.1	1.6	22.6	93.6	5.1	28.7	23.9	1.2	32.8	23.8
	8.5	2.0	4.7	28.4	1.6	22.9	93.9	5.1	29.7	24.2	1.1	33.5	26.3
	4.2	1.2	2.9	29.7	1.6	24.1	95.0	5.3	27.4	23.4	1.4	32.3	19.1
70	6.4	1.5	3.4	31.6	1.6	26.0	96.6	5.7	28.0	23.6	1.3	32.6	20.8
	8.5	2.0	4.5	32.0	1.6	26.4	96.9	5.7	29.1	23.9	1.3	33.4	23.2
	4.2	1.2	2.8	32.9	1.7	27.2	97.7	5.8	26.4	22.9	1.6	31.9	16.4
80	6.4	1.4	3.3	35.3	1.6	29.7	99.7	6.3	27.1	23.2	1.5	32.2	18.0
	8.5	1.9	4.4	35.7	1.6	30.1	100.0	6.4	28.1	23.5	1.4	32.9	19.8
	4.2	1.2	2.7	36.3	1.7	30.6	100.5	6.4	25.1	22.3	1.8	31.2	13.9
90	6.4	1.4	3.2	39.1	1.6	33.6	102.9	7.1	25.8	22.6	1.7	31.6	15.3
	8.5	1.8	4.2	39.6	1.6	34.0	103.3	7.1	26.8	22.8	1.6	32.3	16.6
	4.2	1.1	2.6						23.5	21.5	2.0	30.4	11.5
100	6.4	1.3	3.1						24.3	21.7	1.9	30.8	12.7
	8.5	1.8	4.1	Operation Not Recommended					25.1	22.0	1.8	31.4	13.6
	4.2	1.1	2.5						21.6	20.5	2.3	29.4	9.4
110	6.4	1.3	3.0						22.4	20.7	2.2	29.8	10.4
	8.5	1.7	3.9						23.2	21.0	2.1	30.4	11.1

Interpolation is permissable; extrapolation is not.
Operation below 40°F EWT is based upon a 15% antifreeze solution.
All performance is based upon the lower voltage of dual voltage rated units.
Table does not reflect fan or pump power corrections for ARI/ISO conditions.
See performance correction tables for operating conditions other than those listed above.

3 Ton - Two Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Full Load Heating **Magnum Series**
MC038T Series - R410A **Water Source Heat Pump**

Source				Load	Load Flow 4.5 GPM						Load Flow 6.8 GPM						Load Flow 9 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	24	1.37	19	5.1	71	16	23	1.23	19	5.5	67	16	22	1.14	19	5.8	65	16
20	9.0	3.2	7.4	80	25	1.90	19	3.9	91	16	25	1.79	19	4.1	87	16	25	1.73	19	4.2	86	16
				100	25	2.54	17	2.9	111	16	25	2.40	17	3.0	107	16	25	2.33	17	3.1	105	16
				60	26	1.40	21	5.4	71	21	25	1.27	21	5.8	67	21	24	1.19	20	6.1	65	21
				80	27	1.91	21	4.2	92	21	27	1.79	21	4.4	88	21	27	1.73	21	4.5	86	21
	4.5	1.9	4.3	100	27	2.53	19	3.1	112	22	27	2.39	19	3.3	108	22	27	2.33	19	3.4	106	22
				120	27	3.37	16	2.4	132	23	27	3.18	16	2.5	128	23	26	3.08	16	2.5	126	23
				60	29	1.45	24	5.8	73	23	28	1.35	24	6.2	68	23	28	1.28	24	6.4	66	23
				80	30	1.94	23	4.5	93	23	30	1.83	23	4.8	89	23	29	1.77	23	4.9	87	23
30	6.8	2.3	5.3	100	30	2.57	21	3.4	113	24	29	2.42	21	3.6	109	24	29	2.35	21	3.6	106	24
				120	29	3.40	18	2.5	133	25	29	3.21	18	2.6	128	25	29	3.11	18	2.7	126	25
				60	28	1.44	23	5.6	72	25	27	1.33	23	6.0	68	25	27	1.26	23	6.2	66	25
				80	29	1.94	22	4.3	93	25	29	1.83	22	4.6	88	25	28	1.77	22	4.7	86	25
	9.0	3.1	7.1	100	28	2.57	20	3.2	113	26	28	2.43	20	3.4	108	26	28	2.36	20	3.5	106	26
				120	28	3.40	17	2.4	133	26	28	3.21	17	2.5	128	26	27	3.11	17	2.6	126	26
				60	29	1.46	24	5.9	73	29	29	1.36	24	6.3	69	29	29	1.30	24	6.5	66	29
				80	30	1.94	24	4.6	94	29	30	1.83	24	4.9	89	29	30	1.78	24	5.0	87	29
	4.5	1.4	3.2	100	31	2.57	22	3.5	114	30	30	2.43	22	3.7	109	30	30	2.35	22	3.8	107	30
				120	31	3.41	19	2.6	134	32	30	3.21	19	2.7	129	32	30	3.12	19	2.8	127	32
				60	34	1.55	29	6.5	75	31	34	1.47	29	6.9	70	31	34	1.42	29	7.1	68	31
				80	35	2.01	28	5.1	96	32	35	1.91	29	5.4	90	31	35	1.85	29	5.6	88	31
40	6.8	1.7	3.9	100	35	2.62	26	3.9	116	32	35	2.48	26	4.1	110	32	35	2.41	26	4.2	108	32
				120	35	3.46	23	2.9	135	33	34	3.26	23	3.0	130	33	34	3.16	23	3.1	127	33
				60	31	1.51	26	6.1	74	34	31	1.42	26	6.5	69	34	31	1.36	26	6.7	67	34
				80	32	1.99	25	4.7	94	34	32	1.88	26	5.0	89	34	32	1.83	26	5.1	87	34
	9.0	2.3	5.3	100	32	2.61	23	3.6	114	35	32	2.47	23	3.8	109	35	31	2.40	23	3.8	107	35
				120	31	3.43	20	2.7	134	36	31	3.23	20	2.8	129	36	30	3.14	20	2.8	127	36
				60	33	1.53	28	6.3	75	38	33	1.43	28	6.7	70	38	33	1.39	28	6.9	67	38
				80	34	1.99	27	5.0	95	38	34	1.89	28	5.3	90	38	34	1.83	28	5.4	88	38
	4.5	1.3	3.1	100	34	2.61	25	3.8	115	39	34	2.47	25	4.0	110	39	34	2.39	25	4.1	107	39
				120	34	3.46	22	2.9	135	40	33	3.26	22	3.0	130	40	33	3.16	22	3.1	127	40
				60	35	1.57	30	6.5	76	41	35	1.48	30	6.9	70	41	35	1.43	30	7.1	68	41
				80	36	2.02	29	5.2	96	41	36	1.92	29	5.5	91	41	36	1.87	29	5.6	88	41
50	6.8	1.7	3.8	100	35	2.64	26	3.9	116	42	35	2.50	27	4.1	110	42	35	2.43	27	4.2	108	42
				120	35	3.48	23	2.9	136	43	34	3.28	23	3.1	130	43	34	3.18	23	3.1	128	43
				60	37	1.60	31	6.7	76	43	37	1.52	32	7.1	71	43	37	1.48	32	7.3	68	43
				80	37	2.06	30	5.3	97	43	38	1.96	31	5.6	91	43	38	1.90	31	5.8	88	43
	9.0	2.2	5.2	100	37	2.68	28	4.0	116	44	37	2.53	28	4.3	111	44	37	2.46	28	4.4	108	44
				120	36	3.49	24	3.0	136	45	35	3.29	24	3.2	130	45	35	3.19	24	3.2	128	45
				60	35	1.57	29	6.5	75	47	35	1.49	30	6.9	70	47	35	1.44	30	7.0	68	47
				80	36	2.01	29	5.3	96	47	36	1.91	30	5.5	91	47	36	1.86	30	5.7	88	47
	4.5	1.3	3.0	100	36	2.62	27	4.1	116	48	36	2.48	28	4.3	111	48	36	2.41	28	4.4	108	48
				120	37	3.49	25	3.1	137	49	37	3.29	26	3.3	131	49	36	3.19	26	3.3	128	49
				60	37	1.62	31	6.7	76	51	37	1.53	32	7.1	71	51	37	1.49	32	7.3	68	51
				80	38	2.05	31	5.4	97	51	38	1.95	31	5.7	91	51	38	1.90	32	5.9	88	51
60	6.8	1.6	3.7	100	38	2.66	29	4.2	117	51	38	2.52	29	4.4	111	51	38	2.46	30	4.5	108	51
				120	39	3.53	27	3.2	137	52	38	3.32	27	3.4	131	52	38	3.22	27	3.4	128	52
				60	39	1.65	33	6.9	77	53	39	1.57	34	7.3	72	52	39	1.53	34	7.5	69	52
				80	40	2.10	33	5.6	98	53	40	2.00	33	5.9	92	53	40	1.94	33	6.0	89	53
	9.0	2.2	5.0	100	40	2.71	31	4.3	118	53	40	2.57	31	4.5	112	53	40	2.50	31	4.7	109	53
				120	40	3.56	28	3.3	138	54	39	3.35	28	3.4	132	54	39	3.25	28	3.5	129	54
				60	37	1.61	31	6.6	76	56	37	1.53	31	7.0	71	56	37	1.49	32	7.2	68	56
				80	38	2.03	31	5.5	97	56	38	1.93	32	5.8	91	56	38	1.88	32	5.9	88	56
	4.5	1.3	2.9	100	39	2.64	30	4.3	117	57	39	2.50	30	4.6	111	57	39	2.43	30	4.7	109	56
				120	41	3.53	29	3.4	138	57	40	3.32	29	3.5	132	57	40	3.22	29	3.6	129	57
				60	39	1.66	33	6.9	77	60	39	1.58	34	7.3	72	60	39	1.53	34	7.5	69	60
				80	40	2.08	33	5.7	98	60	40	1.98	34	6.0	92	60	40	1.93	34	6.1	89	60
70	6.8	1.6	3.6	100	41	2.69	32	4.5	118	61	41	2.55	32	4.7	112	60	41	2.48	32	4.8	109	60
				120	42	3.57	30	3.5	139	61	42	3.37	30	3.6	132	61	41	3.26	30	3.7	129	61
				60	41	1.70	36	7.1	78	62	42	1.62	36	7.5	72	62	42	1.58	36	7.7	69	62
				80	42	2.13	35	5.8	99	62	43	2.03	36	6.2	93	62	43	1.98	36	6.3	89	62
	9.0	2.1	4.9	100	43	2.75	34	4.6	119	63	43	2.61	34	4.8	113	62	43	2.54	34	4.9	110	62
				120	44	3.62	31	3.5	139	63	43	3.41	32	3.7	133	63	43	3.30	32	3.8	130	63
				60	38	1.66	33	6.8	77	65	39	1.58	33	7.2	71	65	38	1.54	33	7.3	69	65
				80	40	2.05	33	5.7	98	65	40	1.96	34	6.0	92	65	40	1.90	34	6.2	89	65
	4.5	1.2	2.8	100	41	2.65	32	4.6	118	66	41	2.51	33	4.8	112	65	41	2.44	33	4.9	109	65
				120	44	3.56	32	3.6	139	66	43	3.35	32	3.8	133	66	43	3.25	32	3.9	130	66
				60	41	1.70	35	7.1	78	70	41	1.62	36	7.4	72	69	41	1.58	36	7.6	69	69
				80	42	2.11	35	5.9	99	70	43	2.01	36	6.2	93	69	43	1.96	36	6.4	89	69
80	6.8	1.5	3.5	100	44	2.71	34	4.7	119	70	44	2.58	35	5.0	113	70	44	2.51	35	5.1	110	70
				120	46	3.61	33	3.7	140	70	45	3.41	34	3.9	133	70	45	3.31	34	4.0	130	70
				60	44	1.74	38	7.3	79	72	44	1.66	38	7.7	73	72	44	1.62	38	7.9	70	71
				80	45	2.16	37	6.1	100	72	45	2.06	38	6.4	93	72	45	2.01	38	6.6	90	72
	9.0	2.0	4.7	100	46	2.78	36	4.8	120	72	46	2.64	37	5.1	113	72	46	2.57	37	5.2	110	72
				120	47	3.67	35	3.8	141	72	47	3.46	35	4.0	134	72	47	3.36	35	4.1	130	72

3 Ton - Two Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Part Load Heating **Magnum Series**
MC038T Series - R410A **Water Source Heat Pump**

