

SUBMITTAL DATA



PREMIUM **V**

60Hz / R-454B

SDW7-0018S



Contractor: _____ P.O.: _____

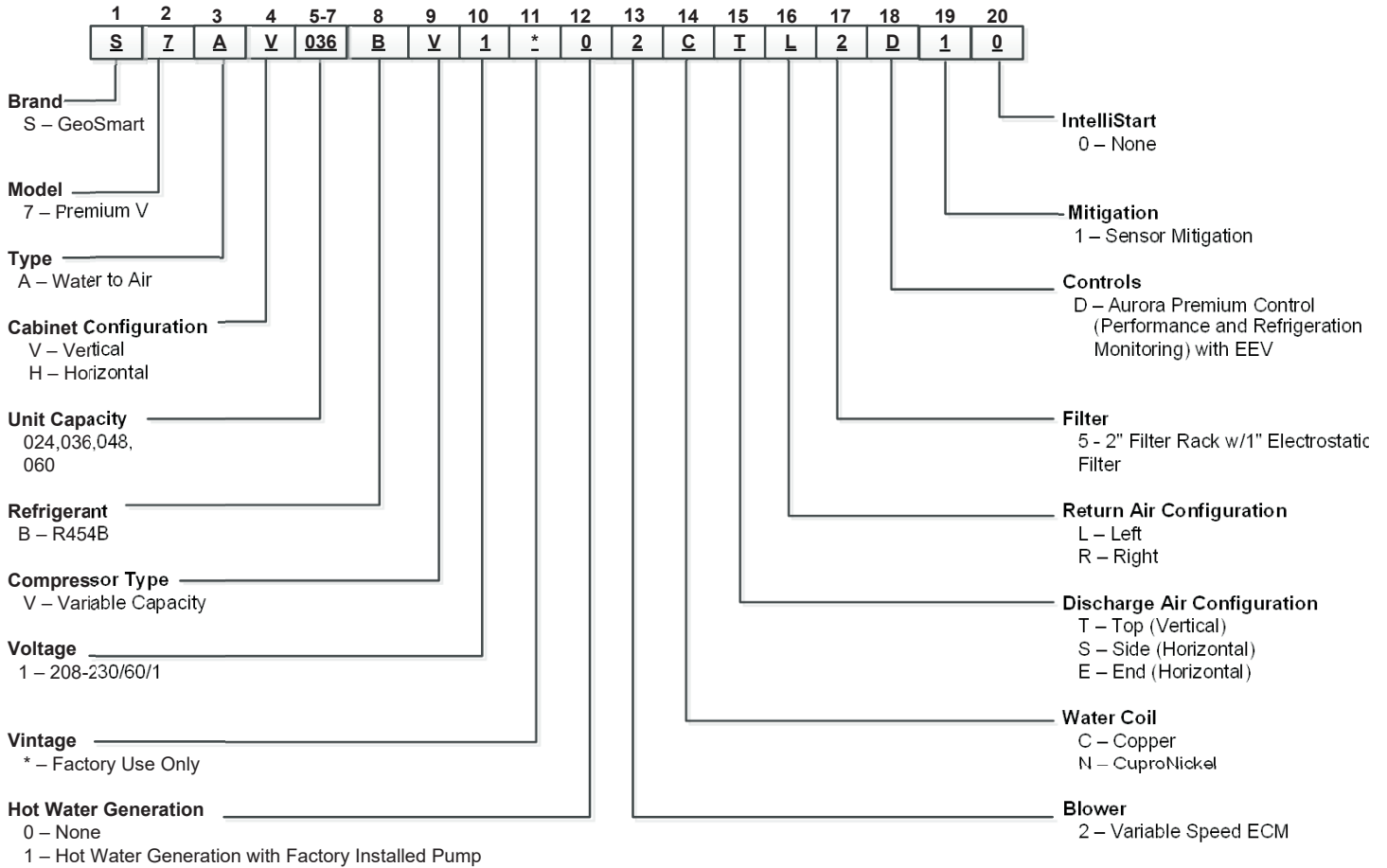
Engineer: _____

Project Name: _____ Unit Tag: _____

Premium V Series
3 - 6 Tons 60Hz

GEOSMART
ENERGY

Nomenclature



Rev.: 7/31/24

Contractor: _____ P.O.: _____

Engineer: _____

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Premium V Series
3 - 6 Tons 60Hz



