

# Genesis GL Series Submittal Data

Models GLH072 -120  
& GLV080-300

50Hz - R407C

English Language/S-I Units



Rev.: 12 Aug., 2010



## SUBMITTAL DATA - S-I UNITS

Unit Designation: \_\_\_\_\_

Job Name: \_\_\_\_\_

Architect: \_\_\_\_\_

Engineer: \_\_\_\_\_

Contractor: \_\_\_\_\_

## PERFORMANCE DATA

Cooling Capacity: \_\_\_\_\_ kW

EER: \_\_\_\_\_

Heating Capacity: \_\_\_\_\_ kW

COP: \_\_\_\_\_

Ambient Air Temp: \_\_\_\_\_ °C

Entering Water Temp (Clg): \_\_\_\_\_ °C

Entering Air Temp (Clg): \_\_\_\_\_ °C

Entering Water Temp (Htg): \_\_\_\_\_ °C

Entering Air Temp (Htg): \_\_\_\_\_ °C

Airflow: \_\_\_\_\_ l/s

Fan Speed or Motor/RPM/Turns: \_\_\_\_\_

Operating Weight: \_\_\_\_\_ (kg)

## ELECTRICAL DATA

Power Supply: \_\_\_\_\_ Volts \_\_\_\_\_ Phase \_\_\_\_\_ Hz

Minimum Circuit Ampacity: \_\_\_\_\_

Maximum Overcurrent Protection: \_\_\_\_\_

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LC290

Rev.: 12 Aug., 2010

# GL Series 50Hz - R407C Submittal Data Eng/S-I



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GL	H	072	B	S	F	1	A	C	LS	S
<b>Model Type</b> GL = Genesis Large Series, Belt Drive	<b>Configuration</b> H = Horizontal	<b>Unit Size, Nominal kbtuh</b> 072, 096, 120	<b>Revision Level</b> B = GLH	<b>Voltage</b> S = 380-420/50/3 - R407C (Factory wired 380V)	<b>Controls &amp; Agency Listing</b> F = CXM (CE for Europe) G = DXM (CE for Europe) H = CXM w/LON (CE for Europe) J = DXM w/LON (CE for Europe) T = CXM w/MPC (CE for Europe) U = DXM w/MPC (CE for Europe)					
									<b>Standard</b> S = Standard	
									<b>Air Flow</b> LS = Straight Supply VS = Straight Supply SS Drain Pan	
									<b>Water Coil</b> C = Copper N = Cupro-nickel	
								<b>Blower Drive Package</b> A = Standard RPM & Standard Motor B = Low RPM & Standard Motor C = High RPM & Standard Motor D = Standard RPM & Large Motor, GLH096, GLH120 Only E = High RPM & Large Motor		
								<b>Cabinet Insulation</b> 1 = Extended Range 2 = Extended Range with UltraQuiet 3 = Standard Range 4 = Standard Range with UltraQuiet		

GL	V	100	A	S	F	1	A	C	FB	S
<b>Model Type</b> GL= Genesis Large Series Belt Driven	<b>Configuration</b> V = Vertical	<b>Unit Size</b> 080 100 120 160 200 240 300	<b>Revision Level</b> A = Current Revision For GLV							
									<b>Standard</b> S = Standard	
									<b>Air Flow Options</b> BF = Back Return/Front Supply (GLV080 - 240) BT = Back Return/Top Supply (GLV080 - 300) FB = Front Return/Back Supply (GLV080 - 240) FT = Front Return/Top Supply (GLV080 - 300) YF = Back Return/Front Supply, S.S. Drain Pan (GLV080 - 240) YT = Back Return/Top Supply, S.S. Drain Pan (GLV080 - 300) ZB = Front Return/Back Supply, S.S. Drain Pan (GLV080 - 240) ZT = Front Return/Top Supply, S.S. Drain Pan (GLV080 - 300)	
									<b>Heat Exchanger Options</b> A=Copper Water Coil w/Coated Air Coil C=Copper Water Coil w/Non-Coated Air Coil D=Copper Water Coil + Reheat w/Coated Air Coil E=Copper Water Coil + Reheat w/Non-Coated Air Coil F=Cupro-nickel Water Coil + Reheat w/Coated Air Coil J=Cupro-nickel Water Coil w/Coated Air Coil N=Cupro-nickel Water Coil w/Non-Coated Air Coil P=Cupro-nickel Water Coil + Reheat w/Non-Coated Air Coil Q=Copper Water Coil + 100% OA w/Coated Air Coil Y=Cupro-nickel Water Coil + 100% OA w/coated Air Coil	
									<b>Blower Drive Package</b> A = Standard RPM & Standard Motor B = Low RPM & Standard Motor C = High RPM & Standard Motor D = Standard RPM & Large Motor E = High RPM & Large Motor (Not Available GLV160 & GLV300)	
									<b>Cabinet Insulation</b> 1 = Extended Range 2 = Extended Range w/UltraQuiet 3 = Standard Range 4 = Standard Range w/UltraQuiet	



## ASHRAE/AHRI/ISO 13256-1. Metric (S-I) Units

Model	Refrigerant	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
		Cooling 30°C		Heating 20°C		Cooling 15°C		Heating 10°C		Cooling 25°		Heating 0°C	
		Capacity kW	EER W/W	Capacity kW	COP	Capacity kW	EER W/W	Capacity kW	COP	Capacity kW	EER W/W	Capacity kW	COP
GLH072	R-407C	16.50	4.0	18.78	4.6	19.00	5.8	15.26	4.2	17.40	4.5	11.75	4.2
GLH096	R-407C	23.61	4.1	26.97	4.5	25.68	5.6	22.42	4.0	24.29	4.5	17.74	4.0
GLH120	R-407C	29.24	3.7	34.58	4.5	31.52	5.2	27.95	3.9	29.99	4.2	21.99	3.9
GLV080	R-407C	16.62	4.0	21.95	4.9	17.86	5.3	17.59	4.3	17.11	4.5	13.90	4.3
GLV100	R-407C	23.14	3.8	27.85	4.6	25.51	5.1	22.84	4.0	24.03	4.3	18.26	4.0
GLV120	R-407C	25.18	3.5	31.58	4.2	26.21	4.4	25.70	3.8	25.49	3.8	20.87	3.8
GLV160	R-407C	33.23	4.0	43.91	4.9	35.71	5.3	35.19	4.3	34.22	4.5	27.79	4.3
GLV200	R-407C	46.28	3.8	55.71	4.6	51.02	5.1	45.68	4.0	48.07	4.3	36.52	4.0
GLV240	R-407C	50.37	3.5	63.16	4.2	52.43	4.4	51.39	3.8	50.98	3.8	41.73	3.8
GLV300	R-407C	62.87	3.4	78.31	3.9	65.79	4.3	64.76	3.4	64.27	3.7	51.07	3.4

Cooling capacities based upon 27°C DB, 19°C WB entering air temperature.

Heating capacities based upon 20°C DB, 15°C WB entering air temperature.

All ratings based upon operation at lower voltage of dual voltage rated models.



# GL Series 50Hz - R407C Submittal Data Eng/S-I



## Performance Data GLH 072

### 991 l/s Nominal Airflow

Performance capacities shown in thousands of Watts.