Source				Load	Load Flow 4.5 GPM						Load Flow 6.8 GPM						Load Flow 9 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	16	1.01	13	4.8	67	17	16	0.91	13	5.1	65	17	15	0.85	12	5.2	63	17
20	9.0	3.2	7.4	80	18	1.41	13	3.7	88	17	18	1.32	13	3.9	85	17	17	1.28	13	4.0	84	17
				100	18	1.93	11	2.7	108	18	17	1.82	11	2.8	105	18	17	1.76	11	2.9	104	18
				60	18	1.01	14	5.1	68	24	17	0.92	14	5.4	65	24	16	0.86	13	5.6	64	24
				80	19	1.40	14	4.0	88	24	19	1.31	14	4.2	86	24	19	1.26	14	4.3	84	24
	4.5	1.9	4.3	100	19	1.90	13	2.9	108	24	19	1.79	13	3.1	106	24	19	1.74	13	3.2	104	24
				120	18	2.57	10	2.1	128	26	18	2.43	10	2.2	125	26	18	2.35	10	2.2	124	26
				60	20	1.02	16	5.7	69	25	19	0.94	16	6.0	66	25	19	0.90	16	6.2	64	25
				80	21	1.40	16	4.4	89	25	21	1.31	16	4.7	86	25	21	1.27	16	4.8	85	25
30	6.8	2.3	5.3	100	21	1.90	14	3.2	109	26	21	1.79	15	3.4	106	26	21	1.73	15	3.5	105	26
				120	20	2.56	11	2.3	129	27	20	2.42	12	2.4	126	27	20	2.35	12	2.5	124	27
				60	19	1.03	16	5.5	68	27	19	0.94	15	5.8	65	27	18	0.89	15	6.0	64	27
				80	20	1.41	15	4.2	89	27	20	1.32	16	4.4	86	27	20	1.28	16	4.6	84	27
	9.0	3.1	7.1	100	20	1.92	13	3.0	109	27	20	1.81	14	3.2	106	27	20	1.75	14	3.3	104	27
				120	19	2.58	10	2.2	128	28	19	2.44	10	2.3	126	28	19	2.36	10	2.3	124	28
				60	20	1.02	17	5.8	69	33	20	0.95	17	6.2	66	33	20	0.90	17	6.4	64	33
				80	22	1.39	17	4.5	90	33	21	1.31	17	4.8	86	32	21	1.27	17	4.9	85	32
	4.5	1.4	3.2	100	22	1.89	15	3.3	110	33	21	1.78	15	3.5	106	33	21	1.72	15	3.6	105	33
				120	21	2.56	12	2.4	129	35	21	2.41	13	2.5	126	34	21	2.34	13	2.6	125	34
				60	24	1.04	21	6.8	71	34	24	0.97	21	7.2	67	34	24	0.94	21	7.4	65	34
				80	25	1.39	20	5.3	91	34	25	1.31	21	5.6	87	34	25	1.26	21	5.8	86	34
40	6.8	1.7	3.9	100	25	1.88	18	3.9	111	35	25	1.77	19	4.1	107	34	25	1.71	19	4.2	105	34
				120	24	2.54	15	2.8	131	35	24	2.40	16	2.9	127	35	24	2.32	16	3.0	125	35
				60	22	1.04	18	6.2	70	36	22	0.97	18	6.5	66	36	21	0.93	18	6.7	65	36
				80	23	1.41	18	4.7	90	36	23	1.32	18	5.0	87	36	23	1.28	18	5.2	85	36
	9.0	2.3	5.3	100	23	1.91	16	3.5	110	36	22	1.80	16	3.6	107	36	22	1.74	16	3.7	105	36
				120	22	2.57	13	2.5	130	37	21	2.42	13	2.6	126	37	21	2.35	13	2.6	125	37
				60	23	1.04	19	6.5	70	41	23	0.96	20	6.9	67	41	23	0.93	19	7.1	65	41
				80	24	1.39	19	5.1	91	41	24	1.31	20	5.4	87	41	24	1.26	20	5.6	85	41
	4.5	1.3	3.1	100	24	1.88	18	3.8	111	42	24	1.77	18	4.0	107	42	24	1.71	18	4.1	105	42
				120	24	2.55	15	2.7	131	43	23	2.40	15	2.9	127	43	23	2.33	15	2.9	125	43
				60	24	1.05	21	6.9	71	44	24	0.98	21	7.3	67	44	24	0.94	21	7.5	65	44
				80	25	1.39	21	5.3	91	44	25	1.31	21	5.7	87	44	25	1.27	21	5.8	86	44
50	6.8	1.7	3.8	100	25	1.88	19	3.9	111	44	25	1.78	19	4.1	107	44	25	1.72	19	4.3	106	44
				120	24	2.54	16	2.8	131	45	24	2.40	16	3.0	127	45	24	2.33	16	3.0	125	45
				60	26	1.05	22	7.2	72	45	26	0.99	22	7.7	68	45	26	0.95	22	7.9	66	45
				80	27	1.40	22	5.6	92	45	27	1.32	22	5.9	88	45	27	1.28	22	6.1	86	45
	9.0	2.2	5.2	100	26	1.89	20	4.1	112	46	26	1.78	20	4.3	108	46	26	1.73	20	4.4	106	45
				120	25	2.54	17	2.9	131	46	25	2.39	17	3.1	127	46	25	2.32	17	3.1	126	46
				60	24	1.05	21	6.8	71	51	24	0.98	21	7.2	67	51	24	0.95	21	7.4	65	51
				80	26	1.38	21	5.4	91	51	26	1.30	21	5.8	88	51	26	1.26	21	6.0	86	51
	4.5	1.3	3.0	100	26	1.86	20	4.1	112	51	26	1.75	20	4.3	108	51	26	1.70	20	4.5	106	51
				120	26	2.52	18	3.0	132	52	26	2.37	18	3.2	128	52	26	2.30	18	3.3	126	52
				60	26	1.06	22	7.2	72	53	26	0.99	23	7.7	68	53	26	0.96	23	7.9	66	53
				80	27	1.39	22	5.7	92	53	27	1.31	23	6.1	88	53	27	1.27	23	6.2	86	53
60	6.8	1.6	3.7	100	27	1.87	21	4.3	112	54	27	1.76	21	4.5	108	54	27	1.71	21	4.7	106	54
				120	27	2.52	19	3.2	132	55	27	2.37	19	3.3	128	54	27	2.30	19	3.4	126	54
				60	28	1.06	24	7.6	72	55	28	1.00	24	8.1	68	55	28	0.97	24	8.3	66	55
				80	29	1.40	24	6.0	93	55	29	1.32	24	6.4	88	55	29	1.28	24	6.5	86	55
	9.0	2.2	5.0	100	29	1.88	22	4.5	113	55	28	1.77	22	4.7	108	55	28	1.71	23	4.9	106	55
				120	28	2.52	20	3.3	133	56	28	2.37	20	3.4	128	56	28	2.30	20	3.5	126	56
				60	26	1.06	22	7.1	71	60	26	1.00	22	7.5	68	60	26	0.97	22	7.7	66	60
				80	27	1.37	22	5.8	92	60	27	1.29	23	6.1	88	60	27	1.25	23	6.3	86	60
	4.5	1.3	2.9	100	28	1.83	22	4.4	112	60	28	1.73	22	4.7	108	60	28	1.67	22	4.8	106	60
				120	29	2.49	20	3.4	133	61	28	2.34	20	3.6	128	61	28	2.27	21	3.7	126	61
				60	28	1.07	24	7.5	72	63	28	1.01	24	8.0	68	63	27	0.97	24	8.3	66	63
				80	29	1.38	24	6.1	93	63	29	1.31	24	6.5	88	63	29	1.27	24	6.7	86	63
70	6.8	1.6	3.6	100	29	1.84	23	4.6	113	63	29	1.74	23	4.9	109	63	29	1.69	23	5.1	106	63
				120	30	2.49	21	3.5	133	64	30	2.35	22	3.7	129	64	29	2.27	22	3.8	127	64
				60	29	1.07	26	8.0	73	64	29	1.01	26	8.5	69	64	29	0.98	26	8.7	67	64
				80	30	1.39	26	6.4	93	64	30	1.31	26	6.8	89	64	30	1.27	26	7.0	87	64
	9.0	2.1	4.9	100	31	1.86	24	4.8	114	65	31	1.75	25	5.1	109	65	31	1.70	25	5.3	107	64
				120	31	2.49	22	3.6	134	65	31	2.35	23	3.8	129	65	31	2.27	23	3.9	127	65
				60	27	1.08	23	7.4	72	70	27	1.01	24	7.8	68	70	27	0.98	24	8.1	66	69
				80	29	1.36	24	6.1	93	69	29	1.29	24	6.5	88	69	29	1.25	24	6.7	86	69
	4.5	1.2	2.8	100	30	1.81	23	4.8	113	70	30	1.70	24	5.1	109	69	29	1.65	24	5.2	107	69
				120	31	2.45	23	3.7	134	70	31	2.30	23	3.9	129	70	31	2.23	23	4.0	127	70
				60	29	1.08	25	7.9	73	73	29	1.02	26	8.4	69	72	29	0.99	26	8.6	66	72
				80	30	1.38	26	6.5	93	72	30	1.29	26	6.9	89	72	30	1.26	26	7.1	87	72
80	6.8	1.5	3.5	100	31	1.82	25	5.0	114	73	31	1.71	25	5.3	109	72	31	1.66	26	5.5	107	72
				120	32	2.45	24	3.9	134	73	32	2.31	24	4.1	129	73	32	2.24	24	4.2	127	73
				60	31	1.08	27	8.4	74	74	31	1.02	28	8.9	69	74	31	0.99	28	9.2	67	74
				80	32	1.38	27	6.8	94	74	32	1.30	28	7.2	89	74	32	1.27	28	7.5	87	74
	9.0	2.0	4.7	100	33	1.84	27	5.2	115	74	33	1.73	27	5.6	110	74	33	1.67	27	5.8	107	74
				120	34	2.46	25	4.0	135	74	34	2.31	26	4.3	130	74	33	2.24	26	4.4	127	74

4 Ton - Two Stage Combination - Forced Air Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Full Load
MC050T Series - R410A **Magnum Series**
Rated Airflow: 1600 Heating / 1550 Cooling **Water Source Heat Pump**

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	6.0	2.0	4.6										
20	9.0	3.8	8.9						Operation Not Recommended				
	12.0	6.1	14.0	33.6	2.9	23.7	89.4	3.4					
	6.0	2.1	4.8										
30	9.0	3.7	8.6	37.1	3.0	26.9	91.5	3.6	55.9	35.9	2.1	63.0	26.9
	12.0	5.9	13.6	38.4	3.0	28.0	92.2	3.7	56.8	36.8	1.9	63.5	29.3
	6.0	1.4	3.3	40.8	3.1	30.3	93.6	3.9	54.4	35.6	2.4	62.7	22.3
40	9.0	2.8	6.4	42.1	3.1	31.4	94.4	3.9	55.9	36.4	2.3	63.6	24.7
	12.0	4.4	10.2	43.5	3.2	32.6	95.2	4.0	56.6	37.3	2.1	63.9	26.4
	6.0	1.4	3.2	45.5	3.2	34.5	96.4	4.1	53.8	35.8	2.6	62.9	20.4
50	9.0	2.7	6.3	47.5	3.3	36.3	97.5	4.2	55.4	36.7	2.4	63.8	22.6
	12.0	4.3	9.9	49.0	3.3	37.6	98.4	4.3	56.0	37.5	2.3	64.0	23.8
	6.0	1.3	3.1	50.5	3.4	38.9	99.2	4.4	52.8	35.8	2.9	62.6	18.5
60	9.0	2.6	6.1	53.2	3.5	41.5	100.8	4.5	54.5	36.6	2.7	63.5	20.5
	12.0	4.1	9.5	54.8	3.5	42.9	101.7	4.6	54.9	37.4	2.6	63.7	21.5
	6.0	1.3	3.0	55.7	3.6	43.6	102.3	4.6	51.3	35.4	3.1	61.9	16.5
70	9.0	2.5	5.9	59.3	3.6	46.9	104.3	4.8	53.1	36.2	2.9	62.9	18.5
	12.0	4.0	9.2	61.0	3.7	48.5	105.3	4.9	53.4	37.1	2.8	63.0	19.2
	6.0	1.3	2.9	61.1	3.8	48.3	105.4	4.8	49.3	34.7	3.4	60.8	14.5
80	9.0	2.5	5.7	65.6	3.8	52.6	108.0	5.1	51.2	35.5	3.1	61.9	16.4
	12.0	3.9	8.9	67.4	3.8	54.3	109.0	5.1	51.5	36.4	3.0	61.9	16.9
	6.0	1.2	2.8	66.6	3.9	53.2	108.6	5.0	46.8	33.7	3.7	59.5	12.5
90	9.0	2.4	5.5	72.1	4.0	58.5	111.7	5.3	48.9	34.6	3.4	60.5	14.3
	12.0	3.7	8.6	74.1	4.0	60.3	112.9	5.4	49.2	35.4	3.3	60.5	14.8
	6.0	1.2	2.7						43.8	32.5	4.1	57.8	10.6
100	9.0	2.3	5.3						46.0	33.3	3.8	58.9	12.2
	12.0	3.6	8.3	Operation Not Recommended					46.4	34.1	3.7	58.9	12.7
	6.0	1.1	2.6						40.3	30.9	4.6	56.0	8.8
110	9.0	2.2	5.1						42.8	31.7	4.2	57.0	10.3
	12.0	3.5	8.0						43.2	32.5	4.0	57.0	10.7