AHRI/ISO 13256-1 Performance Ratings

Variable Speed Residential AHRI Data

ECM Motor
AHRI/ASHRAE/ISO 13256-1
English (IP) Units

Model	Capacity Modulation	Flow Rate Clg/Htg cfm	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
			Cooling EWT 86°F		Heating EWT 68°F		Cooling EWT 59°F		Heating EWT 50°F		Cooling Full Load 77°F Part Load 68°F		Heating Full Load 32°F Part Load 41°F	
			Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
024	Full	850/1150	22,200	16.9	39,200	6.0	26,300	37.8	32,100	5.0	24,100	23.6	24,800	4.1
	Part		9,300	21.5	13,500	8.4	11,900	57.4	10,100	6.0	13,400	41.0	12,400	5.1
036	Full	1300/1500	33,500	15.3	51,800	5.4	38,200	28.7	41,900	4.7	35,800	18.1	32,900	3.8
	Part		11,900	20.4	17,000	7.9	11,400	51.6	14,000	5.9	13,400	41.0	12,400	5.1
048	Full	1500/1800	41,500	16.0	66,000	4.8	49,000	27.4	54,500	4.2	45,000	18.9	42,000	3.6
	Part		20,000	24.0	23,200	7.8	19,000	56.0	19,000	6.1	15,600	47.0	16,900	5.1
060	Full	1800/2200	50,000	15.3	79,800	4.7	60,700	23.4	66,000	4.3	56,000	17.1	51,700	3.5
	Part		20,400	23.7	28,300	8.0	27,000	54.2	22,100	5.9	22,700	42.0	19,400	5.2

Cooling capacities based upon 80.6°F DB, 66.2°F WB entering air temperature
Heating capacities based upon 68°F DB, 59°F WB entering air temperature
All ratings based upon 208V operation

6/13/24

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AHRI/ISO 13256-1 Performance Ratings

Energy Star Compliance Table

Model	Tier 3	
	Ground Water	Ground Loop
024	E	E
036	E	E
048	E	E
060	E	E

5/14/24

Energy Star Rating Criteria

In order for water-source heat pumps to be Energy Star rated they must meet or exceed the minimum efficiency requirements listed below. Tier 3 represents the current minimum efficiency water source heat pumps must have in order to be Energy Star rated.

Tier 3: 1/1/2012 - No Effective End Date Published

	EER	COP
Water-to-Air		
Ground Loop	17.1	3.6
Ground Water	21.1	4.1
Water-to-Water		
Ground Loop	16.1	3.1
Ground Water	20.1	3.5