EWT °C	FLOW l/s	WPD kPa	COOLING - EAT 27/19 °C						HEATING - EAT 20 °C				
			TC kW	SC kW	Sens/Tot Ratio	POWER kW	HR kW	EER W/W	HC kW	POWER kW	HE kW	LAT °C	COP W/W
-5	0.568	39.9											
	0.852												
	1.136								10.4	3.29	7.1	28.7	3.17
0	0.568	11.8	19.7	13.2	0.67	3.07	22.8	6.42	11.3	3.42	7.9	29.5	3.31
	0.852	20.6	19.9	13.3	0.67	2.90	22.8	6.87	11.8	3.48	8.3	29.9	3.39
	1.136	36.9	20.0	13.4	0.67	2.78	22.8	7.18	12.1	3.52	8.6	30.2	3.45
5	0.568	11.1	19.2	13.2	0.68	3.34	22.6	5.76	12.9	3.63	9.3	30.8	3.56
	0.852	19.2	19.6	13.3	0.68	3.15	22.7	6.20	13.5	3.71	9.8	31.3	3.64
	1.136	34.4	19.7	13.4	0.68	3.03	22.7	6.51	13.9	3.77	10.2	31.6	3.70
10	0.568	9.0	18.6	12.8	0.69	3.63	22.2	5.13	14.6	3.85	10.7	32.2	3.78
	0.852	16.5	19.1	13.1	0.69	3.42	22.5	5.57	15.2	3.94	11.3	32.7	3.86
	1.136	29.0	19.3	13.2	0.68	3.29	22.6	5.88	15.7	4.00	11.7	33.1	3.93
15	0.568	8.4	17.9	12.4	0.69	3.92	21.8	4.56	16.2	4.07	12.1	33.5	3.98
	0.852	15.7	18.4	12.7	0.69	3.72	22.1	4.95	17.0	4.16	12.8	34.2	4.08
	1.136	27.7	18.7	12.9	0.69	3.58	22.3	5.23	17.5	4.23	13.3	34.6	4.14
20	0.568	8.1	17.0	11.9	0.70	4.21	21.3	4.04	17.9	4.27	13.6	34.9	4.19
	0.852	15.2	17.6	12.3	0.70	4.02	21.6	4.38	18.7	4.37	14.3	35.6	4.27
	1.136	26.6	18.0	12.5	0.69	3.87	21.8	4.64	19.3	4.44	14.8	36.1	4.34
25	0.568	7.9	16.2	11.5	0.71	4.50	20.7	3.59	19.5	4.46	15.0	36.3	4.36
	0.852	14.7	16.7	11.8	0.70	4.31	21.0	3.88	20.4	4.57	15.8	37.0	4.46
	1.136	25.7	17.1	12.0	0.70	4.18	21.3	4.10	21.0	4.64	16.4	37.6	4.53
30	0.568	7.7	15.3	11.1	0.73	4.79	20.1	3.19	21.1	4.65	16.4	37.6	4.53
	0.852	14.2	15.8	11.4	0.72	4.61	20.5	3.43	22.0	4.76	17.3	38.4	4.63
	1.136	25.0	16.2	11.5	0.71	4.48	20.7	3.62	22.7	4.83	17.9	39.0	4.70
35	0.568	6.7	14.4	10.8	0.75	5.07	19.5	2.85	Operation Not Recommended				
	0.852	12.8	15.0	11.0	0.74	4.90	19.9	3.05					
	1.136	22.3	15.3	11.1	0.73	4.78	20.1	3.21					
40	0.568	6.2	13.7	10.7	0.78	5.33	19.0	2.57					
	0.852	12.1	14.1	10.8	0.76	5.18	19.3	2.73					
	1.136	20.9	14.5	10.8	0.75	5.06	19.5	2.86					
45	0.568	5.8	13.3	10.3	0.77	5.85	19.1	2.27					
	0.852	11.3	13.8	10.5	0.76	5.70	19.5	2.43					
	1.136	19.6	14.3	10.6	0.75	5.58	19.8	2.56					

Interpolation is permissible, extrapolation is not.

All entering air conditions are 27°C DB and 19°C WB in cooling and 20°C DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 15°C EWT requires optional insulated water circuit.

Operation below 5°C EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



Performance Data GLH 096

1322 l/s Nominal Airflow

Performance capacities shown in thousands of Watts.

EWT °C	FLOW l/s	WPD  kPa	COOLING - EAT 27/19 °C						HEATING - EAT 20°C										
			TC kW	SC kW	Sens/Tot Ratio	POWER kW	HR kW	EER W/W	HC kW	POWER kW	HE kW	LAT °C	COP W/W						
-5	0.757		Operation Not Recommended																
	1.136																		
	1.514	73.6																	
0	0.757	40.5												16.4	5.19	11.2	30.3	3.17	
	1.136	54.3												17.4	5.26	12.1	30.9	3.30	
	1.514	72.7												18.0	5.31	12.7	31.3	3.38	
5	0.757	40.0							25.9	17.8	0.69	4.50	30.4	5.76	19.3	5.44	13.9	32.1	3.55
	1.136	53.5							26.6	18.1	0.68	4.19	30.8	6.35	20.1	5.52	14.6	32.6	3.64
	1.514	71.7							27.0	18.3	0.68	4.03	31.0	6.69	20.5	5.56	15.0	32.9	3.69
10	0.757	39.5	25.2	17.6	0.70	4.87	30.0	5.17	21.5	5.66	15.8	33.4	3.79						
	1.136	52.9	25.8	17.8	0.69	4.58	30.3	5.62	22.4	5.76	16.7	34.1	3.89						
	1.514	70.9	26.1	17.9	0.69	4.43	30.5	5.89	22.9	5.82	17.1	34.4	3.94						
15	0.757	38.9	24.5	17.3	0.71	5.25	29.7	4.67	23.7	5.91	17.8	34.8	4.01						
	1.136	52.1	25.0	17.5	0.70	4.96	30.0	5.05	24.7	6.03	18.7	35.5	4.10						
	1.514	69.8	25.3	17.6	0.70	4.81	30.1	5.27	25.3	6.09	19.2	35.8	4.15						
20	0.757	38.4	23.8	17.1	0.72	5.63	29.4	4.23	25.8	6.16	19.7	36.2	4.20						
	1.136	51.6	24.3	17.3	0.71	5.34	29.7	4.56	26.9	6.28	20.6	36.9	4.29						
	1.514	69.0	24.6	17.4	0.71	5.19	29.8	4.74	27.4	6.34	21.1	37.2	4.33						
25	0.757	38.1	23.1	16.9	0.73	6.06	29.2	3.81	27.8	6.38	21.4	37.4	4.35						
	1.136	50.8	23.6	17.1	0.72	5.74	29.4	4.12	28.7	6.48	22.2	38.0	4.43						
	1.514	68.1	23.9	17.2	0.72	5.58	29.5	4.29	29.1	6.52	22.6	38.2	4.46						
30	0.757	37.9	22.3	16.6	0.74	6.58	28.9	3.39	29.3	6.54	22.7	38.3	4.48						
	1.136	50.4	22.9	16.8	0.73	6.21	29.1	3.69	29.9	6.59	23.3	38.7	4.54						
	1.514	67.7	23.2	16.9	0.73	6.03	29.2	3.84	30.1	6.60	23.5	38.9	4.56						
35	0.757	37.2	21.5	16.3	0.76	7.10	28.6	3.03	Operation Not Recommended										
	1.136	49.7	22.2	16.5	0.75	6.68	28.8	3.32											
	1.514	66.6	22.5	16.7	0.74	6.48	28.9	3.46											
40	0.757	36.8	20.5	15.8	0.77	7.72	28.3	2.66											
	1.136	49.1	21.3	16.2	0.76	7.25	28.5	2.93											
	1.514	65.8	21.6	16.3	0.76	7.02	28.6	3.08											
45	0.757	36.3	20.1	15.7	0.78	8.28	28.4	2.43											
	1.136	48.5	20.8	16.0	0.77	7.82	28.6	2.66											
	1.514	65.0	21.1	16.1	0.77	7.61	28.7	2.77											

Interpolation is permissible, extrapolation is not.