Part Load
Rated Airflow: 1300 Heating / 1200 Cooling

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	5.7	1.8	4.1										
20	8.5	3.5	8.1						Operation Not Recommended				
	11.3	5.5	12.8	23.5	2.0	16.7	86.8	3.4					
	5.7	1.9	4.4										
30	8.5	3.4	7.9	26.7	2.1	19.6	89.0	3.8	39.9	28.1	1.2	44.0	33.1
	11.3	5.4	12.4	27.0	2.1	20.0	89.3	3.8	40.0	28.5	1.3	44.3	31.7
	5.7	1.3	3.0	29.5	2.1	22.3	91.0	4.1	39.6	28.2	1.4	44.5	27.8
40	8.5	2.5	5.9	30.5	2.1	23.2	91.7	4.2	40.2	28.5	1.3	44.8	30.1
	11.3	4.0	9.3	30.9	2.1	23.6	92.0	4.2	40.9	28.9	1.3	45.4	31.1
	5.7	1.3	2.9	33.1	2.2	25.8	93.6	4.5	39.4	28.4	1.6	44.8	25.0
50	8.5	2.5	5.7	34.6	2.2	27.2	94.6	4.7	40.1	28.7	1.5	45.2	27.1
	11.3	3.9	9.0	35.0	2.2	27.6	94.9	4.7	41.2	29.0	1.4	46.0	29.2
	5.7	1.2	2.8	37.0	2.2	29.5	96.4	4.9	38.9	28.3	1.8	44.9	22.2
60	8.5	2.4	5.5	39.0	2.2	31.4	97.8	5.2	39.6	28.7	1.6	45.3	24.1
	11.3	3.8	8.7	39.5	2.2	31.9	98.1	5.2	41.0	29.0	1.5	46.3	26.7
	5.7	1.2	2.7	41.2	2.2	33.5	99.3	5.4	37.9	28.0	2.0	44.6	19.4
70	8.5	2.3	5.3	43.7	2.2	36.1	101.1	5.7	38.8	28.4	1.8	45.0	21.1
	11.3	3.7	8.4	44.2	2.2	36.6	101.5	5.8	40.2	28.7	1.7	46.1	23.5
	5.7	1.1	2.6	45.5	2.3	37.7	102.4	5.9	36.6	27.5	2.2	44.1	16.7
80	8.5	2.2	5.2	48.6	2.2	41.0	104.6	6.4	37.5	27.8	2.1	44.5	18.2
	11.3	3.5	8.2	49.2	2.2	41.6	105.1	6.4	38.9	28.2	1.9	45.5	20.1
	5.7	1.1	2.5	50.0	2.3	42.2	105.6	6.4	34.8	26.8	2.5	43.2	14.1
90	8.5	2.2	5.0	53.9	2.2	46.3	108.4	7.1	35.8	27.1	2.3	43.7	15.5
	11.3	3.4	7.9	54.5	2.2	46.9	108.8	7.2	37.1	27.4	2.2	44.6	16.8
	5.7	1.1	2.4						32.7	25.8	2.8	42.1	11.7
100	8.5	2.1	4.8						33.7	26.1	2.6	42.6	12.9
	11.3	3.3	7.6	Operation Not Recommended					34.8	26.4	2.5	43.4	13.8
	5.7	1.0	2.4						30.1	24.6	3.1	40.8	9.6
110	8.5	2.0	4.6						31.3	24.9	3.0	41.4	10.6
	11.3	3.2	7.3						32.3	25.2	2.9	42.1	11.3

Interpolation is permissable; extrapolation is not.
Operation below 40°F EWT is based upon a 15% antifreeze solution.
All performance is based upon the lower voltage of dual voltage rated units.
Table does not reflect fan or pump power corrections for ARI/ISO conditions.
See performance correction tables for operating conditions other than those listed above.

4 Ton - Two Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Full Load Heating **Magnum Series**
MC0T Series - R410A **Water Source Heat Pump**

Source				Load	Load Flow 6 GPM						Load Flow 9 GPM						Load Flow 12 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	32	1.84	26	5.1	71	16	31	1.62	26	5.6	67	16	30	1.47	25	6.0	65	16
20	12.0	6.1	14.0	80	33	2.52	25	3.9	91	16	33	2.38	25	4.1	87	16	33	2.31	25	4.2	86	16
				100	33	3.28	22	3.0	111	16	33	3.11	22	3.1	107	16	33	3.03	22	3.2	105	16
				60	34	1.87	28	5.4	71	21	34	1.68	28	5.9	67	21	33	1.54	28	6.3	65	21
				80	36	2.53	27	4.2	92	21	36	2.39	28	4.4	88	21	36	2.32	28	4.5	86	21
	6.0	1.9	4.4	100	36	3.28	25	3.2	112	22	36	3.11	25	3.4	108	22	35	3.03	25	3.4	106	22
				120	36	4.29	21	2.4	132	23	35	4.06	21	2.5	128	23	35	3.94	21	2.6	126	23
				60	38	1.95	32	5.8	73	23	38	1.79	32	6.2	68	23	38	1.69	32	6.5	66	23
				80	40	2.58	31	4.5	93	23	39	2.44	31	4.7	89	23	39	2.37	31	4.9	87	23
30	9.0	3.7	8.6	100	39	3.33	28	3.5	113	24	39	3.16	28	3.6	109	24	39	3.07	28	3.7	106	24
				120	39	4.35	24	2.6	133	25	38	4.11	24	2.7	128	25	38	3.99	24	2.8	126	25
				60	37	1.94	30	5.6	72	25	36	1.77	30	6.0	68	25	36	1.66	30	6.3	66	25
				80	38	2.58	29	4.3	93	25	38	2.44	30	4.6	88	25	38	2.37	30	4.7	86	25
	12.0	5.9	13.6	100	38	3.34	26	3.3	113	26	37	3.17	27	3.5	108	26	37	3.08	27	3.5	106	26
				120	37	4.34	22	2.5	132	26	36	4.10	22	2.6	128	26	36	3.98	22	2.6	126	26
				60	39	1.96	32	5.8	73	29	39	1.81	33	6.3	69	29	39	1.72	33	6.6	66	29
				80	41	2.58	32	4.6	94	29	41	2.45	32	4.9	89	29	40	2.38	32	5.0	87	29
	6.0	1.4	3.3	100	40	3.33	29	3.6	113	30	40	3.16	29	3.7	109	30	40	3.08	29	3.8	107	30
				120	40	4.38	25	2.7	133	32	39	4.13	25	2.8	129	32	39	4.01	25	2.9	127	32
				60	46	2.09	39	6.5	75	31	46	1.96	39	6.9	70	31	46	1.89	40	7.1	68	31
				80	47	2.66	38	5.2	96	32	47	2.54	38	5.4	90	31	47	2.47	39	5.6	88	31
40	9.0	2.8	6.4	100	46	3.41	35	4.0	115	32	46	3.24	35	4.2	110	32	46	3.15	35	4.3	108	32
				120	45	4.46	30	3.0	135	33	45	4.21	30	3.1	130	33	44	4.08	30	3.2	127	33
				60	42	2.03	35	6.1	74	34	42	1.89	35	6.5	69	34	42	1.81	35	6.7	67	34
				80	43	2.64	34	4.8	94	34	43	2.51	34	5.0	90	34	43	2.44	34	5.1	87	34
	12.0	4.4	10.2	100	42	3.39	31	3.6	114	35	42	3.22	31	3.8	109	35	42	3.13	31	3.9	107	35
				120	41	4.41	26	2.7	134	36	40	4.16	26	2.8	129	36	40	4.04	26	2.9	127	36
				60	44	2.05	37	6.3	75	38	44	1.92	38	6.7	70	37	44	1.85	38	7.0	67	37
				80	45	2.64	36	5.0	95	38	45	2.51	37	5.3	90	38	45	2.44	37	5.4	88	38
	6.0	1.4	3.2	100	45	3.39	33	3.9	115	39	45	3.22	34	4.1	110	39	45	3.13	34	4.2	107	39
				120	45	4.46	29	2.9	135	40	44	4.20	30	3.1	130	40	44	4.08	30	3.1	127	40
				60	47	2.10	40	6.5	76	41	47	1.99	40	6.9	70	41	47	1.92	40	7.1	68	41
				80	48	2.68	39	5.2	96	41	48	2.56	39	5.5	91	41	48	2.49	39	5.6	88	41
50	9.0	2.7	6.3	100	47	3.43	35	4.0	116	42	47	3.26	36	4.2	110	42	47	3.18	36	4.3	108	42
				120	46	4.49	31	3.0	135	43	45	4.23	31	3.1	130	43	45	4.10	31	3.2	127	43
				60	49	2.15	42	6.7	76	43	50	2.04	43	7.1	71	43	50	1.97	43	7.3	68	43
				80	50	2.73	41	5.4	97	43	50	2.60	41	5.6	91	43	50	2.54	41	5.8	88	43
	12.0	4.3	9.9	100	49	3.48	37	4.1	116	44	49	3.31	38	4.3	111	44	49	3.22	38	4.4	108	44
				120	47	4.51	32	3.1	136	45	47	4.26	32	3.2	130	45	46	4.12	32	3.3	128	45
				60	47	2.11	39	6.5	76	47	47	1.99	40	6.9	70	47	47	1.93	40	7.1	68	47
				80	48	2.67	39	5.3	96	47	48	2.54	40	5.6	91	47	48	2.48	40	5.7	88	47
	6.0	1.3	3.1	100	48	3.41	37	4.1	116	48	48	3.24	37	4.4	111	48	48	3.16	37	4.5	108	48
				120	49	4.52	34	3.2	136	49	48	4.26	34	3.3	131	49	48	4.13	34	3.4	128	49
				60	50	2.17	42	6.7	77	51	50	2.05	43	7.1	71	51	50	1.99	43	7.3	68	50
				80	51	2.72	41	5.5	97	51	51	2.60	42	5.7	91	51	51	2.53	42	5.9	88	51
60	9.0	2.6	6.1	100	51	3.47	39	4.3	117	51	51	3.29	39	4.5	111	51	51	3.21	40	4.6	108	51
				120	51	4.57	35	3.3	137	52	50	4.30	36	3.4	131	52	50	4.17	36	3.5	128	52
				60	52	2.21	45	6.9	77	53	53	2.11	46	7.3	72	52	53	2.05	46	7.5	69	52
				80	53	2.77	44	5.6	98	53	54	2.65	45	5.9	92	53	54	2.58	45	6.1	89	53
	12.0	4.1	9.5	100	53	3.53	41	4.4	118	53	53	3.35	42	4.6	112	53	53	3.26	42	4.8	109	53
				120	52	4.61	37	3.3	137	54	52	4.34	37	3.5	132	54	52	4.21	37	3.6	129	54
				60	49	2.17	42	6.6	76	56	49	2.06	42	7.0	71	56	49	1.99	42	7.2	68	56
				80	51	2.69	42	5.5	97	56	51	2.57	42	5.8	91	56	51	2.50	42	6.0	88	56
	6.0	1.3	3.0	100	52	3.43	40	4.4	117	57	52	3.26	40	4.6	111	57	52	3.17	41	4.8	109	56
				120	53	4.57	38	3.4	138	57	53	4.30	38	3.6	132	57	53	4.17	38	3.7	129	57
				60	52	2.22	45	6.9	77	60	52	2.11	45	7.3	72	60	52	2.05	45	7.5	69	60
				80	54	2.75	44	5.7	98	60	54	2.63	45	6.0	92	60	54	2.57	45	6.2	89	60
70	9.0	2.5	5.9	100	54	3.50	42	4.6	118	61	54	3.33	43	4.8	112	60	54	3.24	43	4.9	109	60
				120	55	4.63	40	3.5	138	61	55	4.36	40	3.7	132	61	55	4.23	40	3.8	129	61
				60	55	2.27	48	7.2	78	62	56	2.17	48	7.5	72	62	56	2.12	49	7.7	69	62
				80	57	2.81	47	5.9	99	62	57	2.69	48	6.2	93	62	57	2.62	48	6.4	89	62
	12.0	4.0	9.2	100	57	3.57	45	4.7	119	63	57	3.40	45	4.9	113	62	57	3.31	46	5.1	109	62
				120	58	4.69	42	3.6	139	63	57	4.42	42	3.8	133	63	57	4.28	42	3.9	129	63
				60	51	2.22	44	6.8	77	65	52	2.12	44	7.2	71	65	52	2.06	45	7.4	69	65
				80	53	2.72	44	5.8	98	65	54	2.60	45	6.1	92	65	54	2.53	45	6.2	89	65
	6.0	1.3	2.9	100	55	3.45	43	4.7	118	66	55	3.28	44	4.9	112	65	55	3.20	44	5.0	109	65
				120	58	4.61	42	3.7	139	66	57	4.34	43	3.9	133	66	57	4.21	43	4.0	130	66
				60	55	2.28	47	7.1	78	70	55	2.17	48	7.5	72	69	55	2.12	48	7.6	69	69
				80	57	2.78	47	6.0	99	70	57	2.66	48	6.3	93	69	57	2.60	48	6.4	90	69
80	9.0	2.5	5.7	100	58	3.53	46	4.8	119	70	58	3.36	47	5.1	113	70	58	3.27	47	5.2	110	70
				120	60	4.68	44	3.8	140	70	60	4.41	45	4.0	133	70	60	4.28	45	4.1	130	70
				60	58	2.32	50	7.4	79	72	59	2.23	51	7.7	73	71	59	2.17	51	7.9	70	71
				80	60	2.85	50	6.2	100	72	60	2.73	51	6.5	93	72	60	2.66	51	6.6	90	71
	12.0	3.9	8.9	100	61	3.61	49	4.9	120	72	61	3.43	49	5.2	114	72	61	3.34	50	5.4	110	72
				120	63	4.76	46	3.9	141	72	62	4.48	47	4.1	134	72	62	4.35	47	4.2	130	72