Contractor: _____ P.O.: _____

Engineer: _____

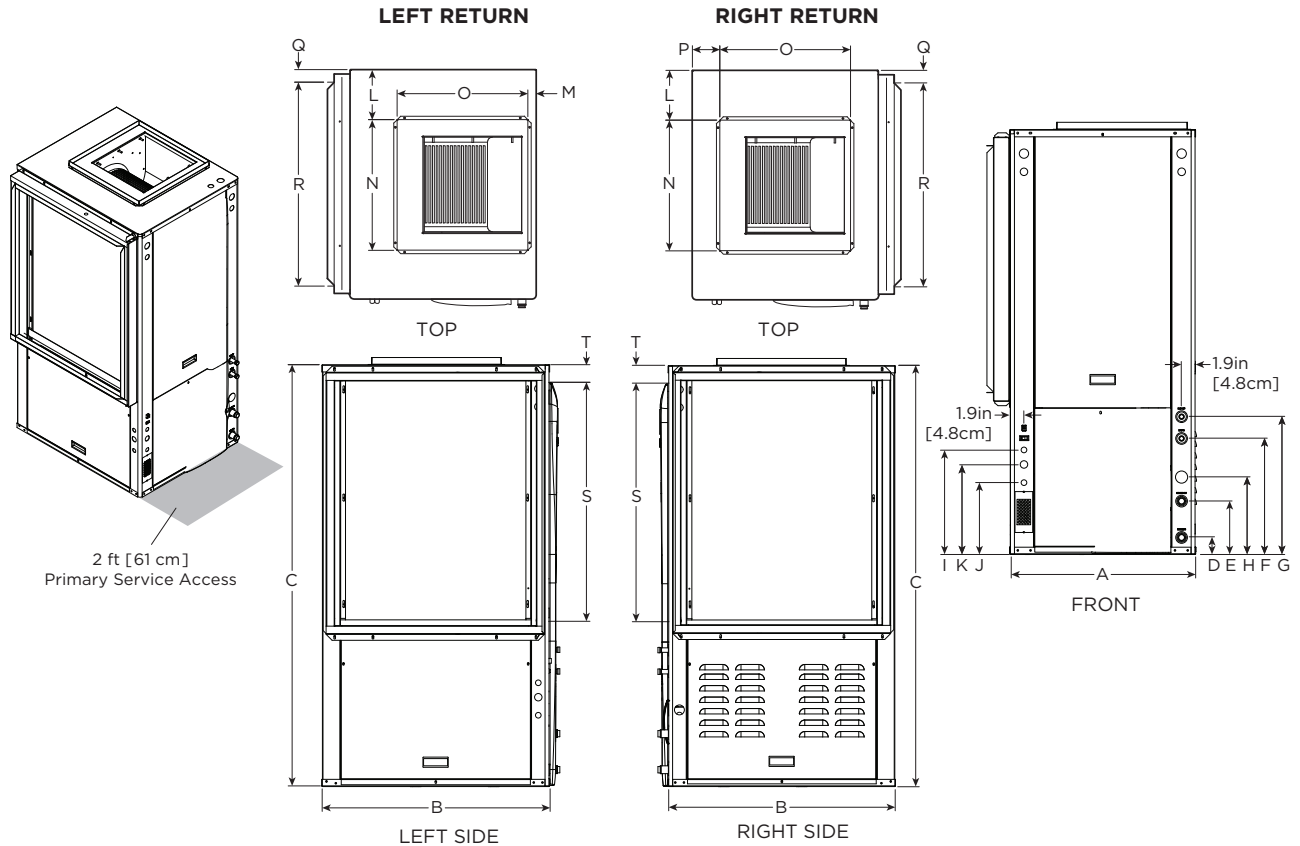
Project Name: _____ Unit Tag: _____

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Dimensional Data - Vertical

Top Air Discharge



Vertical Top Flow Model	Overall Cabinet			Water Connections								Electrical Connections			Discharge Connection duct flange installed (± 0.10 in.)					Return Connection using std deluxe filter rack (± 0.10)			
	A	B	C	D	E	F	G	H	Loop Water FPT	HWG (O.D.)	I	J	K	L	M	N	O	P	Q	R	S	T	
	Width	Depth	Height	Loop In	Loop Out	HWG In	HWG Out	Condensate			1/2" cond	1/2" cond	3/4" cond	Low Voltage	Ext Pump	Power Supply	Supply Width	Supply Depth	Return Depth	Return Height			
024-036	in.	25.6	31.6	54.4	2.3	7.3	15.9	18.9	10.6	1" Swivel	1/2" Stub	14.3	9.8	12.3	6.9	1.1	18.0	18.0	3.8	1.7	28.1	30.0	1.7
	cm.	65.0	80.3	138.2	5.8	18.5	40.4	48.0	26.9			36.3	24.9	31.2	17.5	2.8	45.7	45.7	9.7	4.3	71.4	76.2	4.3
048	in.	25.6	31.6	54.4	2.3	7.3	15.9	18.9	10.6	1" Swivel	1/2" Stub	14.3	9.8	12.3	6.9	1.1	18.0	18.0	3.8	1.7	28.1	30.0	1.7
	cm.	65.0	80.3	138.2	5.8	18.5	40.4	48.0	26.9			36.3	24.9	31.2	17.5	2.8	45.7	45.7	9.7	4.3	71.4	76.2	4.3
060	in.	25.6	31.6	58.4	2.3	7.3	15.9	18.9	10.6	1" Swivel	1/2" Stub	14.3	9.8	12.3	6.9	1.1	18.0	18.0	3.8	1.7	28.1	34.0	1.7
	cm.	65.0	80.3	148.3	5.8	18.5	40.4	48.0	26.9			36.3	24.9	31.2	17.5	2.8	45.7	45.7	9.7	4.3	71.4	86.4	4.3

Condensate is 3/4" PVC female glue socket and is switchable from side to front
Unit shipped with deluxe 2" (field adjustable to 1") duct collar/filter rack extending from unit 3.25" and is suitable for duct connection.
Discharge flange is field installed and extends 1" [25.4mm] from cabinet
Decorative molding and/or water connections extend 1.2" [30.5mm] beyond front of cabinet.
Louvered vents in the compressor section right side access panel extend 1/2" [12.7 mm] from side of cabinet. Allow clearance for venting.