All entering air conditions are 27°C DB and 19°C WB in cooling and 20°C DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 15°C EWT requires optional insulated water circuit.

Operation below 5°C EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## Performance Data GLH 120

1652 l/s Nominal Airflow

Performance capacities shown in thousands of Watts.

EWT °C	FLOW l/s	WPD kPa	COOLING - EAT 27/19 °C						HEATING - EAT 20 °C				
			TC kW	SC kW	Sens/Tot Ratio	POWER kW	HR kW	EER W/W	HC kW	POWER kW	HE kW	LAT °C	COP W/W
-5	0.947	134.5											
	1.420												
	1.893								19.6	6.21	13.4	29.8	3.16
0	0.947	59.5	25.8	20.0	0.78	5.20	31.0	4.97	20.9	6.35	14.6	30.5	3.29
	1.420	85.0	25.8	19.6	0.76	4.96	30.8	5.21	21.6	6.42	15.2	30.8	3.36
	1.893	120.0	25.9	19.3	0.75	4.82	30.7	5.36	22.0	6.46	15.5	31.0	3.40
5	0.947	53.7	25.8	20.5	0.80	5.57	31.4	4.63	23.2	6.59	16.6	31.6	3.52
	1.420	76.9	25.8	20.2	0.78	5.33	31.1	4.84	24.0	6.66	17.3	32.0	3.60
	1.893	108.5	25.8	20.0	0.77	5.19	31.0	4.97	24.4	6.71	17.7	32.3	3.64
10	0.947	46.7	25.7	20.9	0.81	5.93	31.7	4.34	25.5	6.82	18.7	32.8	3.75
	1.420	69.4	25.8	20.7	0.80	5.69	31.5	4.53	26.5	6.90	19.6	33.3	3.83
	1.893	97.2	25.8	20.5	0.79	5.56	31.4	4.65	27.0	6.96	20.0	33.5	3.88
15	0.947	45.3	25.5	21.0	0.82	6.31	31.9	4.05	28.0	7.05	20.9	34.0	3.96
	1.420	67.5	25.7	20.9	0.81	6.06	31.8	4.24	29.0	7.15	21.8	34.5	4.06
	1.893	94.5	25.7	20.9	0.81	5.92	31.7	4.35	29.6	7.20	22.4	34.8	4.11
20	0.947	44.2	25.2	21.0	0.84	6.71	31.9	3.75	30.4	7.28	23.1	35.2	4.17
	1.420	65.7	25.4	21.0	0.83	6.45	31.9	3.95	31.5	7.38	24.1	35.8	4.27
	1.893	92.0	25.5	21.0	0.82	6.30	31.8	4.05	32.1	7.44	24.7	36.1	4.32
25	0.947	43.1	24.6	20.9	0.85	7.15	31.7	3.44	32.7	7.50	25.2	36.4	4.36
	1.420	64.2	25.0	21.0	0.84	6.85	31.8	3.65	33.9	7.61	26.3	37.0	4.46
	1.893	90.0	25.2	21.0	0.84	6.70	31.9	3.76	34.6	7.68	26.9	37.4	4.51
30	0.947	42.4	23.8	20.6	0.87	7.61	31.4	3.13	35.1	7.72	27.3	37.6	4.54
	1.420	63.1	24.4	20.8	0.85	7.30	31.7	3.34	36.3	7.84	28.5	38.2	4.63
	1.893	88.3	24.6	20.9	0.85	7.13	31.8	3.46	37.0	7.91	29.1	38.5	4.67
35	0.947	38.3	22.6	20.2	0.89	8.12	30.8	2.79	Operation Not Recommended				
	1.420	58.0	23.4	20.5	0.88	7.79	31.2	3.01					
	1.893	80.9	23.8	20.6	0.87	7.61	31.4	3.12					
40	0.947	36.3	21.2	19.6	0.92	8.68	29.9	2.44					
	1.420	55.3	22.2	20.0	0.90	8.32	30.5	2.66					
	1.893	77.1	22.6	20.2	0.89	8.13	30.8	2.78					
45	0.947	34.4	21.8	20.2	0.93	9.23	31.0	2.36					
	1.420	52.8	22.7	20.7	0.91	8.86	31.6	2.56					
	1.893	73.5	23.2	21.0	0.91	8.67	31.8	2.67					

Interpolation is permissible, extrapolation is not.

All entering air conditions are 27°C DB and 19°C WB in cooling and 20°C DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 15°C EWT requires optional insulated water circuit.

Operation below 5°C EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



Performance Data GLV 080

## 1074 l/s Nominal Airflow

Performance capacities shown in thousands of Watts.

EWT °C	FLOW l/s	WPD kPa	COOLING - EAT 27/19 °C						HEATING - EAT 20 °C				
			TC kW	SC kW	Sens/Tot Ratio	POWER kW	HR kW	EER W/W	HC kW	POWER kW	HE kW	LAT °C	COP W/W
-5	0.581	82.2											
	0.871												
	1.161								12.1	3.84	8.2	29.3	3.14
0	0.581	46.8	17.7	14.0	0.79	3.17	20.9	5.60	12.9	3.92	8.9	29.9	3.28
	0.871	59.9	17.8	13.9	0.78	3.03	20.8	5.86	13.4	3.97	9.5	30.4	3.38
	1.161	77.4	17.8	13.9	0.78	3.00	20.8	5.93	14.0	4.03	10.0	30.8	3.48
5	0.581	42.7	17.6	14.1	0.80	3.37	21.0	5.24	14.6	4.08	10.5	31.2	3.57
	0.871	55.4	17.7	14.0	0.79	3.22	21.0	5.51	15.2	4.14	11.1	31.7	3.68
	1.161	71.4	17.8	13.9	0.78	3.15	20.9	5.64	15.6	4.17	11.4	32.0	3.74
10	0.581	34.1	17.4	14.0	0.80	3.57	21.0	4.88	16.3	4.24	12.1	32.6	3.85
	0.871	47.6	17.6	14.1	0.80	3.41	21.0	5.15	17.2	4.32	12.8	33.2	3.97
	1.161	62.5	17.7	14.1	0.80	3.34	21.0	5.29	17.6	4.37	13.2	33.6	4.03
15	0.581	33.0	17.1	13.8	0.81	3.81	20.9	4.48	18.2	4.42	13.8	34.0	4.12
	0.871	46.5	17.3	13.9	0.81	3.63	20.9	4.78	19.2	4.52	14.7	34.8	4.24
	1.161	60.9	17.4	14.0	0.80	3.55	21.0	4.91	19.7	4.56	15.1	35.2	4.32
20	0.581	32.4	16.6	13.6	0.82	4.07	20.7	4.08	20.1	4.61	15.5	35.5	4.37
	0.871	45.4	17.0	13.8	0.81	3.87	20.8	4.38	21.3	4.72	16.5	36.4	4.50
	1.161	59.5	17.1	13.8	0.81	3.78	20.9	4.52	21.9	4.79	17.1	36.9	4.57
25	0.581	31.9	16.1	13.4	0.83	4.38	20.5	3.68	22.1	4.81	17.3	37.1	4.60
	0.871	44.5	16.5	13.6	0.82	4.15	20.6	3.98	23.4	4.94	18.5	38.1	4.75
	1.161	58.4	16.7	13.7	0.82	4.04	20.7	4.12	24.1	5.01	19.1	38.6	4.82
30	0.581	31.3	15.6	13.2	0.85	4.73	20.3	3.30	24.2	5.01	19.2	38.6	4.82
	0.871	43.9	16.0	13.4	0.83	4.46	20.5	3.59	25.6	5.16	20.5	39.8	4.96
	1.161	57.3	16.2	13.4	0.83	4.34	20.5	3.73	26.4	5.24	21.2	40.4	5.05
35	0.581	27.4	15.0	13.1	0.87	5.14	20.1	2.91	Operation Not Recommended				
	0.871	39.8	15.4	13.2	0.85	4.84	20.3	3.19					
	1.161	52.4	15.6	13.2	0.85	4.70	20.3	3.32					
40	0.581	25.7	14.3	13.0	0.91	5.61	19.9	2.55					
	0.871	37.8	14.8	13.0	0.88	5.27	20.0	2.80					
	1.161	49.9	15.0	13.1	0.87	5.11	20.1	2.94					
45	0.581	24.0	14.3	12.8	0.90	5.89	20.2	2.42					
	0.871	36.0	14.8	13.0	0.88	5.52	20.3	2.68					
	1.161	47.5	15.1	13.1	0.87	5.34	20.4	2.82					

Interpolation is permissible, extrapolation is not.