4 Ton - Two Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Part Load Heating **Magnum Series**
MC0T Series - R410A **Water Source Heat Pump**

Source				Load	Load Flow 6 GPM						Load Flow 9 GPM						Load Flow 12 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	23	1.37	19	5.0	68	17	22	1.24	18	5.3	65	17	21	1.15	17	5.4	64	17
20	12.0	6.1	14.0	80	25	1.93	18	3.8	88	17	25	1.81	19	4.0	86	17	25	1.74	19	4.1	84	17
				100	25	2.64	16	2.8	108	17	25	2.49	16	2.9	105	17	24	2.41	16	3.0	104	17
				60	25	1.38	20	5.3	68	23	24	1.25	20	5.6	65	23	23	1.17	19	5.8	64	24
				80	27	1.91	20	4.1	89	23	27	1.78	20	4.4	86	23	26	1.73	20	4.5	84	23
	6.0	1.9	4.4	100	27	2.60	18	3.0	109	24	27	2.45	18	3.2	106	24	26	2.38	18	3.3	104	24
				120	26	3.51	14	2.2	129	25	26	3.32	14	2.3	126	25	25	3.21	14	2.3	124	25
				60	28	1.40	23	5.8	69	25	27	1.29	23	6.2	66	25	27	1.22	23	6.4	64	25
				80	29	1.91	23	4.5	90	25	29	1.78	23	4.8	87	25	29	1.73	23	4.9	85	25
30	9.0	3.7	8.6	100	29	2.60	20	3.3	110	25	29	2.45	21	3.5	106	25	29	2.37	21	3.6	105	25
				120	28	3.50	16	2.4	129	26	28	3.31	17	2.5	126	26	28	3.21	17	2.5	125	26
				60	27	1.40	22	5.6	69	26	26	1.29	22	6.0	66	26	26	1.22	21	6.2	64	26
				80	28	1.93	22	4.3	89	26	28	1.81	22	4.6	86	26	28	1.74	22	4.7	85	26
	12.0	5.9	13.6	100	28	2.63	19	3.1	109	27	28	2.48	19	3.3	106	27	28	2.40	20	3.4	105	27
				120	27	3.53	15	2.2	129	28	26	3.33	15	2.3	126	27	26	3.23	15	2.4	124	27
				60	28	1.40	24	6.0	69	32	28	1.29	24	6.4	66	32	28	1.23	23	6.6	65	32
				80	30	1.90	24	4.7	90	32	30	1.78	24	4.9	87	32	30	1.73	24	5.1	85	32
	6.0	1.4	3.3	100	30	2.58	21	3.4	110	33	30	2.43	22	3.6	107	33	30	2.36	22	3.7	105	33
				120	30	3.50	18	2.5	130	34	29	3.29	18	2.6	126	34	29	3.20	18	2.6	125	34
				60	34	1.42	29	6.9	71	34	33	1.33	29	7.4	67	34	33	1.28	29	7.6	66	34
				80	35	1.89	28	5.4	92	34	35	1.78	29	5.7	88	34	35	1.73	29	5.9	86	34
40	9.0	2.8	6.4	100	35	2.57	26	4.0	112	34	35	2.42	26	4.2	108	34	34	2.34	26	4.3	106	34
				120	34	3.47	22	2.8	131	35	33	3.27	22	3.0	127	35	33	3.17	22	3.1	126	35
				60	31	1.42	26	6.3	70	36	30	1.32	26	6.7	67	36	30	1.26	25	6.9	65	36
				80	32	1.93	25	4.8	91	36	32	1.81	26	5.2	87	36	32	1.75	26	5.3	85	36
	12.0	4.4	10.2	100	31	2.61	23	3.5	110	36	31	2.46	23	3.7	107	36	31	2.38	23	3.8	105	36
				120	30	3.51	18	2.5	130	37	30	3.31	19	2.6	127	37	30	3.21	19	2.7	125	37
				60	32	1.42	27	6.7	71	41	32	1.32	27	7.1	67	41	32	1.27	27	7.3	65	41
				80	34	1.89	27	5.2	91	41	34	1.78	28	5.5	87	41	34	1.72	28	5.7	86	41
	6.0	1.4	3.2	100	34	2.57	25	3.8	111	42	34	2.42	25	4.1	107	42	33	2.34	25	4.2	106	42
				120	33	3.48	21	2.8	131	43	33	3.28	22	2.9	127	43	32	3.18	22	3.0	125	43
				60	34	1.43	29	7.0	71	44	34	1.34	29	7.4	68	43	34	1.29	29	7.7	66	43
				80	35	1.90	29	5.4	92	44	35	1.79	29	5.8	88	43	35	1.74	29	6.0	86	43
50	9.0	2.7	6.3	100	35	2.57	26	4.0	112	44	35	2.43	27	4.2	108	44	35	2.35	27	4.3	106	44
				120	34	3.48	22	2.9	131	45	34	3.28	23	3.0	128	45	33	3.18	23	3.1	126	45
				60	36	1.43	31	7.4	72	45	36	1.35	31	7.8	68	45	36	1.30	31	8.1	66	45
				80	37	1.92	31	5.7	92	45	37	1.80	31	6.0	88	45	37	1.75	31	6.2	86	45
	12.0	4.3	9.9	100	37	2.58	28	4.1	112	45	37	2.44	28	4.4	108	45	36	2.36	28	4.5	106	45
				120	35	3.47	23	3.0	132	46	35	3.27	24	3.1	128	46	35	3.17	24	3.2	126	46
				60	34	1.43	29	7.0	71	50	34	1.34	29	7.4	68	50	34	1.30	29	7.6	66	50
				80	36	1.89	29	5.5	92	50	36	1.77	30	5.9	88	50	36	1.72	30	6.1	86	50
	6.0	1.3	3.1	100	36	2.54	27	4.2	112	51	36	2.39	28	4.4	108	51	36	2.32	28	4.5	106	51
				120	36	3.44	25	3.1	132	52	36	3.24	25	3.3	128	52	36	3.14	25	3.3	126	52
				60	36	1.45	31	7.3	72	53	36	1.35	31	7.8	68	53	36	1.31	31	8.0	66	53
				80	38	1.90	31	5.8	93	53	38	1.79	32	6.2	88	53	38	1.73	32	6.4	86	53
60	9.0	2.6	6.1	100	38	2.55	29	4.4	113	54	38	2.40	30	4.6	108	53	38	2.33	30	4.7	106	53
				120	38	3.45	26	3.2	133	54	37	3.25	26	3.4	128	54	37	3.14	26	3.5	126	54
				60	38	1.45	33	7.7	73	54	38	1.37	34	8.2	69	54	38	1.32	34	8.5	66	54
				80	40	1.91	33	6.1	93	54	40	1.80	34	6.5	89	54	40	1.75	34	6.6	87	54
	12.0	4.1	9.5	100	40	2.56	31	4.5	113	55	40	2.41	31	4.8	109	55	39	2.34	31	4.9	107	55
				120	39	3.45	27	3.3	133	55	39	3.24	28	3.5	129	55	39	3.15	28	3.6	126	55
				60	36	1.45	31	7.2	72	60	36	1.36	31	7.7	68	60	36	1.32	31	7.9	66	60
				80	38	1.87	31	5.9	93	60	38	1.77	32	6.3	88	59	38	1.71	32	6.4	86	59
	6.0	1.3	3.0	100	39	2.51	30	4.5	113	60	39	2.36	30	4.8	109	60	38	2.28	31	4.9	106	60
				120	40	3.40	28	3.4	133	61	40	3.20	29	3.6	129	60	39	3.10	29	3.7	127	60
				60	38	1.46	33	7.7	73	63	38	1.37	33	8.1	68	63	38	1.33	34	8.4	66	63
				80	40	1.89	33	6.2	93	63	40	1.78	34	6.6	89	62	40	1.73	34	6.8	87	62
70	9.0	2.5	5.9	100	41	2.52	32	4.7	114	63	41	2.37	32	5.0	109	63	40	2.30	33	5.1	107	63
				120	41	3.40	30	3.6	134	63	41	3.21	30	3.8	129	63	41	3.10	30	3.9	127	63
				60	41	1.46	36	8.1	74	64	41	1.38	36	8.6	69	64	41	1.34	36	8.9	67	64
				80	42	1.90	35	6.5	94	64	42	1.79	36	6.9	89	64	42	1.74	36	7.1	87	64
	12.0	4.0	9.2	100	43	2.54	34	4.9	114	64	43	2.39	34	5.2	109	64	42	2.32	35	5.4	107	64
				120	43	3.41	31	3.7	134	65	43	3.21	32	3.9	129	65	42	3.11	32	4.0	127	65
				60	38	1.47	33	7.5	73	69	38	1.38	33	8.0	68	69	37	1.34	33	8.2	66	69
				80	40	1.86	33	6.2	93	69	40	1.76	34	6.6	89	69	40	1.70	34	6.8	87	69
	6.0	1.3	2.9	100	41	2.47	33	4.9	114	69	41	2.32	33	5.2	109	69	41	2.25	33	5.3	107	69
				120	43	3.34	32	3.8	134	69	43	3.14	32	4.0	130	69	43	3.05	32	4.1	127	69
				60	40	1.47	35	8.0	73	72	40	1.39	36	8.5	69	72	40	1.35	36	8.8	67	72
				80	42	1.88	36	6.5	94	72	42	1.77	36	7.0	89	72	42	1.71	36	7.2	87	72
80	9.0	2.5	5.7	100	43	2.49	35	5.1	114	72	43	2.34	35	5.4	110	72	43	2.27	35	5.6	107	72
				120	45	3.35	33	3.9	135	73	45	3.15	34	4.1	130	72	44	3.06	34	4.3	127	72
				60	43	1.47	38	8.5	74	74	43	1.39	38	9.1	70	74	43	1.35	38	9.3	67	74
				80	44	1.89	38	6.9	95	74	45	1.78	38	7.3	90	74	44	1.73	39	7.5	87	74
	12.0	3.9	8.9	100	45	2.51	37	5.3	115	74	45	2.36	37	5.7	110	74	45	2.28	38	5.8	108	74
				120	47	3.36	35	4.1	136	74	46	3.16	36	4.3	130	74	46	3.06	36	4.4	128	74

5 Ton - Two Stage Combination - Forced Air Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Full Load
MC062T Series - R410A **Magnum Series**
Rated Airflow: 2000 Heating / 1850 Cooling **Water Source Heat Pump**

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	7.5	1.8	4.2										
20	11.3	3.3	7.6						Operation Not Recommended				
	15.0	5.3	12.2	38.0	3.7	25.4	87.6	3.0					
	7.5	1.9	4.4										
30	11.3	3.2	7.4	44.9	3.8	32.0	90.8	3.5	70.1	42.9	2.5	78.8	27.5
	15.0	5.1	11.9	47.9	3.9	34.8	92.2	3.6	71.1	43.9	2.4	79.3	29.6
	7.5	1.3	3.0	51.3	3.9	37.9	93.7	3.8	68.4	42.5	3.0	78.6	22.9
40	11.3	2.4	5.5	53.0	4.0	39.4	94.5	3.9	70.1	43.5	2.8	79.6	25.4
	15.0	3.8	8.9	54.8	4.0	41.0	95.3	4.0	71.0	44.5	2.6	79.9	27.1
	7.5	1.3	2.9	57.4	4.1	43.4	96.6	4.1	67.7	42.8	3.2	78.8	20.9
50	11.3	2.3	5.3	59.9	4.2	45.7	97.7	4.2	69.6	43.8	3.0	79.8	23.3
	15.0	3.7	8.6	61.8	4.2	47.4	98.6	4.3	70.3	44.8	2.9	80.1	24.5
	7.5	1.2	2.8	63.7	4.3	49.1	99.5	4.4	66.4	42.7	3.5	78.5	18.8
60	11.3	2.2	5.2	67.1	4.3	52.3	101.1	4.5	68.5	43.7	3.3	79.6	21.0
	15.0	3.6	8.3	69.1	4.4	54.1	102.0	4.6	69.1	44.7	3.1	79.8	22.0
	7.5	1.2	2.8	70.2	4.5	54.9	102.5	4.6	64.5	42.2	3.9	77.7	16.7
70	11.3	2.2	5.0	74.6	4.6	59.1	104.5	4.8	66.8	43.2	3.6	78.9	18.8
	15.0	3.5	8.1	76.7	4.6	60.9	105.5	4.9	67.2	44.2	3.4	79.0	19.6
	7.5	1.2	2.7	76.8	4.7	60.7	105.6	4.8	62.0	41.4	4.3	76.5	14.6
80	11.3	2.1	4.8	82.2	4.8	65.9	108.1	5.0	64.4	42.4	3.9	77.7	16.5
	15.0	3.4	7.8	84.4	4.9	67.8	109.1	5.1	64.8	43.4	3.8	77.7	17.2
	7.5	1.1	2.6	83.4	5.0	66.5	108.6	4.9	58.8	40.3	4.7	74.8	12.5
90	11.3	2.0	4.7	89.9	5.0	72.7	111.6	5.2	61.5	41.3	4.3	76.1	14.3
	15.0	3.3	7.5	92.1	5.1	74.6	112.6	5.3	61.9	42.3	4.2	76.1	14.9
	7.5	1.1	2.5						55.1	38.7	5.2	72.8	10.6
100	11.3	1.9	4.5						57.9	39.7	4.7	74.1	12.2
	15.0	3.1	7.3	Operation Not Recommended					58.4	40.7	4.6	74.1	12.7
	7.5	1.0	2.4						50.8	36.9	5.8	70.5	8.8
110	11.3	1.9	4.3						53.9	37.9	5.3	71.8	10.2
	15.0	3.0	7.0						54.5	38.8	5.1	71.9	10.7