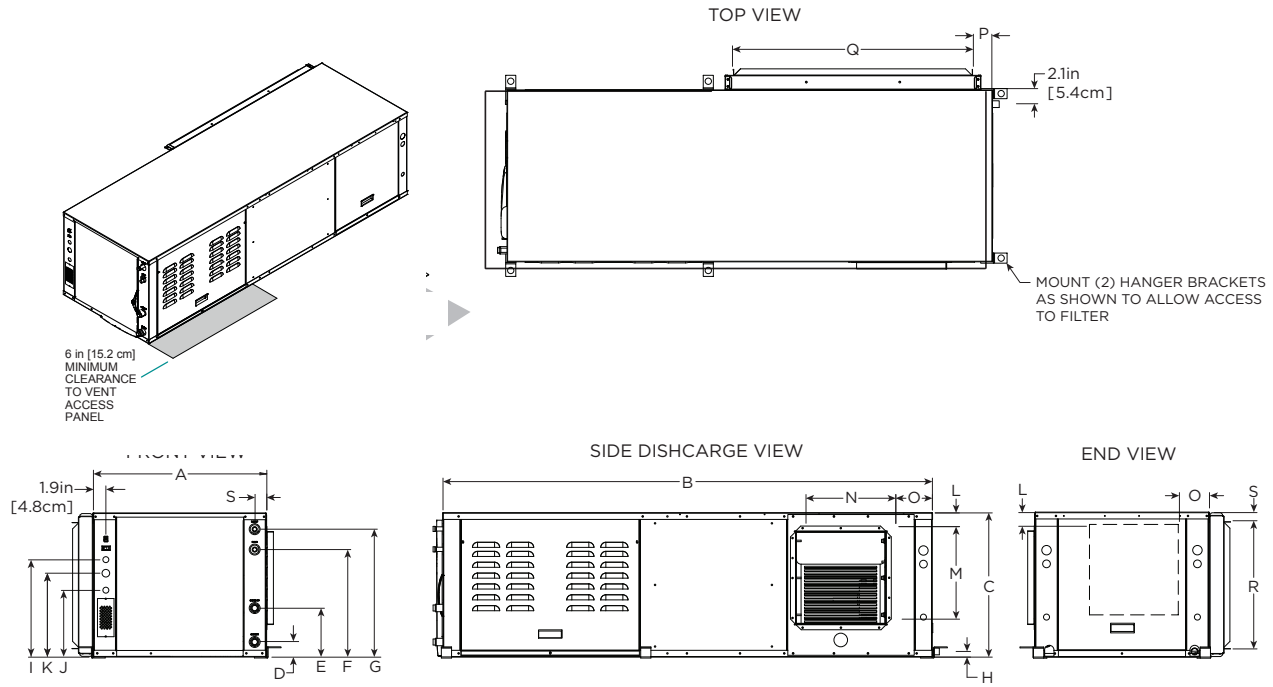
05/10/24

Contractor: _____ P.O.: _____
 Engineer: _____
 Project Name: _____ Unit Tag: _____

Premium V Series
 3 - 6 Tons 60Hz

GEOSMART
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Dimensional Data - Horizontal



AS SHOWN LR UNIT (RR UNIT ON OPPOSITE SIDE—SAME DIMENSIONS)

Horizontal Models	Overall Cabinet			Water Connections								Electrical Connections			Discharge Connection duct flange installed (± 0.10 in.)				Return Connection using std deluxe filter rack (± 0.10)			
	A	B	C	D	E	F	G	H	Loop Water FPT	HWG Sweat (O.D.)	I	J	K	L	M	N	O	P	Q	R	S	
	Width	Depth	Height	In	Out	HWG In	HWG Out	Condensate			1/2" cond	1/2" cond	3/4" cond	Supply Height	Supply Depth			Return Depth	Return Height			
024-036	in.	25.6	77.0	21.3	2.3	7.3	15.9	18.9	0.8	1"	1/2"	14.3	9.8	12.3	SEE CHART	13.6	13.2	SEE CHART	2.8	40.4	18.9	1.3
	cm.	65.0	195.6	54.1	5.8	18.5	40.4	48.0	2.0	Swivel	Stub	36.3	24.9	31.2	SEE CHART	34.5	33.5	SEE CHART	7.1	102.6	48.0	3.3
048	in.	25.6	77.0	21.3	2.3	7.3	15.9	18.9	0.8	1"	1/2"	14.3	9.8	12.3	SEE CHART	13.6	13.2	SEE CHART	2.8	40.4	18.9	1.3
	cm.	65.0	195.6	54.1	5.8	18.5	40.4	48.0	2.0	Swivel	Stub	36.3	24.9	31.2	SEE CHART	34.5	33.5	SEE CHART	7.1	102.6	48.0	3.3
060	in.	25.6	82.0	21.3	2.3	7.3	15.9	18.9	0.8	1"	1/2"	14.3	9.8	12.3	SEE CHART	13.6	13.2	SEE CHART	2.8	45.4	18.9	1.3
	cm.	65.0	208.3	54.1	5.8	18.5	40.4	48.0	2.0	Swivel	Stub	36.3	24.9	31.2	SEE CHART	34.5	33.5	SEE CHART	7.1	115.3	48.0	3.3

Condensate is 3/4" PVC female glue socket and is switchable from side to front

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Unit shipped with deluxe 2" (field adjustable to 1") duct collar/filter rack extending from unit 3.25" and is suitable for duct connection.

Discharge flange is field installed and extends 1" [25.4mm] from cabinet

Decorative molding and/or water connections extend 1.2" [30.5mm] beyond front of cabinet.

Louvered vents in the compressor section right side access panel extend 1/2" [12.7 mm] from side of cabinet. Allow clearance for venting.