All entering air conditions are 27°C DB and 19°C WB in cooling and 20°C DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 15°C EWT requires optional insulated water circuit.

Operation below 5°C EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## Performance Data GLV 100

### 1446 l/s Nominal Airflow

Performance capacities shown in thousands of Watts.

EWT °C	FLOW l/s	WPD kPa	COOLING - EAT 27/19 °C						HEATING - EAT 20 °C				
			TC kW	SC kW	Sens/Tot Ratio	POWER kW	HR kW	EER W/W	HC kW	POWER kW	HE kW	LAT °C	COP W/W
-5	0.757	95.1											
	1.136												
	1.514								17.1	5.29	11.8	29.8	3.23
0	0.757	45.9	25.6	20.1	0.78	4.66	30.2	5.48	17.9	5.38	12.5	30.3	3.33
	1.136	63.2	25.6	19.9	0.78	4.43	30.1	5.79	18.5	5.44	13.1	30.6	3.40
	1.514	86.7	25.7	19.9	0.77	4.31	30.0	5.95	18.8	5.47	13.4	30.8	3.45
5	0.757	42.5	25.3	20.2	0.80	4.95	30.3	5.12	19.8	5.55	14.2	31.3	3.56
	1.136	58.6	25.6	20.1	0.79	4.72	30.3	5.41	20.5	5.63	14.9	31.8	3.65
	1.514	80.2	25.6	20.0	0.78	4.60	30.2	5.56	21.0	5.67	15.3	32.0	3.70
10	0.757	40.4	24.8	20.2	0.81	5.24	30.1	4.74	21.9	5.74	16.1	32.5	3.81
	1.136	55.6	25.3	20.2	0.80	5.00	30.3	5.05	22.8	5.82	17.0	33.1	3.92
	1.514	75.1	25.4	20.2	0.80	4.89	30.3	5.20	23.4	5.87	17.5	33.4	3.98
15	0.757	39.0	24.1	20.1	0.83	5.56	29.7	4.34	24.1	5.94	18.2	33.8	4.06
	1.136	53.5	24.7	20.2	0.82	5.30	30.0	4.67	25.3	6.03	19.2	34.5	4.19
	1.514	72.1	25.0	20.2	0.81	5.18	30.1	4.82	25.9	6.09	19.8	34.8	4.26
20	0.757	37.9	23.3	19.9	0.85	5.92	29.2	3.94	26.4	6.13	20.3	35.2	4.31
	1.136	52.0	24.0	20.0	0.84	5.63	29.6	4.26	27.7	6.24	21.5	35.9	4.44
	1.514	70.3	24.3	20.1	0.83	5.50	29.8	4.42	28.4	6.30	22.1	36.3	4.51
25	0.757	37.3	22.4	19.6	0.87	6.33	28.8	3.54	28.7	6.33	22.4	36.4	4.54
	1.136	51.1	23.1	19.8	0.86	6.00	29.2	3.86	30.0	6.44	23.6	37.2	4.67
	1.514	68.9	23.5	19.9	0.85	5.85	29.3	4.01	30.7	6.49	24.2	37.6	4.73
30	0.757	36.7	21.6	19.2	0.89	6.81	28.4	3.16	30.9	6.51	24.4	37.7	4.74
	1.136	50.2	22.3	19.5	0.88	6.43	28.7	3.46	32.1	6.63	25.5	38.4	4.85
	1.514	67.8	22.6	19.6	0.87	6.25	28.8	3.62	32.8	6.69	26.1	38.8	4.90
35	0.757	34.6	20.7	18.9	0.91	7.41	28.1	2.79	Operation Not Recommended				
	1.136	47.2	21.4	19.2	0.90	6.95	28.3	3.07					
	1.514	63.3	21.7	19.3	0.89	6.75	28.4	3.21					
40	0.757	33.4	20.0	18.7	0.94	8.12	28.1	2.46					
	1.136	45.5	20.5	18.9	0.92	7.57	28.1	2.71					
	1.514	60.9	20.8	19.0	0.91	7.32	28.1	2.84					
45	0.757	32.2	19.6	18.7	0.95	8.45	28.0	2.31					
	1.136	43.9	20.3	19.0	0.93	7.91	28.3	2.57					
	1.514	58.5	20.8	19.2	0.93	7.67	28.4	2.71					

Interpolation is permissible, extrapolation is not.

All entering air conditions are 27°C DB and 19°C WB in cooling and 20°C DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 15°C EWT requires optional insulated water circuit.

Operation below 5°C EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## Performance Data GLV 120

### 1652 l/s Nominal Airflow

Performance capacities shown in thousands of Watts.

EWT °C	FLOW l/s	WPD  kPa	COOLING - EAT 27/19 °C						HEATING - EAT 20°C										
			TC kW	SC kW	Sens/Tot Ratio	POWER kW	HR kW	EER W/W	HC kW	POWER kW	HE kW	LAT °C	COP W/W						
-5	0.947		Operation Not Recommended																
	1.420																		
	1.893	97.9																	
0	0.947	34.9												20.4	6.77	13.6	30.2	3.01	
	1.420	56.7												21.5	6.74	14.8	30.8	3.19	
	1.893	96.6												22.2	6.77	15.5	31.1	3.28	
														22.7	6.78	15.9	31.4	3.34	
5	0.947	34.4							31.8	20.3	0.64	5.83	37.6	5.46	23.9	6.86	17.0	32.0	3.48
	1.420	55.9							32.6	20.5	0.63	5.67	38.3	5.74	24.8	6.94	17.9	32.5	3.58
	1.893	95.3	33.1	20.6	0.62	5.64	38.7	5.87	25.5	6.99	18.5	32.8	3.64						
10	0.947	34.1	30.9	20.0	0.65	6.19	37.1	5.00	26.6	7.10	19.5	33.3	3.75						
	1.420	55.1	31.6	20.2	0.64	5.90	37.5	5.35	27.8	7.22	20.6	33.9	3.85						
	1.893	94.2	32.0	20.4	0.64	5.77	37.8	5.55	28.6	7.30	21.3	34.3	3.91						
15	0.947	33.6	30.1	19.8	0.66	6.72	36.9	4.48	29.6	7.41	22.2	34.8	3.99						
	1.420	54.3	30.7	20.0	0.65	6.33	37.0	4.85	31.0	7.55	23.4	35.5	4.10						
	1.893	92.8	31.1	20.1	0.65	6.12	37.2	5.08	31.9	7.63	24.2	36.0	4.18						
20	0.947	33.0	29.4	19.5	0.66	7.38	36.8	3.98	32.6	7.69	24.9	36.3	4.24						
	1.420	53.5	29.9	19.7	0.66	6.90	36.8	4.34	34.2	7.81	26.4	37.1	4.37						
	1.893	91.5	30.3	19.8	0.65	6.64	36.9	4.56	35.2	7.88	27.3	37.6	4.46						
25	0.947	32.5	28.6	19.2	0.67	8.12	36.7	3.53	35.6	7.90	27.7	37.9	4.51						
	1.420	52.8	29.2	19.4	0.66	7.58	36.8	3.85	37.3	7.95	29.3	38.7	4.69						
	1.893	90.2	29.5	19.5	0.66	7.28	36.8	4.05	38.3	7.97	30.4	39.2	4.81						
30	0.947	32.3	23.5	16.4	0.70	7.50	31.0	3.13	38.5	7.96	30.5	39.3	4.83						
	1.420	52.1	24.0	16.5	0.69	7.04	31.0	3.41	40.2	7.90	32.3	40.1	5.09						
	1.893	89.0	24.3	16.6	0.69	6.76	31.0	3.59	41.2	7.81	33.4	40.7	5.28						
35	0.947	31.7	26.9	18.7	0.70	9.64	36.5	2.79	Operation Not Recommended										
	1.420	51.3	27.6	18.9	0.68	9.10	36.7	3.03											
	1.893	87.8	27.9	19.0	0.68	8.77	36.7	3.19											
40	0.947	31.3	25.8	18.5	0.72	10.36	36.1	2.49											
	1.420	50.6	26.6	18.6	0.70	9.86	36.4	2.70											
	1.893	86.6	27.0	18.7	0.69	9.54	36.6	2.83											
45	0.947	30.9	24.1	17.4	0.72	10.83	34.9	2.23											
	1.420	49.9	24.8	17.6	0.71	10.13	34.9	2.45											
	1.893	85.4	25.1	17.7	0.71	9.67	34.8	2.60											