Part Load
Rated Airflow: 1600 Heating / 1500 Cooling

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	7.1	1.7	3.9										
20	10.6	3.0	6.9						Operation Not Recommended				
	14.2	4.8	11.1	28.9	2.6	20.1	86.8	3.3					
	7.1	1.8	4.1										
30	10.6	2.9	6.7	33.0	2.6	24.0	89.1	3.7	51.8	35.2	1.4	56.6	36.4
	14.2	4.7	10.8	33.5	2.7	24.5	89.4	3.7	51.7	35.6	1.5	56.8	34.1
	7.1	1.2	2.8	36.7	2.7	27.5	91.2	4.0	50.6	35.3	1.8	56.6	28.5
40	10.6	2.2	5.0	38.0	2.7	28.7	92.0	4.1	51.6	35.7	1.6	57.2	31.6
	14.2	3.5	8.0	38.5	2.7	29.2	92.3	4.2	52.5	36.1	1.6	58.0	32.8
	7.1	1.2	2.7	41.4	2.7	32.1	94.0	4.4	50.0	35.5	2.0	56.8	25.0
50	10.6	2.1	4.9	43.3	2.8	33.9	95.1	4.6	51.1	35.9	1.9	57.4	27.5
	14.2	3.4	7.8	43.9	2.8	34.4	95.4	4.6	52.6	36.3	1.8	58.6	29.9
	7.1	1.1	2.6	46.5	2.8	36.9	96.9	4.9	49.0	35.4	2.3	56.7	21.8
60	10.6	2.0	4.7	49.0	2.8	39.4	98.3	5.1	50.1	35.8	2.1	57.3	23.9
	14.2	3.3	7.6	49.6	2.8	40.0	98.7	5.1	52.0	36.2	2.0	58.7	26.7
	7.1	1.1	2.6	51.8	2.9	42.0	100.0	5.3	47.7	35.1	2.5	56.3	18.9
70	10.6	2.0	4.6	55.0	2.9	45.2	101.8	5.6	48.8	35.5	2.4	56.9	20.7
	14.2	3.2	7.3	55.7	2.9	45.8	102.2	5.7	50.7	35.9	2.2	58.3	23.0
	7.1	1.1	2.5	57.3	2.9	47.3	103.2	5.7	45.8	34.4	2.8	55.5	16.2
80	10.6	1.9	4.4	61.3	2.9	51.3	105.5	6.1	47.1	34.8	2.7	56.1	17.7
	14.2	3.1	7.1	62.0	2.9	52.0	105.9	6.2	48.9	35.2	2.5	57.4	19.5
	7.1	1.0	2.4	63.0	3.0	52.7	106.5	6.1	43.6	33.5	3.2	54.4	13.7
90	10.6	1.8	4.3	67.9	3.0	57.6	109.3	6.6	44.9	33.9	3.0	55.0	15.1
	14.2	3.0	6.8	68.7	3.0	58.3	109.7	6.7	46.5	34.3	2.8	56.2	16.3
	7.1	1.0	2.3						40.8	32.2	3.6	52.9	11.5
100	10.6	1.8	4.1						42.2	32.6	3.3	53.6	12.6
	14.2	2.8	6.6	Operation Not Recommended					43.6	33.0	3.2	54.6	13.5
	7.1	1.0	2.2						37.5	30.7	4.0	51.2	9.4
110	10.6	1.7	4.0						39.0	31.1	3.8	51.9	10.4
	14.2	2.7	6.3						40.4	31.5	3.7	52.8	11.0

Interpolation is permissable; extrapolation is not.
Operation below 40°F EWT is based upon a 15% antifreeze solution.
All performance is based upon the lower voltage of dual voltage rated units.
Table does not reflect fan or pump power corrections for ARI/ISO conditions.
See performance correction tables for operating conditions other than those listed above.

5 Ton - Two Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Full Load Heating **Magnum Series**
MC062T Series - R410A **Water Source Heat Pump**

Source				Load	Load Flow 7.5 GPM						Load Flow 11.3 GPM						Load Flow 15 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	39	2.33	31	4.9	70	16	37	2.10	30	5.2	67	16	36	1.95	29	5.4	65	16
20	15.0	5.3	12.2	80	42	3.19	31	3.8	91	16	41	3.01	31	4.0	87	16	41	2.91	31	4.1	85	16
				100	42	4.22	27	2.9	111	16	41	4.00	28	3.0	107	16	41	3.89	28	3.1	105	16
				60	42	2.36	34	5.2	71	21	41	2.16	33	5.5	67	21	39	2.02	32	5.7	65	21
				80	45	3.19	34	4.1	92	21	44	3.00	34	4.3	88	21	44	2.91	34	4.4	86	21
	7.5	1.8	4.1	100	45	4.21	31	3.1	112	22	45	3.99	31	3.3	108	22	44	3.88	31	3.4	106	22
				120	45	5.51	26	2.4	132	23	44	5.22	26	2.5	128	23	44	5.07	26	2.5	126	23
				60	47	2.44	39	5.7	73	23	46	2.26	39	6.0	68	23	46	2.16	38	6.2	66	23
				80	49	3.23	38	4.5	93	23	49	3.05	39	4.7	89	23	49	2.96	39	4.8	87	23
30	11.3	3.2	7.4	100	49	4.26	35	3.4	113	24	49	4.03	35	3.6	109	24	49	3.91	35	3.6	106	24
				120	49	5.57	30	2.6	133	25	48	5.28	30	2.7	128	25	47	5.12	30	2.7	126	25
				60	45	2.43	37	5.5	72	25	44	2.25	37	5.8	68	25	44	2.14	36	6.0	66	25
				80	48	3.24	36	4.3	93	25	47	3.06	37	4.5	88	25	47	2.97	37	4.6	86	25
	15.0	5.1	11.9	100	47	4.28	33	3.2	113	26	47	4.05	33	3.4	108	26	47	3.93	33	3.5	106	26
				120	46	5.57	27	2.4	132	26	45	5.27	27	2.5	128	26	45	5.12	27	2.6	126	26
				60	48	2.45	40	5.8	73	29	48	2.28	40	6.1	68	29	47	2.18	40	6.3	66	29
				80	51	3.23	40	4.6	94	29	51	3.05	40	4.9	89	29	50	2.97	40	5.0	87	29
	7.5	1.3	3.0	100	51	4.26	36	3.5	114	30	51	4.03	37	3.7	109	30	50	3.91	37	3.8	107	30
				120	51	5.60	31	2.6	133	32	50	5.29	32	2.8	129	32	49	5.14	32	2.8	127	32
				60	57	2.57	49	6.5	75	31	57	2.43	49	6.9	70	31	57	2.35	49	7.1	68	31
				80	59	3.31	48	5.2	96	32	59	3.14	48	5.5	90	31	59	3.05	48	5.7	88	31
40	11.3	2.4	5.5	100	58	4.32	44	4.0	116	32	58	4.09	44	4.2	110	32	58	3.98	44	4.3	108	32
				120	57	5.68	38	3.0	135	33	56	5.37	38	3.1	130	33	56	5.20	38	3.2	127	33
				60	52	2.51	43	6.1	74	34	52	2.36	44	6.4	69	34	51	2.27	43	6.6	67	34
				80	54	3.30	42	4.8	94	34	54	3.12	43	5.0	89	34	53	3.04	43	5.2	87	34
	15.0	3.8	8.9	100	53	4.32	38	3.6	114	35	53	4.09	39	3.8	109	35	53	3.98	39	3.9	107	35
				120	52	5.63	32	2.7	134	36	51	5.32	33	2.8	129	36	50	5.17	33	2.8	127	36
				60	55	2.54	46	6.3	75	38	55	2.38	46	6.7	70	38	54	2.31	46	6.9	67	38
				80	57	3.29	46	5.1	95	38	57	3.12	46	5.4	90	38	57	3.02	46	5.5	88	38
	7.5	1.3	2.9	100	57	4.30	42	3.9	115	39	56	4.08	43	4.1	110	39	56	3.96	43	4.2	107	39
				120	56	5.67	37	2.9	135	40	55	5.36	37	3.0	130	40	55	5.20	37	3.1	127	40
				60	58	2.59	49	6.6	76	41	58	2.45	50	7.0	70	41	58	2.37	50	7.2	68	41
				80	60	3.33	48	5.3	96	41	60	3.16	49	5.6	91	41	60	3.07	49	5.7	88	41
50	11.3	2.3	5.3	100	59	4.35	44	4.0	116	42	59	4.12	45	4.2	110	42	59	4.01	45	4.3	108	42
				120	58	5.70	39	3.0	135	43	57	5.38	39	3.1	130	43	57	5.23	39	3.2	128	43
				60	62	2.63	53	6.9	76	43	62	2.51	53	7.2	71	43	62	2.43	53	7.4	68	43
				80	63	3.39	51	5.4	97	43	63	3.21	52	5.7	91	43	63	3.12	52	5.9	88	43
	15.0	3.7	8.6	100	62	4.40	47	4.1	116	44	62	4.17	47	4.3	111	44	62	4.05	48	4.5	108	44
				120	60	5.72	40	3.1	136	45	59	5.41	41	3.2	130	45	59	5.24	41	3.3	128	45
				60	58	2.59	49	6.6	75	47	58	2.46	50	6.9	70	47	58	2.39	50	7.1	68	47
				80	60	3.31	49	5.3	96	47	60	3.14	50	5.6	91	47	60	3.05	50	5.8	88	47
	7.5	1.2	2.8	100	61	4.31	46	4.1	116	48	61	4.08	47	4.4	111	48	61	3.97	47	4.5	108	47
				120	62	5.72	42	3.2	136	49	61	5.40	43	3.3	131	49	61	5.24	43	3.4	128	49
				60	62	2.65	53	6.8	76	51	62	2.52	53	7.2	71	51	62	2.45	53	7.4	68	51
				80	64	3.37	52	5.5	97	51	64	3.20	53	5.8	91	51	64	3.11	53	6.0	89	51
60	11.3	2.2	5.2	100	64	4.37	49	4.3	117	51	64	4.14	50	4.5	111	51	64	4.03	50	4.6	108	51
				120	64	5.77	44	3.3	137	52	63	5.45	45	3.4	131	52	63	5.28	45	3.5	128	52
				60	66	2.70	56	7.1	77	52	66	2.58	57	7.5	72	52	66	2.51	57	7.7	69	52
				80	67	3.43	55	5.7	98	53	67	3.26	56	6.0	92	53	67	3.18	56	6.2	89	52
	15.0	3.6	8.3	100	67	4.44	52	4.4	118	53	67	4.21	52	4.7	112	53	67	4.09	53	4.8	109	53
				120	66	5.82	46	3.3	138	54	66	5.48	47	3.5	132	54	65	5.33	47	3.6	129	54
				60	61	2.66	52	6.8	76	56	61	2.52	53	7.1	71	56	61	2.45	53	7.3	68	56
				80	64	3.33	52	5.6	97	56	64	3.17	53	5.9	91	56	64	3.08	53	6.1	89	56
	7.5	1.2	2.8	100	65	4.33	50	4.4	117	57	65	4.10	51	4.7	112	56	65	3.98	51	4.8	109	56
				120	67	5.77	48	3.4	138	57	67	5.44	48	3.6	132	57	66	5.28	48	3.7	129	57
				60	65	2.72	56	7.0	77	60	66	2.59	57	7.4	72	60	65	2.52	57	7.6	69	60
				80	67	3.40	56	5.8	98	60	68	3.24	57	6.1	92	60	68	3.15	57	6.3	89	60
70	11.3	2.2	5.0	100	68	4.40	53	4.6	118	60	68	4.17	54	4.8	112	60	68	4.06	54	4.9	109	60
				120	70	5.83	50	3.5	139	61	69	5.51	51	3.7	132	61	69	5.34	51	3.8	129	61
				60	69	2.77	60	7.3	79	62	70	2.65	61	7.7	72	62	70	2.59	61	7.9	69	62
				80	71	3.47	59	6.0	99	62	72	3.30	60	6.3	93	62	72	3.22	61	6.5	90	62
	15.0	3.5	8.1	100	72	4.49	57	4.7	119	62	72	4.26	57	4.9	113	62	72	4.14	58	5.1	110	62
				120	73	5.91	52	3.6	139	63	72	5.57	53	3.8	133	63	72	5.40	53	3.9	130	63
				60	64	2.72	55	6.9	77	65	64	2.59	56	7.3	71	65	64	2.52	56	7.5	69	65
				80	67	3.36	56	5.9	98	65	67	3.20	57	6.2	92	65	67	3.11	57	6.4	89	65
	7.5	1.2	2.7	100	69	4.33	54	4.7	118	65	69	4.10	55	4.9	112	65	69	4.00	56	5.1	109	65
				120	73	5.81	53	3.7	139	66	72	5.47	54	3.9	133	66	72	5.31	54	4.0	130	66
				60	69	2.78	59	7.2	78	69	69	2.65	60	7.6	72	69	69	2.59	60	7.8	69	69
				80	71	3.44	59	6.1	99	69	72	3.27	60	6.4	93	69	72	3.19	61	6.6	90	69
80	11.3	2.1	4.8	100	73	4.43	58	4.8	119	70	73	4.20	59	5.1	113	70	73	4.09	59	5.2	110	69
				120	76	5.90	56	3.8	140	70	75	5.56	56	4.0	133	70	75	5.40	57	4.1	130	70
				60	73	2.83	63	7.6	79	72	74	2.71	64	7.9	73	71	74	2.65	65	8.1	70	71
				80	75	3.52	63	6.3	100	72	76	3.35	64	6.6	93	71	76	3.27	65	6.8	90	71
	15.0	3.4	7.8	100	77	4.54	61	5.0	120	72	77	4.30	62	5.2	114	72	77	4.18	63	5.4	110	72
				120	79	5.99	58	3.8	141	72	78	5.64	59	4.1	134	72	78	5.48	59	4.2	130	72