Units Not Shown Above		L	O
Right Return End Discharge	in	2.8	4.6
	cm	7.1	11.8
Right Return Side Discharge	in	4.9	6.9
	cm	12.4	17.5
Left Return End Discharge	in	4.9	7.6
	cm	12.4	19.4
Left Return Side Discharge	in	2.8	6.9
	cm	7.1	17.5

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Physical Data

Model		024	036	048	060
Compressor (1 each)		Variable Speed Scroll			
Factory Charge R454B, oz [kg]	Vertical	64 [1.81]	64 [1.81]	95 [2.69]	110 [3.12]
Factory Charge R454B, oz [kg]	Horizontal	60 [1.70]	60 [1.70]	91 [2.58]	118 [3.35]
Factory Charge R454B, oz [kg]	Vertical MHGR Only	n/a	66 [1.87]	97 [2.75]	112 [3.18]
Factory Charge R454B, oz [kg]	Horizontal MHGR Only	n/a	62 [1.76]	93 [2.64]	120 [3.40]
ECM Blower Motor & Blower		Variable Speed			
Blower Motor Type/Speeds	ECM				
Blower Motor- hp [W]	ECM	1/2 [373]	1/2 [373]	1 [746]	1 [746]
High Static Blower Motor - hp [W]	ECM	1 [746]	1 [746]	n/a	n/a
Blower Wheel Size (Dia x W), in. [mm]	ECM	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
High Static Blower Wheel Size - [Dia. x W], in. [mm]	ECM	11 x 10 [279 x 254]	11 x 10 [279 x 254]	n/a	n/a
Coax and Water Piping					
Water Connections Size - Swivel - in [mm]		1" [25.4]	1" [25.4]	1" [25.4]	1" [25.4]
HWG Connection Size - Stub - in [mm]		1/2" [12.7]	1/2" [12.7]	1/2" [12.7]	1/2" [12.7]
Coax & Piping Water Volume - gal [l]		1.3 [4.9]	1.3 [4.9]	2.3 [8.7]	2.3 [8.7]
Vertical					
Air Coil Dimensions (H x W), in. [mm]		32 x 25 [813 x 635]	32 x 25 [813 x 635]	32 x 25 [813 x 635]	36 x 25 [914 x 635]
Air Coil Total Face Area, ft2 [m2]		5.6 [0.570]	5.6 [0.570]	5.6 [0.570]	6.3 [0.641]
Air Coil Tube Size, in [mm]		3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]
Air Coil Number of rows		3	3	3	4
Reheat Coil Dimensions (H x W), in. [mm] (MHGR Only)		23 x 30 [584 x 762]	23 x 30 [584 x 762]	23 x 30 [584 x 762]	23 x 34 [584 x 864]
Filter Standard - 2" [51mm] Pleated MERV11 Throwaway, in [mm]		32 x 30 [813 x 762]	32 x 30 [813 x 762]	32 x 30 [813 x 762]	36 x 30 [914 x 762]
Weight - Operating, lb [kg]		331 [150]	331 [150]	354 [161]	372 [169]
Weight - Packaged, lb [kg]		351 [159]	351 [159]	374 [170]	392 [178]
Weight - Operating, lb [kg] (MHGR Only)		n/a	382 [173]	418 [190]	444 [201]
Weight - Packaged, lb [kg] (MHGR Only)		n/a	402 [182]	438 [199]	464 [210]
Horizontal					
Air Coil Dimensions (H x W), in. [mm]		20 x 40 [508 x 1016]	20 x 40 [508 x 1016]	20 x 40 [508 x 1016]	20 x 45 [508 x 1143]
Air Coil Total Face Area, ft2 [m2]		5.6 [0.570]	5.6 [0.570]	5.6 [0.570]	6.3 [0.641]
Air Coil Tube Size, in [mm]		3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]
Air Coil Number of rows		3	3	3	4
Reheat Coil Dimensions (H x W), in. [mm] (MHGR Only)		18 x 33 [457 x 838]	18 x 33 [457 x 838]	18 x 33 [457 x 838]	18 x 38 [457 x 965]
Filter Standard - 2" [51mm] Pleated MERV11 Throwaway, in [mm]		1 - 20 x 20 [508 x 508] 1 - 20 x 22 [508 x 559]	1 - 20 x 20 [508 x 508] 1 - 20 x 22 [508 x 559]	1 - 20 x 20 [508 x 508] 1 - 20 x 22 [508 x 559]	1 - 20 x 25 [508 x 635] 1 - 20 x 22 [508 x 559]
Weight - Operating, lb [kg]		365 [166]	365 [166]	388 [176]	402 [182]
Weight - Packaged, lb [kg]		395 [179]	395 [179]	418 [190]	432 [196]
Weight - Operating, lb [kg] (MHGR Only)		n/a	387 [176]	452 [205]	494 [224]
Weight - Packaged, lb [kg] (MHGR Only)		n/a	407 [185]	482 [219]	514 [233]

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Auxiliary Heat Ratings

Model	KW		Stages	BTU/HR		Min CFM	Variable Speed Compatibility		
	208V	230V		208V	230V		024-036	048	060
EAL(H)10	7.2	9.6	2	24,600	32,700	1100	•	•	•
EAL(H)15	10.8	14.4	3	36,900	49,100	1250	•	•	•
EAL(H)20	14.4	19.2	4	49,200	65,500	1500		•	•

Air flow level for auxiliary heat (Aux) must be above the minimum cfm in this table
Order the "H" part number when installed on horizontal and vertical rear discharge units