Interpolation is permissible, extrapolation is not.

All entering air conditions are 27°C DB and 19°C WB in cooling and 20°C DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 15°C EWT requires optional insulated water circuit.

Operation below 5°C EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.



# GL Series 50Hz - R407C Submittal Data Eng/S-I



## Performance Data GLV 160

### 2148 l/s Nominal Airflow

Performance capacities shown in thousands of Watts.

EWT °C	FLOW l/s	WPD kPa	COOLING - EAT 27/19 °C						HEATING - EAT 20 °C				
			TC kW	SC kW	Sens/Tot Ratio	POWER kW	HR kW	EER W/W	HC kW	POWER kW	HE kW	LAT °C	COP W/W
-5	1.161	90.4											
	1.742												
	2.322								24.1	7.69	16.4	29.3	3.14
0	1.161	51.3	35.5	27.9	0.79	6.34	41.8	5.60	25.8	7.84	17.9	29.9	3.29
	1.742	65.8	35.5	27.9	0.78	6.06	41.6	5.86	26.8	7.94	18.9	30.4	3.38
	2.322	85.1	35.5	27.8	0.78	5.99	41.5	5.94	28.1	8.05	20.0	30.8	3.49
5	1.161	47.1	35.3	28.1	0.80	6.73	42.0	5.24	29.1	8.15	21.0	31.2	3.57
	1.742	60.8	35.5	28.0	0.79	6.44	41.9	5.51	30.5	8.28	22.2	31.7	3.68
	2.322	78.7	35.5	27.9	0.79	6.29	41.8	5.65	31.2	8.35	22.8	32.0	3.74
10	1.161	37.4	34.8	28.0	0.80	7.15	41.9	4.87	32.7	8.48	24.2	32.6	3.85
	1.742	52.4	35.2	28.1	0.80	6.83	42.0	5.15	34.3	8.64	25.7	33.2	3.97
	2.322	68.5	35.3	28.1	0.80	6.68	42.0	5.28	35.2	8.72	26.5	33.6	4.04
15	1.161	36.3	34.1	27.7	0.81	7.61	41.7	4.48	36.4	8.84	27.6	34.0	4.12
	1.742	51.0	34.6	27.9	0.81	7.26	41.9	4.77	38.3	9.03	29.3	34.8	4.25
	2.322	66.9	34.9	28.0	0.80	7.09	41.9	4.91	39.4	9.14	30.3	35.2	4.31
20	1.161	35.5	33.2	27.3	0.82	8.14	41.4	4.08	40.3	9.22	31.1	35.5	4.37
	1.742	49.9	33.9	27.6	0.81	7.74	41.6	4.38	42.5	9.44	33.1	36.4	4.50
	2.322	65.5	34.2	27.7	0.81	7.55	41.7	4.52	43.8	9.57	34.2	36.9	4.58
25	1.161	35.5	32.2	26.8	0.83	8.75	41.0	3.68	44.3	9.62	34.6	37.1	4.60
	1.742	49.1	33.0	27.1	0.82	8.30	41.3	3.97	46.8	9.88	37.0	38.1	4.74
	2.322	64.1	33.3	27.3	0.82	8.09	41.4	4.12	48.3	10.02	63.0	26.9	4.82
30	1.161	34.3	31.2	26.4	0.85	9.44	40.6	3.30	48.3	10.02	38.3	38.6	4.82
	1.742	48.4	32.0	26.7	0.84	8.93	40.9	3.58	51.2	10.32	40.9	39.8	4.96
	2.322	63.0	32.4	26.9	0.83	8.68	41.1	3.73	52.9	10.49	42.4	40.4	5.04
35	1.161	30.2	29.9	26.1	0.87	10.28	40.2	2.91	Operation Not Recommended				
	1.742	43.9	30.8	26.3	0.86	9.68	9.7	3.18					
	2.322	57.5	31.2	26.5	0.85	9.40	40.6	3.32					
40	1.161	28.3	28.6	25.9	0.91	11.23	39.8	2.55					
	1.742	41.7	29.5	26.1	0.88	10.54	40.1	2.80					
	2.322	54.8	30.0	26.2	0.87	10.22	40.2	2.94					
45	1.161	26.5	28.5	25.7	0.90	11.78	40.3	2.42					
	1.742	39.7	29.6	26.0	0.88	11.05	40.7	2.68					
	2.322	52.2	30.1	26.2	0.87	10.69	40.8	2.82					

Interpolation is permissible, extrapolation is not.

All entering air conditions are 27°C DB and 19°C WB in cooling and 20°C DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 15°C EWT requires optional insulated water circuit.

Operation below 5°C EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## Performance Data GLV 200

### 2891 l/s Nominal Airflow

Performance capacities shown in thousands of Watts.