5 Ton - Two Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Part Load Heating **Magnum Series**
MC062T Series - R410A **Water Source Heat Pump**

Source				Load	Load Flow 7.5 GPM						Load Flow 11.3 GPM						Load Flow 15 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	29	1.75	24	4.9	68	17	29	1.56	23	5.4	65	17	28	1.44	23	5.7	64	17
20	15.0	5.3	12.2	80	31	2.48	22	3.7	88	17	31	2.32	23	3.9	85	17	31	2.24	23	4.0	84	17
				100	30	3.38	19	2.6	108	17	30	3.19	19	2.8	105	17	30	3.09	19	2.8	104	17
				60	32	1.75	26	5.3	68	23	31	1.57	26	5.8	65	23	30	1.46	25	6.1	64	23
				80	33	2.45	25	4.0	89	23	33	2.29	25	4.2	86	23	33	2.21	25	4.4	84	23
	7.5	1.8	4.1	100	33	3.32	22	2.9	109	24	33	3.13	22	3.1	106	24	33	3.04	22	3.2	104	24
				120	32	4.48	17	2.1	128	26	31	4.24	17	2.2	126	25	31	4.11	17	2.2	124	25
				60	35	1.76	29	5.9	69	25	35	1.60	30	6.4	66	25	35	1.51	29	6.7	65	25
				80	37	2.43	28	4.4	90	25	37	2.28	29	4.7	86	25	36	2.20	29	4.8	85	25
30	11.3	3.2	7.4	100	36	3.30	25	3.2	110	26	36	3.11	26	3.4	106	25	36	3.02	26	3.5	105	25
				120	35	4.45	20	2.3	129	26	34	4.21	20	2.4	126	26	34	4.08	20	2.5	125	26
				60	34	1.77	28	5.6	69	26	34	1.61	28	6.1	66	26	33	1.51	28	6.4	64	26
				80	35	2.46	27	4.2	89	26	35	2.31	27	4.5	86	26	35	2.23	27	4.6	85	26
	15.0	5.1	11.9	100	35	3.34	23	3.0	109	27	35	3.15	24	3.2	106	27	34	3.06	24	3.3	105	27
				120	33	4.49	18	2.2	129	28	32	4.25	18	2.2	126	28	32	4.12	18	2.3	124	28
				60	36	1.76	30	6.0	70	32	36	1.61	30	6.6	66	32	36	1.52	30	6.9	65	32
				80	38	2.42	29	4.6	90	32	38	2.27	30	4.9	87	32	37	2.20	30	5.0	85	32
	7.5	1.3	3.0	100	38	3.28	26	3.4	110	33	37	3.09	27	3.5	107	33	37	3.00	27	3.6	105	33
				120	37	4.43	21	2.4	130	34	36	4.18	22	2.5	126	34	36	4.06	22	2.6	125	34
				60	43	1.76	37	7.1	71	33	43	1.63	37	7.7	68	33	42	1.55	37	8.0	66	33
				80	44	2.40	36	5.3	92	34	44	2.26	36	5.7	88	34	44	2.18	36	5.9	86	34
40	11.3	2.4	5.5	100	43	3.25	32	3.9	112	34	43	3.07	33	4.1	108	34	43	2.97	33	4.2	106	34
				120	42	4.38	27	2.8	131	35	41	4.14	27	2.9	127	35	41	4.01	27	3.0	125	35
				60	39	1.78	33	6.4	70	36	39	1.63	33	6.9	67	36	38	1.55	33	7.2	65	36
				80	40	2.45	32	4.8	91	36	40	2.30	32	5.1	87	36	40	2.23	32	5.2	85	36
	15.0	3.8	8.9	100	39	3.31	28	3.5	110	36	39	3.12	28	3.7	107	36	39	3.03	29	3.8	105	36
				120	37	4.45	22	2.5	130	37	37	4.19	23	2.6	127	37	37	4.07	23	2.6	125	37
				60	41	1.77	35	6.8	71	41	41	1.62	35	7.4	67	41	41	1.55	35	7.7	65	41
				80	42	2.41	34	5.2	91	41	42	2.26	35	5.5	87	41	42	2.18	35	5.7	86	41
	7.5	1.3	2.9	100	42	3.26	31	3.8	111	42	42	3.07	31	4.0	107	42	42	2.97	32	4.1	106	42
				120	41	4.40	26	2.7	131	43	41	4.14	27	2.9	127	43	40	4.02	27	2.9	125	43
				60	43	1.77	37	7.2	72	43	43	1.64	38	7.8	68	43	43	1.57	38	8.1	66	43
				80	44	2.42	36	5.4	92	44	44	2.27	37	5.7	88	43	44	2.20	37	5.9	86	43
50	11.3	2.3	5.3	100	44	3.26	33	3.9	112	44	44	3.08	33	4.2	108	44	44	2.99	33	4.3	106	44
				120	42	4.39	27	2.8	131	45	42	4.14	28	3.0	127	45	42	4.02	28	3.0	126	45
				60	46	1.78	40	7.5	72	45	46	1.65	40	8.2	68	45	46	1.58	40	8.5	66	45
				80	47	2.44	38	5.6	92	45	47	2.29	39	6.0	88	45	47	2.21	39	6.2	86	45
	15.0	3.7	8.6	100	46	3.28	35	4.1	112	45	46	3.09	35	4.3	108	45	46	3.00	35	4.5	106	45
				120	44	4.38	29	2.9	132	46	43	4.14	29	3.1	128	46	43	4.01	29	3.2	126	46
				60	43	1.78	37	7.1	72	50	43	1.65	38	7.7	68	50	43	1.58	38	8.0	66	50
				80	45	2.39	37	5.5	92	50	45	2.25	37	5.9	88	50	45	2.17	37	6.0	86	50
	7.5	1.2	2.8	100	45	3.22	34	4.1	112	51	45	3.03	35	4.4	108	51	45	2.94	35	4.5	106	51
				120	46	4.35	31	3.1	132	52	45	4.10	31	3.2	128	52	45	3.98	31	3.3	126	52
				60	46	1.79	40	7.5	72	53	46	1.66	40	8.1	68	53	46	1.60	41	8.4	66	53
				80	47	2.41	39	5.8	93	53	47	2.27	40	6.1	88	53	47	2.19	40	6.3	86	53
60	11.3	2.2	5.2	100	47	3.24	36	4.3	113	54	47	3.05	37	4.6	108	53	47	2.96	37	4.7	106	53
				120	47	4.37	32	3.2	133	54	47	4.11	33	3.3	128	54	47	3.98	33	3.4	126	54
				60	49	1.80	43	7.9	73	54	49	1.67	43	8.6	69	54	49	1.61	43	8.9	67	54
				80	50	2.43	41	6.0	93	54	50	2.29	42	6.4	89	54	50	2.21	42	6.6	87	54
	15.0	3.6	8.3	100	50	3.26	39	4.5	113	55	50	3.07	39	4.7	109	55	50	2.98	39	4.9	107	55
				120	49	4.37	34	3.3	133	55	49	4.11	34	3.5	129	55	48	3.99	35	3.5	126	55
				60	45	1.80	39	7.4	72	60	46	1.68	40	8.0	68	59	45	1.61	40	8.3	66	59
				80	47	2.38	39	5.8	93	60	47	2.24	40	6.2	88	59	47	2.16	40	6.4	86	59
	7.5	1.2	2.8	100	48	3.19	38	4.5	113	60	48	3.00	38	4.7	109	60	48	2.91	38	4.9	106	60
				120	50	4.32	35	3.4	133	61	50	4.06	36	3.6	129	60	49	3.94	36	3.7	127	60
				60	48	1.81	42	7.8	73	62	49	1.68	43	8.5	69	62	49	1.62	43	8.8	66	62
				80	50	2.40	42	6.1	93	63	50	2.26	43	6.5	89	62	50	2.19	43	6.7	87	62
70	11.3	2.2	5.0	100	51	3.22	40	4.6	114	63	51	3.03	41	4.9	109	63	51	2.94	41	5.1	107	63
				120	52	4.34	37	3.5	134	63	51	4.09	38	3.7	129	63	51	3.96	38	3.8	127	63
				60	51	1.82	45	8.3	74	64	52	1.69	46	9.0	69	64	52	1.63	46	9.3	67	64
				80	53	2.43	45	6.4	94	64	53	2.28	45	6.8	89	64	53	2.21	46	7.1	87	64
	15.0	3.5	8.1	100	53	3.25	42	4.8	114	64	53	3.07	43	5.1	109	64	53	2.97	43	5.3	107	64
				120	54	4.37	39	3.6	134	65	54	4.11	39	3.8	129	65	53	3.98	40	3.9	127	65
				60	48	1.82	41	7.7	73	69	48	1.70	42	8.3	68	69	48	1.63	42	8.6	66	69
				80	50	2.37	42	6.2	93	69	50	2.23	42	6.6	89	69	50	2.15	43	6.8	87	69
	7.5	1.2	2.7	100	51	3.15	41	4.8	114	69	52	2.97	41	5.1	109	69	51	2.88	42	5.2	107	69
				120	54	4.28	39	3.7	134	70	54	4.03	40	3.9	130	69	53	3.90	40	4.0	127	69
				60	51	1.83	45	8.2	74	72	51	1.71	45	8.8	69	72	51	1.64	46	9.2	67	72
				80	53	2.40	45	6.5	94	72	53	2.25	46	6.9	89	72	53	2.18	46	7.2	87	72
80	11.3	2.1	4.8	100	54	3.20	43	5.0	114	72	54	3.01	44	5.3	110	72	54	2.92	44	5.5	107	72
				120	56	4.32	41	3.8	135	73	56	4.06	42	4.0	130	73	56	3.94	42	4.2	127	72
				60	54	1.83	48	8.7	74	74	55	1.71	49	9.4	70	73	55	1.65	49	9.7	67	73
				80	56	2.43	48	6.8	95	74	56	2.28	48	7.2	90	74	56	2.21	49	7.5	87	74
	15.0	3.4	7.8	100	57	3.25	46	5.2	115	74	57	3.05	47	5.5	110	74	57	2.96	47	5.7	108	74
				120	58	4.36	44	3.9	136	74	58	4.10	44	4.2	130	74	58	3.97	44	4.3	128	74

6 Ton - Two Stage Combination - Forced Air Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Full Load
MC071T Series - R410A **Magnum Series**
Rated Airflow: 2100 Heating / 2100 Cooling **Water Source Heat Pump**

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	9.0	2.3	5.4										
20	13.5	4.4	10.2						Operation Not Recommended				
	18.0	7.1	16.5	40.1	4.3	25.4	87.7	2.7					
	9.0	2.5	5.7										
30	13.5	4.3	9.9	47.1	4.4	32.0	90.7	3.1	79.3	48.7	3.0	89.5	26.6
	18.0	6.9	16.0	50.1	4.5	34.8	92.1	3.3	80.4	49.8	2.8	89.9	29.1
	9.0	1.7	3.9	55.5	4.6	40.0	94.5	3.6	77.6	48.2	3.5	89.7	21.9
40	13.5	3.2	7.4	59.2	4.6	43.5	96.1	3.8	79.6	49.4	3.3	90.7	24.4
	18.0	5.2	11.9	62.4	4.7	46.5	97.5	3.9	80.5	50.5	3.1	91.0	26.1
	9.0	1.6	3.8	65.2	4.7	49.0	98.7	4.0	77.0	48.6	3.9	90.1	20.0
50	13.5	3.1	7.2	68.2	4.8	51.8	100.1	4.2	79.1	49.7	3.6	91.2	22.2
	18.0	5.0	11.6	70.4	4.9	53.8	101.0	4.2	79.8	50.8	3.4	91.4	23.5
	9.0	1.6	3.7	72.6	4.9	55.7	102.0	4.3	75.6	48.5	4.2	89.9	18.1
60	13.5	3.0	7.0	76.6	5.0	59.5	103.8	4.5	77.9	49.6	3.9	91.1	20.2
	18.0	4.9	11.2	78.9	5.1	61.6	104.8	4.6	78.5	50.7	3.7	91.2	21.1
	9.0	1.5	3.6	80.2	5.2	62.6	105.4	4.6	73.6	47.9	4.5	89.1	16.2
70	13.5	2.9	6.7	85.4	5.2	67.6	107.7	4.8	76.0	49.1	4.2	90.4	18.1
	18.0	4.7	10.9	88.0	5.3	69.9	108.8	4.9	76.5	50.2	4.1	90.4	18.8
	9.0	1.5	3.4	88.2	5.4	69.8	108.9	4.8	70.8	47.0	4.9	87.7	14.4
80	13.5	2.8	6.5	94.8	5.5	76.2	111.8	5.1	73.5	48.2	4.6	89.1	16.1
	18.0	4.5	10.5	97.6	5.5	78.7	113.0	5.2	73.9	49.3	4.4	89.1	16.6
	9.0	1.4	3.3	94.3	5.7	75.0	111.6	4.9	67.4	45.7	5.4	85.8	12.6
90	13.5	2.7	6.3	104.7	5.7	85.2	116.2	5.4	70.3	46.8	5.0	87.2	14.2
	18.0	4.4	10.1	107.7	5.8	87.9	117.5	5.4	70.7	48.0	4.8	87.2	14.6
	9.0	1.4	3.2						63.4	44.0	5.9	83.4	10.8
100	13.5	2.6	6.1						66.4	45.1	5.4	84.9	12.3
	18.0	4.2	9.8	Operation Not Recommended					66.9	46.2	5.3	84.9	12.7
	9.0	1.3	3.1						58.8	41.8	6.4	80.6	9.2
110	13.5	2.5	5.8						61.9	43.0	5.9	82.1	10.5
	18.0	4.1	9.4						62.5	44.1	5.8	82.2	10.9