5/10/24

Auxiliary Heat Electrical Data

Model	Supply Circuit	Heater Amps		Min Circuit Amp		Max Fuse (USA)		Max Fuse (CAN)		Max CKT BRK	
		208 V	240 V	208 V	240 V	208 V	240 V	208 V	240 V	208 V	240 V
EAL(H)10*	Single	34.7	40	53.3	60	60	60	60	60	60	60
EAL(H)15*	Single	52.0	60	75	85	80	90	80	90	70	100
	L1/L2	34.7	40	53.3	60	60	60	60	60	60	60
	L3/L4	17.3	20	21.7	25	25	25	25	25	20	30
EAL(H)20*	Single	69.3	80	96.7	110	100	110	100	110	100	100
	L1/L2	34.7	40	53.3	60	60	60	60	60	60	60
	L3/L4	34.7	40	43.3	50	45	50	45	50	40	50

All heaters rated single phase 60 cycle and include unit fan load
All fuses type "D" time delay (or HACR circuit breaker in USA)

11/30/17

Contractor: _____ P.O.: _____

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Premium V Series
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Electrical Data

Model	Rated Voltage	Voltage Min/Max	COMP MRC	COMP MOC	Drive RLA	Drive Internal Fuse	HWG Pump FLA	Ext Loop FLA	Blower Motor FLA	Total Unit FLA	Minimum Circuit Amp	Max Fuse HACR Breaker
024-036	208-230/60/1	187/253	22.0	17.0	22.0	30.0	0.4	5.4	4.0	31.8	37.3	40
*036	208-230/60/1	187/253	22.0	17.0	22.0	30.0	0.4	5.4	7.0	34.8	40.3	45
048	208-230/60/1	187/253	28.0	22.0	28.0	35.0	0.4	5.4	7.0	40.8	47.8	50
060	208-230/60/1	187/253	33.0	27.0	33.0	40.0	0.4	5.4	7.0	45.8	54.1	60

*With optional 1 HP ECM motor
Rated Voltage of 208/230/60/1
HACR circuit breaker in USA only
All fuses Class RK-5

5/13/24

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Premium V Series
3 - 6 Tons 60Hz



Blower Performance Data

Variable Speed Air Flow

Model	Max ESP	Speed 1	Speed 2	Speed 3	Speed 4	Speed 5	Speed 6	Speed 7	Speed 8	Speed 9	Speed 10	Speed 11	Speed 12
024***	0.50	285	380 G	525 L	675	815	980	1100 H	1220 Aux				
036	0.50	285	380 G	525 L	675	815	980	1100	1220	1330	1440 H	1540 Aux	1575
036 w/1hp*	0.75	480	565 G	665 L	761	870	1000	1100	1200	1300	1410 H	1520 Aux	1630
048	0.75	475	620 G	730 L	850	1020	1140	1270	1400	1520	1650 H	1790 Aux	1925
060	0.75	400	600 G	830 L	1050	1230	1400	1560	1700	1870	2010 H	2140 Aux	2265
**VS Compressor Speed				1-2	3-4		5-6	7-8		9-10	11-12		

5/10/24

** VS Compressor speed is given for the factory default cfm settings. When the cfm default settings are changed it will change the relationship to the compressor speed that is shown in the table. In cooling mode compressor speeds 10-12 are only available when SuperBoost mode is selected at the thermostat.

* optional 1 HP ECM

Factory settings are at recommended G, L, H and Aux positions

"G" may be located anywhere within the airflow table

"L" setting should be located within the boldface CFM range

"H" setting MUST be located within the shaded CFM range

"Aux" setting MUST be equal to or greater than "H" setting

"Aux" setting MUST be equal to or greater than the minimum allowable CFM for the auxiliary heater kit (see auxiliary heat ratings table)

CFM is controlled within 5% up to the maximum ESP

Max ESP includes allowance for wet coil and standard filter

***Operation for 024 model above Speed 8 is NOT recommended

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Operating Limits

Operating Limits	Cooling		Heating	
	(°F)	(°C)	(°F)	(°C)
Air Limits				
Min. Ambient Air	45	7.2	45	7.2
Rated Ambient Air	80	26.7	70	21.1
Max. Ambient Air	100	37.8	85	29.4
Min. Entering Air	50	10.0	40	4.4
Rated Entering Air db/wb	80.6/66.2	27/19	68	20.0
Max. Entering Air db/wb	110/83	43/28.3	80	26.7
Water Limits				
Min. Entering Water	30	-1.1	20	-6.7
Normal Entering Water	50-110	10-43.3	30-70	-1.1
Max. Entering Water	120	48.9	90	32.2

NOTE: Minimum/maximum limits are only for start-up conditions, and are meant for bringing the space up to occupancy temperature. Units are not designed to operate at the minimum/maximum conditions on a regular basis. The operating limits are dependent upon three primary factors: 1) water temperature, 2) return air temperature, and 3) ambient temperature. When any of the factors are at the minimum or maximum levels, the other two factors must be at the normal level for proper and reliable unit operation.