EWT °C	FLOW l/s	WPD kPa	COOLING - EAT 27/19 °C						HEATING - EAT 20°C				
			TC kW	SC kW	Sens/Tot Ratio	POWER kW	HR kW	EER W/W	HC kW	POWER kW	HE kW	LAT °C	COP W/W
-5	1.515	104.6											
	2.272												
	3.029								34.2	10.58	23.6	29.8	3.23
0	1.515	50.6	51.1	40.2	0.79	9.34	60.4	5.47	35.8	10.76	25.1	30.3	3.33
	2.272	69.7	51.3	39.9	0.78	8.86	60.1	5.79	37.0	10.87	26.1	30.6	3.41
	3.029	95.3	51.3	39.7	0.77	8.61	59.9	5.96	37.7	10.94	26.7	30.8	3.44
5	1.515	46.7	50.7	40.5	0.80	9.90	60.6	5.12	39.5	11.11	28.4	31.3	3.56
	2.272	64.5	51.1	40.2	0.79	9.44	60.5	5.41	41.1	11.25	29.8	31.8	3.65
	3.029	88.2	51.2	40.1	0.78	9.20	60.4	5.56	42.0	11.33	30.6	32.0	3.70
10	1.515	44.6	49.7	40.5	0.81	10.48	60.2	4.74	43.7	11.49	32.3	32.5	3.81
	2.272	61.0	50.5	40.5	0.80	10.01	60.6	5.05	45.7	11.66	34.0	33.1	3.92
	3.029	82.5	50.9	40.4	0.79	9.77	60.6	5.20	46.8	11.75	35.0	33.4	3.98
15	1.515	43.0	48.3	40.2	0.83	11.12	59.4	4.34	48.3	11.87	36.4	33.8	4.07
	2.272	58.9	49.4	40.4	0.82	10.60	60.0	4.66	50.6	12.07	38.5	34.5	4.19
	3.029	79.3	49.9	40.5	0.81	10.35	60.3	4.82	51.8	12.17	39.6	34.8	4.26
20	1.515	41.8	46.7	39.7	0.85	11.84	58.5	3.94	52.9	12.27	40.7	35.2	4.31
	2.272	57.2	48.0	40.1	0.84	11.25	59.2	4.26	55.4	12.48	42.9	35.9	4.44
	3.029	77.3	48.6	40.2	0.83	10.98	59.6	4.42	56.8	12.59	44.2	36.3	4.51
25	1.515	41.0	44.9	39.1	0.87	12.67	57.6	3.54	57.4	12.66	44.8	36.5	4.54
	2.272	56.2	46.3	39.6	0.86	12.01	58.3	3.85	60.0	12.88	47.2	37.2	4.66
	3.029	75.8	47.0	39.8	0.85	11.70	58.7	4.01	61.4	13.00	48.4	37.6	4.72
30	1.515	40.3	43.1	38.5	0.89	13.63	56.7	3.16	61.7	13.02	48.7	37.7	4.74
	2.272	55.2	44.5	39.0	0.88	12.86	57.3	3.46	64.3	13.26	51.0	38.4	4.85
	3.029	74.6	45.2	39.3	0.87	12.51	57.7	3.61	65.5	13.38	52.1	38.8	4.90
35	1.515	38.0	41.4	37.9	0.91	14.82	56.2	2.79	Operation Not Recommended				
	2.272	51.9	42.7	38.4	0.90	13.91	56.6	3.07					
	3.029	69.7	43.4	38.6	0.89	13.49	56.9	3.22					
40	1.515	36.6	39.9	37.3	0.94	16.22	56.2	2.46					
	2.272	50.0	41.0	37.7	0.92	15.14	56.2	2.71					
	3.029	67.0	41.7	37.9	0.91	14.64	56.3	2.85					
45	1.515	35.4	39.1	37.3	0.95	16.90	56.0	2.32					
	2.272	48.2	40.7	38.0	0.94	15.82	56.5	2.57					
	3.029	64.4	41.5	38.4	0.92	15.34	56.9	2.71					

Interpolation is permissible, extrapolation is not.

All entering air conditions are 27°C DB and 19°C WB in cooling and 20°C DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 15°C EWT requires optional insulated water circuit.

Operation below 5°C EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.



# GL Series 50Hz - R407C Submittal Data Eng/S-I



## Performance Data GLV 240

### 3304 l/s Nominal Airflow

Performance capacities shown in thousands of Watts.

EWT °C	FLOW l/s	WPD kPa	COOLING - EAT 27/19 °C						HEATING - EAT 20 °C				
			TC kW	SC kW	Sens/Tot Ratio	POWER kW	HR kW	EER W/W	HC kW	POWER kW	HE kW	LAT °C	COP W/W
-5	1.893	147.8											
	2.840												
	3.786								39.3	12.42	26.8	29.8	3.16
0	1.893	65.3	51.6	40.0	0.78	10.40	62.0	4.97	41.8	12.70	29.1	30.5	3.29
	2.840	93.5	51.7	39.2	0.76	9.91	61.6	5.22	43.2	12.84	30.3	30.8	3.36
	3.786	132.0	51.7	38.6	0.75	9.64	61.4	5.37	43.9	12.92	31.0	31.0	3.40
5	1.893	59.0	51.6	41.1	0.80	11.13	62.7	4.64	46.4	13.17	33.2	31.6	3.52
	2.840	84.4	51.6	40.4	0.78	10.64	62.3	4.85	48.0	13.33	34.7	32.0	3.60
	3.786	119.2	51.7	40.0	0.77	10.39	62.1	4.97	48.9	13.42	35.5	32.3	3.64
10	1.893	51.4	51.5	41.7	0.81	11.86	63.3	4.34	51.1	13.64	37.5	32.8	3.75
	2.840	76.4	51.6	41.3	0.80	11.37	62.9	4.53	52.9	13.82	39.1	33.3	3.83
	3.786	107.0	51.6	41.1	0.80	11.11	62.8	4.65	54.0	13.91	40.1	33.5	3.88
15	1.893	49.8	51.1	42.1	0.82	12.63	63.7	4.04	55.9	14.10	41.8	34.0	3.97
	2.840	74.3	51.4	41.9	0.81	12.11	63.5	4.24	58.0	14.29	43.7	34.5	4.06
	3.786	103.8	51.5	41.7	0.81	11.85	63.3	4.34	59.1	14.40	44.7	34.8	4.11
20	1.893	48.7	50.3	42.1	0.84	13.43	63.8	3.75	60.7	14.55	46.2	35.2	4.17
	2.840	72.4	50.9	42.1	0.83	12.88	63.7	3.95	63.0	14.77	48.2	35.8	4.26
	3.786	101.3	51.1	42.0	0.82	12.60	63.7	4.05	64.2	14.89	49.4	36.1	4.32
25	1.893	47.6	49.2	41.8	0.85	14.30	63.5	3.44	65.5	15.01	50.5	36.4	4.36
	2.840	70.8	50.0	42.0	0.84	13.71	63.7	3.65	67.9	15.23	52.6	37.0	4.45
	3.786	99.1	50.3	42.0	0.84	13.41	63.8	3.76	69.2	15.36	53.8	37.4	4.51
30	1.893	46.6	47.6	41.3	0.87	15.22	62.8	3.13	70.1	15.43	54.7	37.6	4.54
	2.840	69.5	48.7	41.7	0.85	14.59	63.3	3.34	72.6	15.69	56.9	38.2	4.63
	3.786	97.0	49.3	41.8	0.85	14.26	63.5	3.45	74.0	15.83	58.1	38.5	4.67
35	1.893	42.2	45.3	40.4	0.89	16.25	61.5	2.79	Operation Not Recommended				
	2.840	63.9	46.8	41.0	0.88	15.57	62.4	3.01					
	3.786	89.0	47.5	41.0	0.86	15.22	62.7	3.12					
40	1.893	40.0	42.4	39.1	0.92	17.37	59.8	2.44					
	2.840	61.0	44.3	39.9	0.90	16.64	60.9	2.66					
	3.786	84.8	45.2	40.3	0.89	16.26	61.5	2.78					
45	1.893	37.9	43.6	40.4	0.93	18.46	62.0	2.36					
	2.840	58.2	45.4	41.5	0.91	17.72	63.2	2.56					
	3.786	80.8	46.3	41.9	0.91	17.34	63.7	2.67					

Interpolation is permissible, extrapolation is not.

All entering air conditions are 27°C DB and 19°C WB in cooling and 20°C DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 15°C EWT requires optional insulated water circuit.

Operation below 5°C EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## Performance Data GLV 300

### 3717 l/s Nominal Airflow

Performance capacities shown in thousands of Watts.