Part Load
Rated Airflow: 1650 Heating / 1550 Cooling

WATER/BRINE				Heating - EAT 70°F					Cooling - EAT 80/67°F				
EWT	**FLOW**	**PD**	**PD**	**HC**	**Pwr**	**HE**	**LAT**	**COP**	**TC**	**SC**	**Pwr**	**HR**	**EER**
°F	gpm	psi	ft.	kBtu/hr	kW	kBtu/hr	°F	0.0	kBtu/hr	kBtu/hr	kW	kBtu/hr	0.0
	8.5	2.1	5.0										
20	12.7	4.0	9.3						Operation Not Recommended				
	17.0	6.5	15.0	35.2	3.2	24.1	89.7	3.2					
	8.5	2.3	5.2										
30	12.7	3.9	9.0	39.6	3.3	28.5	92.2	3.6	59.8	36.3	1.8	65.9	33.5
	17.0	6.3	14.6	40.2	3.3	29.0	92.5	3.6	59.9	36.8	1.9	66.4	31.7
	8.5	1.6	3.6	43.6	3.3	32.5	94.5	3.9	59.1	36.4	2.2	66.5	27.3
40	12.7	2.9	6.7	45.1	3.3	33.9	95.3	4.0	60.1	36.9	2.0	67.0	29.8
	17.0	4.7	10.9	45.8	3.3	34.5	95.7	4.1	61.2	37.3	2.0	68.0	30.7
	8.5	1.5	3.5	49.1	3.3	37.8	97.6	4.3	58.8	36.7	2.4	67.1	24.4
50	12.7	2.8	6.5	51.3	3.3	40.0	98.8	4.5	59.9	37.1	2.3	67.6	26.5
	17.0	4.6	10.6	52.0	3.3	40.6	99.2	4.6	61.6	37.5	2.2	69.0	28.6
	8.5	1.5	3.4	55.0	3.3	43.6	100.9	4.8	58.0	36.6	2.7	67.1	21.7
60	12.7	2.7	6.3	58.0	3.3	46.6	102.5	5.1	59.1	37.0	2.5	67.7	23.5
	17.0	4.4	10.2	58.8	3.3	47.4	103.0	5.2	61.3	37.4	2.4	69.3	26.0
	8.5	1.4	3.3	61.4	3.4	49.9	104.5	5.3	56.6	36.2	3.0	66.7	19.1
70	12.7	2.7	6.1	65.3	3.4	53.9	106.7	5.7	57.8	36.6	2.8	67.4	20.7
	17.0	4.3	9.9	66.2	3.4	54.7	107.1	5.8	60.1	37.1	2.6	69.0	22.9
	8.5	1.4	3.2	68.2	3.4	56.6	108.3	5.9	54.7	35.5	3.3	65.9	16.6
80	12.7	2.6	5.9	73.3	3.4	61.8	111.1	6.4	56.0	36.0	3.1	66.6	18.0
	17.0	4.1	9.6	74.2	3.4	62.7	111.7	6.4	58.1	36.4	2.9	68.1	19.8
	8.5	1.3	3.1	75.5	3.4	63.8	112.4	6.4	52.2	34.6	3.7	64.8	14.2
90	12.7	2.5	5.7	81.9	3.4	70.3	115.9	7.1	53.6	35.0	3.5	65.4	15.5
	17.0	4.0	9.2	82.9	3.4	71.2	116.5	7.1	55.5	35.4	3.3	66.8	16.7
	8.5	1.3	2.9						49.3	33.3	4.1	63.4	11.9
100	12.7	2.4	5.5						50.8	33.7	3.9	64.0	13.1
	17.0	3.9	8.9	Operation Not Recommended					52.3	34.1	3.8	65.1	13.9
	8.5	1.2	2.8						45.9	31.7	4.7	61.8	9.8
110	12.7	2.3	5.3						47.4	32.1	4.4	62.4	10.8
	17.0	3.7	8.6						48.9	32.5	4.2	63.4	11.5

Interpolation is permissable; extrapolation is not.
Operation below 40°F EWT is based upon a 15% antifreeze solution.
All performance is based upon the lower voltage of dual voltage rated units.
Table does not reflect fan or pump power corrections for ARI/ISO conditions.
See performance correction tables for operating conditions other than those listed above.

6 Ton - Two Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Full Load Heating **Magnum Series**
MC0T Series - R410A **Water Source Heat Pump**

Source				Load	Load Flow 9 GPM						Load Flow 13.5 GPM						Load Flow 18 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	45	2.77	36	4.8	70	16	44	2.46	35	5.2	66	16	42	2.25	34	5.5	65	16
20	18.0	7.1	16.5	80	48	3.78	35	3.7	91	16	48	3.58	36	3.9	87	16	48	3.47	36	4.0	85	16
				100	48	4.82	31	2.9	111	17	47	4.60	32	3.0	107	16	47	4.49	32	3.1	105	16
				60	49	2.82	39	5.1	71	21	47	2.54	39	5.5	67	21	46	2.35	38	5.7	65	22
				80	52	3.79	39	4.0	91	21	51	3.58	39	4.2	88	21	51	3.48	39	4.3	86	21
	9.0	2.3	5.2	100	52	4.82	35	3.1	111	22	51	4.60	36	3.3	108	22	51	4.49	36	3.3	106	22
				120	51	6.03	30	2.5	131	23	50	5.76	30	2.5	127	23	49	5.62	30	2.6	125	23
				60	54	2.91	44	5.5	72	23	54	2.68	44	5.9	68	23	53	2.53	44	6.1	66	23
				80	57	3.84	44	4.3	93	24	57	3.64	44	4.6	88	23	56	3.54	44	4.7	86	23
30	13.5	4.3	9.9	100	56	4.88	40	3.4	113	24	56	4.66	40	3.5	108	24	56	4.54	40	3.6	106	24
				120	55	6.11	34	2.6	132	25	54	5.83	34	2.7	128	25	53	5.68	34	2.8	126	25
				60	52	2.90	43	5.3	72	25	51	2.66	42	5.7	68	25	51	2.50	42	5.9	66	25
				80	55	3.85	42	4.2	92	25	55	3.65	42	4.4	88	25	54	3.55	42	4.5	86	25
	18.0	6.9	16.0	100	54	4.89	37	3.2	112	26	54	4.67	38	3.4	108	26	53	4.55	38	3.4	106	26
				120	52	6.09	31	2.5	132	27	51	5.81	31	2.6	128	27	51	5.67	31	2.6	126	27
				60	56	2.92	46	5.6	72	30	55	2.70	46	6.0	68	30	54	2.56	45	6.2	66	30
				80	58	3.84	45	4.4	93	30	58	3.65	46	4.7	89	30	58	3.55	46	4.8	86	30
	9.0	1.7	3.9	100	58	4.88	41	3.5	113	31	58	4.66	42	3.6	109	31	57	4.54	42	3.7	106	31
				120	57	6.14	36	2.7	133	32	56	5.85	36	2.8	128	32	56	5.71	36	2.9	126	32
				60	65	3.06	55	6.3	75	32	65	2.88	55	6.6	70	32	65	2.77	55	6.9	67	32
				80	67	3.93	54	5.0	95	32	67	3.75	55	5.3	90	32	67	3.64	55	5.4	87	32
40	13.5	3.2	7.4	100	66	4.97	49	3.9	115	33	66	4.74	50	4.1	110	33	66	4.62	50	4.2	107	33
				120	65	6.25	43	3.0	134	34	64	5.96	44	3.1	129	34	63	5.80	44	3.2	127	34
				60	60	3.00	49	5.8	73	35	59	2.80	50	6.2	69	34	58	2.68	49	6.4	66	35
				80	61	3.92	48	4.6	94	35	61	3.72	49	4.8	89	35	61	3.63	49	4.9	87	35
	18.0	5.2	11.9	100	60	4.95	44	3.6	113	35	60	4.73	44	3.7	109	35	60	4.61	44	3.8	107	35
				120	58	6.18	37	2.8	133	36	57	5.89	37	2.9	128	36	57	5.75	37	2.9	126	36
				60	63	3.03	52	6.1	74	38	62	2.83	53	6.5	69	38	62	2.73	53	6.7	67	38
				80	65	3.91	52	4.9	94	38	65	3.72	52	5.1	90	38	65	3.62	53	5.3	87	38
	9.0	1.6	3.8	100	65	4.95	48	3.8	114	39	64	4.72	48	4.0	110	39	64	4.60	48	4.1	107	39
				120	64	6.24	42	3.0	134	41	63	5.94	42	3.1	129	41	62	5.80	42	3.1	127	41
				60	66	3.09	56	6.3	75	42	66	2.91	56	6.7	70	42	66	2.80	56	6.9	67	42
				80	68	3.96	55	5.1	95	42	68	3.77	56	5.3	90	42	68	3.67	56	5.5	88	42
50	13.5	3.1	7.2	100	67	4.99	50	4.0	115	43	67	4.77	51	4.1	110	42	67	4.66	51	4.2	107	42
				120	66	6.28	44	3.1	135	43	65	5.98	44	3.2	130	43	64	5.83	44	3.2	127	43
				60	70	3.14	59	6.5	76	43	70	2.97	60	6.9	70	43	70	2.88	60	7.1	68	43
				80	72	4.02	58	5.2	96	44	72	3.83	59	5.5	91	43	72	3.73	59	5.6	88	43
	18.0	5.0	11.6	100	70	5.05	53	4.1	116	44	70	4.82	54	4.3	110	44	70	4.71	54	4.4	108	44
				120	68	6.30	46	3.1	135	45	67	6.01	46	3.3	130	45	66	5.85	46	3.3	127	45
				60	66	3.10	56	6.3	75	48	66	2.92	56	6.6	70	48	66	2.83	56	6.8	67	48
				80	69	3.93	55	5.1	95	48	69	3.75	56	5.4	90	48	69	3.65	56	5.5	88	47
	9.0	1.6	3.7	100	69	4.96	52	4.1	115	48	69	4.74	53	4.3	110	48	69	4.63	53	4.4	108	48
				120	70	6.31	49	3.3	136	49	69	6.01	49	3.4	130	49	69	5.86	49	3.5	128	49
				60	70	3.17	60	6.5	76	51	70	2.99	60	6.9	70	51	70	2.90	60	7.1	68	51
				80	73	4.00	59	5.3	96	51	73	3.82	60	5.6	91	51	73	3.72	60	5.7	88	51
60	13.5	3.0	7.0	100	73	5.03	56	4.2	116	52	73	4.80	56	4.4	111	52	73	4.69	57	4.5	108	52
				120	73	6.37	51	3.3	136	52	72	6.06	51	3.5	131	52	72	5.90	51	3.6	128	52
				60	75	3.23	64	6.8	77	53	75	3.07	64	7.2	71	53	75	2.98	65	7.4	68	53
				80	76	4.06	63	5.5	97	53	77	3.88	64	5.8	91	53	77	3.79	64	5.9	89	53
	18.0	4.9	11.2	100	76	5.11	59	4.4	117	53	76	4.87	60	4.6	111	53	76	4.75	60	4.7	108	53
				120	75	6.42	53	3.4	137	54	75	6.11	54	3.6	131	54	74	5.95	54	3.6	128	54
				60	70	3.17	59	6.4	75	57	70	3.00	59	6.8	70	57	69	2.90	60	7.0	68	57
				80	73	3.96	59	5.4	96	57	73	3.78	60	5.7	91	57	73	3.68	60	5.8	88	57
	9.0	1.5	3.6	100	74	4.99	57	4.4	117	57	74	4.76	58	4.6	111	57	74	4.64	58	4.7	108	57
				120	77	6.38	55	3.5	137	58	76	6.06	55	3.7	131	58	76	5.91	55	3.7	128	58
				60	74	3.24	63	6.7	77	61	75	3.07	64	7.1	71	61	74	2.98	64	7.3	68	60
				80	77	4.04	63	5.6	97	61	77	3.86	64	5.9	91	60	77	3.76	64	6.0	89	60
70	13.5	2.9	6.7	100	78	5.07	61	4.5	117	61	78	4.84	62	4.7	112	61	78	4.73	62	4.8	109	61
				120	80	6.45	58	3.6	138	61	79	6.14	58	3.8	132	61	79	5.98	58	3.9	129	61
				60	79	3.30	68	7.0	78	62	79	3.14	69	7.4	72	62	79	3.07	69	7.6	69	62
				80	81	4.11	67	5.8	98	63	82	3.93	68	6.1	92	62	82	3.83	69	6.2	89	62
	18.0	4.7	10.9	100	82	5.16	65	4.7	118	63	82	4.93	65	4.9	112	63	82	4.81	66	5.0	109	63
				120	83	6.53	61	3.7	138	63	82	6.21	61	3.9	132	63	82	6.04	61	4.0	129	63
				60	73	3.24	62	6.6	76	66	73	3.08	63	7.0	71	66	73	2.99	63	7.2	68	66
				80	77	3.99	63	5.6	97	66	77	3.81	64	5.9	91	66	77	3.71	64	6.1	89	66
	9.0	1.5	3.4	100	79	5.00	62	4.6	118	66	79	4.77	63	4.9	112	66	79	4.66	63	5.0	109	66
				120	83	6.44	61	3.8	139	66	83	6.12	62	4.0	132	66	82	5.96	62	4.0	129	66
				60	78	3.31	67	6.9	77	70	79	3.15	68	7.3	72	70	78	3.07	68	7.5	69	70
				80	81	4.08	67	5.8	98	70	82	3.89	68	6.2	92	70	82	3.80	69	6.3	89	70
80	13.5	2.8	6.5	100	83	5.11	66	4.8	119	70	84	4.88	67	5.0	112	70	84	4.77	67	5.1	109	70
				120	87	6.53	65	3.9	139	70	86	6.21	65	4.1	133	70	86	6.05	65	4.2	130	70
				60	83	3.37	72	7.2	78	72	84	3.22	73	7.6	72	72	84	3.14	73	7.8	69	72
				80	86	4.17	72	6.1	99	72	87	3.98	73	6.4	93	72	86	3.89	73	6.5	90	72
	18.0	4.5	10.5	100	88	5.22	70	4.9	120	72	88	4.98	71	5.2	113	72	88	4.86	71	5.3	110	72
				120	91	6.63	68	4.0	140	72	90	6.30	69	4.2	133	72	90	6.14	69	4.3	130	72