Definitions

cfm = airflow, cubic feet/minute
 EWT = entering water temperature, Fahrenheit
 gpm = water flow in gallons/minute
 WPD = water pressure drop, psi and feet of water
 EAT = entering air temperature, Fahrenheit (dry bulb/wet bulb)
 HC = air heating capacity, MBtu/h
 TC = total cooling capacity, MBtu/h
 SC = sensible cooling capacity, MBtu/h
 kW = total power unit input, kilowatts
 HR = total heat of rejection, MBtu/h
 HE = total heat of extraction, MBtu/h

HWC = hot water generator capacity, MBtu/h
 EER = Energy Efficient Ratio
 = Btu output/Watt input
 COP = Coefficient of Performance
 = Btu output/Btu input
 LWT = leaving water temperature, °F
 LAT = leaving air temperature, °F
 TH = total heating capacity, MBtu/h
 LC = latent cooling capacity, MBtu/h
 S/T = sensible to total cooling ratio

Notes to Performance Data Tables

The following notes apply to all performance data tables:

- Performance ratings are based on 80°F DB/67°F WB EAT for cooling and 70°F DB EAT for heating.
- Three flow rates are shown for each unit. The lowest flow rate shown is used for geothermal open loop/well water systems with a minimum of 50°F EWT. The middle flow rate shown is the minimum geothermal closed loop flow rate. The highest flow rate shown is optimum for geothermal closed loop systems and the suggested flow rate for boiler/tower applications.
- The hot water generator numbers are based on a flow rate of 0.4 gpm/ton of rated capacity with an EWT of 90°F.
- Entering water temperatures below 40°F assumes 15% antifreeze solution.
- For non-standard EAT conditions, apply the appropriate Correction Factor tables.
- Interpolation between EWT, gpm, and cfm data is permissible, extrapolation is not.

Reference Calculations

Heating Calculations:	Cooling Calculations:
$LWT = EWT - \frac{HE}{gpm \times 500}$	$LWT = EWT + \frac{HR}{gpm \times 500}$
$LAT = EAT + \frac{HC}{cfm \times 1.08}$	$LAT (DB) = EAT (DB) - \frac{SC}{cfm \times 1.08}$
$TH = HC + HW$	$LC = TC - SC$
	$S/T = \frac{SC}{TC}$

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Premium V Series
3 - 6 Tons 60Hz



Correction Factor Tables

Air Flow Corrections (Compressor Speeds 1-3)

Airflow		Cooling				Heating		
CFM Per Ton of Clg	% of Nominal	Total Cap	Sens Cap	Power	Heat of Rej	Htg Cap	Power	Heat of Ext
240	60	0.940	0.740	0.967	0.951	0.943	1.106	0.902
275	69	0.950	0.783	0.973	0.959	0.953	1.088	0.918
300	75	0.960	0.827	0.978	0.967	0.962	1.070	0.935
325	81	0.970	0.870	0.984	0.975	0.972	1.053	0.951
350	88	0.980	0.913	0.989	0.984	0.981	1.035	0.967
375	94	0.990	0.957	0.995	0.992	0.991	1.018	0.984
400	100	1.000	1.000	1.000	1.000	1.000	1.000	1.000
425	106	1.030	1.022	1.024	1.026	1.009	0.982	1.016
450	113	1.060	1.045	1.048	1.051	1.019	0.965	1.033
475	119	1.091	1.067	1.071	1.077	1.028	0.947	1.049
500	125	1.121	1.089	1.095	1.103	1.038	0.930	1.065
520	130	1.151	1.111	1.110	1.129	1.047	0.912	1.082

6/29/12

Air Flow Corrections (Compressor Speeds 4-12)

Airflow		Cooling				Heating		
CFM Per Ton of Clg	% of Nominal	Total Cap	Sens Cap	Power	Heat of Rej	Htg Cap	Power	Heat of Ext
240	60	0.928	0.747	0.936	0.929	0.961	1.097	0.938
275	69	0.940	0.789	0.946	0.941	0.967	1.081	0.948
300	75	0.952	0.831	0.957	0.953	0.974	1.064	0.959
325	81	0.964	0.873	0.968	0.965	0.980	1.048	0.969
350	88	0.976	0.916	0.979	0.976	0.987	1.032	0.979
375	94	0.988	0.958	0.989	0.988	0.993	1.016	0.990
400	100	1.000	1.000	1.000	1.000	1.000	1.000	1.000
425	106	1.020	1.023	1.004	1.018	1.010	0.966	1.018
450	113	1.056	1.042	1.008	1.035	1.020	0.932	1.036
475	119	1.072	1.079	1.011	1.053	1.029	0.898	1.054
500	125	1.087	1.095	1.015	1.070	1.039	0.865	1.071
520	130	1.099	1.113	1.019	1.088	1.049	0.831	1.089