EWT °C	FLOW l/s	WPD kPa	COOLING - EAT 27/19 °C						HEATING - EAT 20 °C				
			TC kW	SC kW	Sens/Tot Ratio	POWER kW	HR kW	EER W/W	HC kW	POWER kW	HE kW	LAT °C	COP W/W
-5	2.398	127.6											
	3.549												
	4.732								45.9	16.14	29.8	30.2	2.85
0	2.398	57.7	65.3	51.7	0.79	13.26	78.5	4.93	49.5	16.53	33.0	31.0	2.99
	3.549	84.0	65.3	51.1	0.78	12.67	78.0	5.16	51.1	16.71	34.4	31.4	3.06
	4.732	116.0	65.4	50.9	0.78	12.37	77.8	5.28	52.0	16.81	35.2	31.6	3.10
5	2.398	49.2	65.1	52.4	0.80	14.15	79.3	4.60	55.5	17.20	38.3	32.4	3.23
	3.549	70.1	65.3	51.9	0.80	13.55	78.8	4.82	57.6	17.44	40.2	32.8	3.30
	4.732	97.5	65.3	51.7	0.79	13.25	78.6	4.93	58.7	17.57	41.1	33.1	3.34
10	2.398	47.8	64.9	52.9	0.82	15.09	80.0	4.30	61.9	17.93	44.0	33.8	3.46
	3.549	68.2	65.1	52.6	0.81	14.46	79.5	4.50	64.4	18.21	46.2	34.3	3.54
	4.732	94.8	65.2	52.4	0.80	14.14	79.3	4.61	65.7	18.36	47.3	34.6	3.58
15	2.398	46.5	64.3	53.2	0.83	16.11	80.4	3.99	68.2	18.67	49.6	35.2	3.65
	3.549	66.3	64.7	53.1	0.82	15.42	80.1	4.20	71.1	18.98	52.2	35.9	3.75
	4.732	92.1	64.8	52.9	0.82	15.08	79.9	4.30	72.6	19.14	53.5	36.2	3.79
20	2.398	45.4	63.3	53.2	0.84	17.23	80.5	3.67	74.8	19.39	55.4	36.7	3.86
	3.549	64.7	64.0	53.3	0.83	16.46	80.4	3.89	77.7	19.71	57.9	37.3	3.94
	4.732	89.9	64.2	53.2	0.83	16.09	80.3	3.99	79.2	19.88	59.3	37.6	3.98
25	2.398	44.3	61.3	52.8	0.86	18.45	79.7	3.32	80.8	20.06	60.7	38.0	4.03
	3.549	63.3	62.9	53.1	0.85	17.61	80.5	3.57	83.7	20.37	63.3	38.6	4.11
	4.732	87.7	63.3	53.2	0.84	17.20	80.5	3.68	85.1	20.53	64.6	39.0	4.15
30	2.398	43.5	60.0	52.0	0.87	19.79	79.7	3.03	86.3	20.66	65.7	39.2	4.18
	3.549	62.1	61.3	52.6	0.86	18.86	80.2	3.25	89.0	20.93	68.1	39.8	4.25
	4.732	86.0	61.9	52.9	0.85	18.41	80.3	3.36	90.3	21.06	69.3	40.1	4.29
35	2.398	40.6	57.3	50.5	0.88	21.33	78.7	2.69	Operation Not Recommended				
	3.549	57.6	59.1	51.5	0.87	20.30	79.4	2.91					
	4.732	80.0	59.9	51.9	0.87	19.79	79.7	3.03					
40	2.398	39.1	54.1	48.4	0.89	23.02	77.1	2.35					
	3.549	55.3	56.3	49.8	0.89	21.88	78.2	2.57					
	4.732	76.7	57.3	50.5	0.88	21.33	78.7	2.69					
45	2.398	37.5	55.1	50.1	0.91	24.42	79.5	2.26					
	3.549	53.0	57.4	51.6	0.90	23.21	80.6	2.47					
	4.732	73.6	58.4	52.2	0.89	22.63	81.0	2.58					

Interpolation is permissible, extrapolation is not.

All entering air conditions are 27°C DB and 19°C WB in cooling and 20°C DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

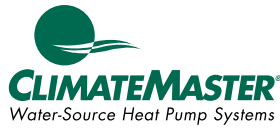
Operation below 15°C EWT requires optional insulated water circuit.

Operation below 5°C EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLH Performance Data Correction Tables

GLH Air Flow Correction Table

Airflow % of Nominal	Cooling				Heating		
	Total Cap	Sens Cap	Power	Heat of Rej	Htg Cap	Power	Heat of Ext
69%	0.954	0.904	0.951	0.936	0.964	1.044	0.959
75%	0.962	0.922	0.961	0.950	0.971	1.035	0.967
81%	0.971	0.940	0.971	0.964	0.978	1.026	0.975
88%	0.983	0.963	0.981	0.978	0.985	1.017	0.987
94%	0.992	0.982	0.990	0.989	0.992	1.009	0.994
<b>100%</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
106%	1.005	1.013	1.010	1.009	1.008	0.991	1.005
113%	1.010	1.027	1.019	1.019	1.017	0.983	1.010
119%	1.012	1.033	1.029	1.026	1.022	0.974	1.011

See specific model for rated airflow equivalent to 100% of nominal

GLH Entering Air Correction Table

Cooling Corrections										
Ent Air WB °C	Total Clg Cap	Sens Clg Cap Multiplier - Entering DB °C							Power	Heat of Rej
		21.1	23.9	26.7	27.0	29.4	32.2	35.0		
15.6	0.962	0.835	1.038	1.368	*	*	*	*	0.992	0.967
18.3	0.989	0.626	0.825	1.028	1.051	*	*	*	0.998	0.991
<b>19.0</b>	<b>1.000</b>	0.576	0.774	0.976	<b>1.000</b>	1.173	*	*	<b>1.000</b>	<b>1.000</b>
19.4	1.007	0.543	0.741	0.942	0.966	1.140	*	*	1.001	1.006
21.1	1.035	0.419	0.614	0.813	0.838	1.016	1.221	*	1.007	1.03
23.9	1.105		0.405	0.600	0.624	0.799	1.005	1.211	1.023	1.091

\* Sensible capacity equals total capacity

Discontinued Standards ARI 320, 325, and 330 used entering air conditions of Clg- 26.7 °C DB/19.4°C WB

and Htg- 21.1°C DB

Heating Corrections			
Ent Air DB °C	Htg Cap	Power	Heat of Ext
7.2	1.030	0.831	1.096
10.0	1.023	0.864	1.077
12.8	1.016	0.899	1.056
15.6	1.009	0.936	1.035
18.3	1.003	0.975	1.013
<b>20.0</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
21.1	0.998	1.017	0.991
23.9	0.994	1.063	0.969
26.7	0.989	1.112	0.947



## GLV Performance Data Correction Tables

GLV Air Flow Correction Table

Airflow	Cooling				Heating		
% of Rated	Total Cap	Sens Cap	Power	Heat of Rej	Htg Cap	Power	Heat of Ext
75%	0.962	0.867	0.950	0.959	0.985	1.030	0.972
81%	0.973	0.898	0.962	0.970	0.989	1.017	0.980
88%	0.983	0.940	0.977	0.982	0.993	1.008	0.988
94%	0.993	0.971	0.989	0.992	0.997	1.003	0.994
100%	1.000	1.000	1.000	1.000	1.000	1.000	1.000
106%	1.006	1.029	1.011	1.007	1.003	0.999	1.005
113%	1.012	1.061	1.024	1.015	1.007	0.999	1.009