6 Ton - Two Stage Combination - Hydronics Submittal/Performance Data

Project:_____ Date._____
Engineer:_____Unit No._____
Contractor:_____ PO._____

GFM GeoFurnace Manufacturing

Part Load Heating **Magnum Series**
MC0T Series - R410A **Water Source Heat Pump**

Source				Load	Load Flow 9 GPM						Load Flow 13.5 GPM						Load Flow 18 GPM					
EST	Flow	WPD		ELT	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST	HC	Power	HE	COP	LLT	LST
°F	GPM	PSI	FT	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F	Mbtuh	kW	Mbtuh		°F	°F
				60	34	2.08	27	4.8	68	17	32	1.79	26	5.3	65	17	31	1.59	26	5.7	63	17
20	18.0	7.1	16.5	80	37	3.07	27	3.5	88	17	37	2.87	27	3.7	85	17	36	2.76	27	3.8	84	17
				100	38	4.22	24	2.6	108	17	37	3.99	24	2.8	106	17	37	3.87	24	2.8	104	17
				60	36	2.08	29	5.1	68	23	35	1.82	29	5.7	65	24	34	1.64	28	6.1	64	24
				80	40	3.01	29	3.9	89	23	39	2.80	30	4.1	86	23	39	2.71	30	4.2	84	23
	9.0	2.3	5.2	100	41	4.11	27	2.9	109	24	40	3.88	27	3.0	106	24	40	3.77	27	3.1	104	24
				120	42	5.55	23	2.2	129	25	41	5.26	23	2.3	126	25	40	5.11	23	2.3	124	25
				60	41	2.10	34	5.7	69	25	40	1.88	34	6.2	66	25	39	1.75	33	6.6	64	25
				80	43	2.97	33	4.3	90	25	43	2.77	34	4.6	86	25	43	2.68	34	4.7	85	25
30	13.5	4.3	9.9	100	44	4.04	30	3.2	110	26	44	3.82	31	3.4	106	25	43	3.70	31	3.4	105	25
				120	45	5.46	26	2.4	130	26	44	5.17	26	2.5	126	26	43	5.02	26	2.5	125	26
				60	39	2.11	32	5.5	69	26	38	1.88	32	6.0	66	26	38	1.74	32	6.3	64	26
				80	42	3.01	32	4.1	89	26	42	2.82	32	4.3	86	26	41	2.72	32	4.4	85	26
	18.0	6.9	16.0	100	42	4.12	28	3.0	109	27	42	3.89	29	3.2	106	27	42	3.77	29	3.2	105	27
				120	43	5.55	24	2.3	130	27	42	5.26	24	2.3	126	27	41	5.11	24	2.4	125	27
				60	42	2.10	35	5.8	69	32	41	1.89	35	6.4	66	32	40	1.76	34	6.7	64	32
				80	45	2.95	34	4.4	90	32	44	2.76	35	4.7	87	32	44	2.67	35	4.8	85	32
	9.0	1.7	3.9	100	45	4.00	32	3.3	110	33	45	3.78	32	3.5	107	33	45	3.66	32	3.6	105	33
				120	46	5.41	28	2.5	130	34	45	5.11	28	2.6	127	34	45	4.97	28	2.6	125	34
				60	50	2.12	42	6.9	71	34	49	1.95	43	7.4	67	34	49	1.85	43	7.7	65	34
				80	52	2.89	42	5.2	91	34	52	2.72	42	5.5	88	34	51	2.63	42	5.7	86	34
40	13.5	3.2	7.4	100	52	3.90	38	3.9	111	34	51	3.68	39	4.1	108	34	51	3.57	39	4.2	106	34
				120	52	5.26	34	2.9	132	35	51	4.98	34	3.0	128	35	50	4.83	34	3.1	126	35
				60	45	2.12	38	6.2	70	36	44	1.94	38	6.7	67	36	44	1.83	38	7.0	65	36
				80	47	2.97	37	4.6	90	36	47	2.78	37	4.9	87	36	47	2.70	37	5.1	85	36
	18.0	5.2	11.9	100	47	4.02	34	3.4	110	36	47	3.80	34	3.6	107	36	47	3.68	34	3.7	105	36
				120	47	5.41	29	2.6	130	37	46	5.11	29	2.6	127	37	46	4.97	29	2.7	125	37
				60	47	2.12	40	6.6	71	41	47	1.93	40	7.2	67	41	47	1.84	40	7.4	65	41
				80	50	2.90	40	5.0	91	41	50	2.73	40	5.3	87	41	49	2.63	40	5.5	85	41
	9.0	1.6	3.8	100	50	3.92	37	3.8	111	42	50	3.70	37	4.0	107	42	50	3.59	37	4.1	106	42
				120	51	5.29	33	2.8	131	43	50	5.00	33	2.9	127	43	49	4.86	33	3.0	125	43
				60	50	2.13	43	6.9	71	44	50	1.97	43	7.5	67	44	50	1.87	43	7.8	66	44
				80	52	2.90	42	5.3	92	44	52	2.73	43	5.6	88	44	52	2.64	43	5.8	86	44
50	13.5	3.1	7.2	100	52	3.90	39	3.9	112	44	52	3.69	40	4.1	108	44	52	3.58	40	4.2	106	44
				120	52	5.26	34	2.9	132	45	52	4.97	35	3.0	128	45	51	4.83	34	3.1	126	45
				60	53	2.14	46	7.3	72	45	53	1.99	46	7.8	68	45	53	1.90	47	8.2	66	45
				80	55	2.91	45	5.5	92	45	55	2.74	46	5.9	88	45	55	2.65	46	6.1	86	45
	18.0	5.0	11.6	100	55	3.90	41	4.1	112	45	54	3.68	42	4.3	108	45	54	3.57	42	4.4	106	45
				120	54	5.22	36	3.0	132	46	53	4.94	36	3.1	128	46	53	4.79	36	3.2	126	46
				60	50	2.14	43	6.9	71	50	50	1.98	43	7.4	67	50	50	1.89	43	7.7	66	50
				80	53	2.87	43	5.4	92	50	53	2.70	44	5.7	88	50	53	2.61	44	5.9	86	50
	9.0	1.6	3.7	100	54	3.83	41	4.1	112	51	54	3.62	41	4.3	108	51	53	3.52	41	4.5	106	51
				120	56	5.16	38	3.2	132	52	55	4.87	38	3.3	128	51	54	4.73	38	3.4	126	51
				60	54	2.16	46	7.3	72	53	53	2.00	47	7.8	68	53	53	1.93	47	8.1	66	53
				80	56	2.88	46	5.7	92	53	56	2.72	47	6.0	88	53	56	2.63	47	6.2	86	53
60	13.5	3.0	7.0	100	57	3.83	43	4.3	113	54	56	3.62	44	4.6	108	53	56	3.52	44	4.7	106	53
				120	58	5.14	40	3.3	133	54	57	4.85	40	3.4	128	54	56	4.71	40	3.5	126	54
				60	57	2.18	49	7.7	73	55	57	2.03	50	8.2	68	54	57	1.95	50	8.5	66	54
				80	59	2.89	49	5.9	93	55	59	2.73	50	6.3	89	54	59	2.65	50	6.5	87	54
	18.0	4.9	11.2	100	59	3.84	46	4.5	113	55	59	3.62	47	4.8	109	55	59	3.52	47	4.9	107	55
				120	60	5.12	42	3.4	133	55	59	4.83	42	3.6	129	55	58	4.69	42	3.6	126	55
				60	53	2.17	46	7.1	72	60	53	2.02	46	7.7	68	60	53	1.93	46	8.0	66	60
				80	56	2.85	46	5.7	92	60	56	2.68	47	6.1	88	60	56	2.59	47	6.3	86	60
	9.0	1.5	3.6	100	58	3.76	45	4.5	113	60	57	3.55	45	4.7	108	60	57	3.45	45	4.9	106	60
				120	61	5.04	43	3.5	133	60	60	4.75	44	3.7	129	60	59	4.62	44	3.8	127	60
				60	57	2.19	49	7.6	73	63	57	2.04	50	8.1	68	63	57	1.96	50	8.4	66	63
				80	59	2.86	49	6.1	93	63	59	2.70	50	6.4	89	63	59	2.62	50	6.6	87	63
70	13.5	2.9	6.7	100	61	3.77	48	4.7	113	63	60	3.56	48	5.0	109	63	60	3.46	48	5.1	107	63
				120	63	5.03	46	3.7	134	63	62	4.75	46	3.8	129	63	62	4.61	46	3.9	127	63
				60	60	2.20	53	8.0	73	64	60	2.06	53	8.6	69	64	60	1.99	54	8.9	67	64
				80	62	2.88	53	6.4	94	64	63	2.71	53	6.8	89	64	63	2.63	54	7.0	87	64
	18.0	4.7	10.9	100	64	3.79	51	4.9	114	64	64	3.58	51	5.2	109	64	63	3.48	52	5.3	107	64
				120	65	5.03	48	3.8	135	65	65	4.74	49	4.0	130	65	64	4.60	49	4.1	127	65
				60	56	2.20	48	7.4	72	69	56	2.06	49	7.9	68	69	56	1.98	49	8.2	66	69
				80	59	2.82	49	6.1	93	69	59	2.66	50	6.5	89	69	59	2.58	50	6.7	87	69
	9.0	1.5	3.4	100	61	3.69	49	4.9	114	69	61	3.49	49	5.1	109	69	61	3.39	49	5.3	107	69
				120	66	4.94	49	3.9	135	69	65	4.65	49	4.1	130	69	64	4.52	49	4.2	127	69
				60	60	2.22	52	7.9	73	72	60	2.08	53	8.5	69	72	60	2.00	53	8.8	67	72
				80	62	2.85	53	6.4	94	72	63	2.68	54	6.9	89	72	63	2.60	54	7.1	87	72
80	13.5	2.8	6.5	100	65	3.71	52	5.1	114	72	65	3.51	53	5.4	110	72	65	3.41	53	5.5	107	72
				120	68	4.94	52	4.1	135	72	68	4.66	52	4.3	130	72	67	4.52	52	4.4	127	72
				60	64	2.23	56	8.4	74	74	64	2.09	57	9.0	69	74	64	2.02	57	9.3	67	74
				80	66	2.87	56	6.8	95	74	67	2.71	57	7.2	90	74	66	2.63	58	7.4	87	74
	18.0	4.5	10.5	100	68	3.74	56	5.3	115	74	68	3.53	56	5.7	110	74	68	3.43	56	5.8	108	74
				120	71	4.95	54	4.2	136	74	71	4.66	55	4.4	130	74	70	4.53	55	4.5	128	74