6/14/12

Cooling Capacity Corrections

Entering Air WB °F	Total Clg Cap	Sensible Cooling Capacity Multipliers - Entering DB °F										Power Input	Heat of Rejection
		60	65	70	75	80	80.6	85	90	95	100		
55	0.898	0.723	0.866	1.048	1.185	*	*	*	*	*	*	0.985	0.913
60	0.912		0.632	0.880	1.078	1.244	1.260	*	*	*	*	0.994	0.927
63	0.945			0.768	0.960	1.150	1.175	*	*	*	*	0.996	0.954
65	0.976			0.694	0.881	1.079	1.085	1.270	*	*	*	0.997	0.972
66.2	0.983			0.655	0.842	1.040	1.060	1.232	*	*	*	0.999	0.986
67	1.000			0.616	0.806	1.000	1.023	1.193	1.330	1.480	*	1.000	1.000
70	1.053				0.693	0.879	0.900	1.075	1.205	1.404	*	1.003	1.044
75	1.168					0.687	0.715	0.875	1.040	1.261	1.476	1.007	1.141

NOTE: *Sensible capacity equals total capacity at conditions shown.

4/22/12

Heating Capacity Corrections

Ent Air DB °F	Heating Corrections		
	Htg Cap	Power	Heat of Ext
45	1.062	0.739	1.158
50	1.050	0.790	1.130
55	1.037	0.842	1.096
60	1.025	0.893	1.064
65	1.012	0.945	1.030
68	1.005	0.976	1.012
70	1.000	1.000	1.000
75	0.987	1.048	0.970
80	0.975	1.099	0.930

11/10/09

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Antifreeze Corrections

Catalog performance can be corrected for antifreeze use. Please use the following table and note the example given.

Antifreeze Type	Antifreeze % by wt	Heating	Cooling	Pressure Drop
EWT - °F [°C]		30 [-1.1]	90 [32.2]	30 [-1.1]
Water	0	1.000	1.000	1.000
	10	0.973	0.991	1.075
Ethylene Glycol	20	0.943	0.979	1.163
	30	0.917	0.965	1.225
	40	0.890	0.955	1.324
	50	0.865	0.943	1.419
	10	0.958	0.981	1.130
Propylene Glycol	20	0.913	0.969	1.270
	30	0.854	0.950	1.433
	40	0.813	0.937	1.614
	50	0.770	0.922	1.816
	10	0.927	0.991	1.242
Ethanol	20	0.887	0.972	1.343
	30	0.856	0.947	1.383
	40	0.815	0.930	1.523
	50	0.779	0.911	1.639
	10	0.957	0.986	1.127
Methanol	20	0.924	0.970	1.197
	30	0.895	0.951	1.235
	40	0.863	0.936	1.323
	50	0.833	0.920	1.399



WARNING: Gray area represents antifreeze concentrations greater than 35% by weight and should be avoided due to the extreme performance penalty they represent.

Antifreeze Correction Example

Antifreeze solution is Propylene Glycol 20% by weight. Determine the corrected heating and cooling performance at 30°F and 90°F respectively as well as pressure drop at 30°F for a O36 operating at 100% capacity.

The corrected cooling capacity at 90°F would be: 35,200 Btu/h x 0.969 = 34,109 Btu/h

The corrected heating capacity at 30°F would be: 37,400 Btu/h x 0.913 = 34,146 Btu/h

The corrected pressure drop at 30°F and 11.5 gpm would be: 7.9 feet of head x 1.270 = 10.03 feet of head

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Premium V Series
3 - 6 Tons 60Hz



Pressure Drop

Model	GPM	Pressure Drop (psi)				
		30° F	50° F	70°	90° F	110° F
024-036	11.5	3.60	3.30	3.10	2.90	2.70
	9.0	2.30	2.10	2.00	1.90	1.70
	7.0	1.50	1.40	1.30	1.20	1.10
	6.0	1.20	1.15	1.10	1.05	1.00
	4.5	0.70	0.66	0.64	0.60	0.55
048	13.5	4.60	4.40	4.10	3.80	3.50
	10.5	2.90	2.70	2.50	2.30	2.20
	7.5	1.70	1.60	1.50	1.40	1.30
	6.0	1.20	1.10	1.00	0.96	0.91
	4.0	0.62	0.61	0.60	0.58	0.56
060	17.0	6.40	6.00	5.60	5.20	4.80
	13.5	4.10	3.80	3.60	3.30	3.10
	9.5	2.20	2.10	2.00	1.80	1.70
	7.5	1.70	1.60	1.50	1.40	1.30
	5.0	0.68	0.62	0.58	0.55	0.53

5/10/24

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Premium V Series
3 - 6 Tons 60Hz



Revision Guide

Pages:	Description:	Date:	By:
	Guide Creation	Aug. 6, 2024	SW/MA