GLV Entering Air Correction Table

Cooling Corrections										
Ent Air WB °C	Total Clg Cap	Sens Clg Cap Multiplier - Entering DB °C							Power	Heat of Rej
		21.1	23.9	26.7	27.0	29.4	32.2	35.0		
15.6	0.940	0.822	1.034	1.175	1.183	*	*	*	0.985	0.921
18.3	0.987	0.608	0.814	1.026	1.050	1.223	*	*	0.997	0.991
19.0	1.000	0.557	0.761	0.976	1.000	1.181	*	*	1.000	1.000
19.4	1.046	0.520	0.726	0.938	0.965	1.150	1.311	1.379	1.014	1.012
21.1	1.079		0.623	0.801	0.830	1.019	1.229	1.379	1.022	1.041
23.9	1.141			0.506	0.611	0.788	1.006	1.218	1.039	1.093

Heating Corrections			
Ent Air DB °C	Htg Cap	Power	Heat of Ext
15.6	1.007	0.991	1.010
18.3	1.003	1.001	1.002
20.0	1.000	1.000	1.000
21.1	0.997	1.003	0.992
23.9	0.993	1.008	0.982
26.7	0.982	1.013	0.979

\* Sensible capacity equals total capacity

ARI/ISO/ASHRAE 13256-1 uses entering air conditions of Clg- 27°C DB/19 C WB and Htg- 20°C DB/15°C WB

Discontinued Standards ARI 320, 325, and 330 used entering air conditions of Clg- 26.7°C DB/19.4°C WB and Htg- 21.1 C DB

GL Series Dry Coil to Wet Coil Conversion Table

Air Coil Face Velocity (fpm)	Required BH Multiplier	Required RP Multiplier
250	1.00	1.00
300	1.02	1.06
350	1.05	1.12
400	1.08	1.18
450	1.11	1.26
500	1.14	1.34

Example:

GLV080 Dry coil performance is 0.92 BHP, 867 rpm

@ 2600 cfm (or 2600 cfm / 9 ft<sup>2</sup> coil = 290 fpm);

Wet Coil performance would be 0.92 x 1.02 = 0.94 BHP Required

and 867 rpm x 1.06 = 919 rpm required

Notes:

-Sheave Turns and RPM relationship is unchanged

Use original table to find correct turns based upon new rpm

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLH 072 Blower Performance Data

Airflow in l/s with dry coil and clean air filter.

Airflow (l/s)		External Static Pressure (pascals)															
		0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375
743	BkW					0.19	0.23	0.26	0.30	0.33	0.37	0.40	0.44	0.48	0.52	0.56	
	RPM					603	654	705	752	798	841	884	925	965	1005	1041	
	TURNS					1.0	3.0	2.2	1.5	0.7	3.0	2.6	1.9	1.5	0.7	0.4	
826	BkW				0.22	0.25	0.28	0.31	0.34	0.38	0.42	0.46	0.50	0.54	0.59	0.63	
	RPM				578	630	679	726	770	814	856	897	936	975	1012	1048	
	TURNS				1.5	0.5	3.5	2.5	1.5	0.5	4.0	3.0	2.5	1.5	1.0	0.0	
909	BkW		0.21	0.24	0.27	0.31	0.34	0.37	0.40	0.45	0.48	0.53	0.57	0.61	0.66	0.71	
	RPM		512	563	614	661	708	751	795	835	875	914	952	989	1025	1060	
	TURNS		3.0	2.0	0.5	4.0	3.0	2.0	1.0	0.0	3.5	2.5	2.0	1.5	0.5	0.0	
991	BkW	0.25	0.28	0.31	0.34	0.37	0.40	0.44	0.48	0.52	0.56	0.60	0.65	0.70	0.75		
	RPM	515	560	606	652	698	740	782	822	861	900	936	972	1008	1042		
	TURNS	3.0	2.0	1.0	4.0	3.0	2.0	1.0	0.0	3.5	3.0	2.5	1.5	1.0	0.5		
1074	BkW	0.30	0.34	0.37	0.41	0.45	0.48	0.52	0.56	0.60	0.66	0.70	0.75	0.80	0.84		
	RPM	571	612	653	694	735	776	816	853	891	927	962	997	1030	1063		
	TURNS	1.5	0.5	4.0	3.0	2.5	1.5	0.5	4.0	3.0	2.5	2.0	1.0	0.5	0.0		
1156	BkW	0.40	0.43	0.47	0.51	0.54	0.58	0.63	0.66	0.71	0.75	0.81	0.86	0.91			
	RPM	619	659	698	738	777	816	852	889	924	958	992	1025	1057			
	TURNS	0.5	4.0	3.0	2.0	1.5	0.5	4.0	3.0	2.5	2.0	1.5	0.5	0.0			
1239	BkW	0.50	0.54	0.57	0.61	0.66	0.69	0.74	0.78	0.84	0.89	0.93	0.98				
	RPM	675	710	747	785	822	857	893	927	960	994	1025	1057				
	TURNS	3.5	3.0	2.0	1.0	0.0	4.0	3.0	2.5	2.0	1.0	0.5	0.0				

Bold Face Requires Large Motor. Consult physical data for sizes.

A=Std Static/Std Mtr; B=Low Static/Std Mtr; C=High Static/Std Mtr; E=High Static/Large Mtr

Units factory shipped with standard static sheave and drive at 2.5 turns open (991 l/s @ 112 pascals ESP Wet Coil). Other speeds require field selection.

ISO/ARI rating point with standard static sheave and drive at 1.5 turns open (991 l/s @ 125 pascals ESP Wet Coil). Other speeds require field selection.

For applications requiring higher static pressures, contact your local representative.

Performance data does not include drive losses and is based on sea level conditions.

Do not operate in gray region.

All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [mps] = Airflow [l/s] / (Face Area [sq m] \* 1000)).

Then for velocities of 1.0 m/s reduce the static capability by 7.5 pascals, 1.5 m/s by 19.9 pascals, 2.0 m/s by 29.9 pascals and 2.5 m/s by 39.8 pascals.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLH 096 Blower Performance Data

Airflow in l/s with dry coil and clean air filter.

Airflow (l/s)		External Static Pressure (pascals)															
		0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375
1074	BkW		0.40	0.45	0.49	0.54	0.58	0.62	0.66	0.71	0.75	0.80	0.84	0.89	0.94	0.98	1.03
	RPM		897	950	1003	1052	1100	1145	1190	1233	1274	1314	1353	1391	1427	1463	1498
	URNS		3.5	2.0	1.0	4.5	3.5	2.5	1.5	0.5	0.0	3.5	3.0	2.0	1.5	1.0	0.5
1156	BkW	0.45	0.50	0.54	0.59	0.63	0.68	0.72	0.77	0.82	0.87	0.92	0.96	1.01	1.06	1.11	1.16
	RPM	901	953	1005	1053	1101	1145	1190	1232	1273	1314	1352	1391	1427	1463	1498	1532
	URNS	3.5	2.0	1.0	4.5	3.5	2.5	1.5	0.5	0.0	3.5	3.0	2.0	1.5	1.0	0.5	0.0
1239	BkW	0.54	0.60	0.64	0.69	0.74	0.79	0.84	0.89	0.94	0.99	1.04	1.09	1.14	1.19	1.25	
	RPM	957	1007	1055	1102	1146	1190	1232	1273	1313	1352	1390	1426	1462	1498	1531	
	URNS	2.0	0.5	4.5	3.5	2.5	1.5	0.5	0.0	3.5	3.0	2.5	1.5	1.0	0.5	0.0	
1322	BkW	0.65	0.70	0.75	0.81	0.86	0.91	0.96	1.01	1.07	1.13	1.18	1.23	1.29	1.34		
	RPM	1012	1058	1104	1148	1191	1232	1273	1313	1351	1389	1426	1461	1497	1531		
	URNS	0.5	4.0	3.5	2.5	1.5	0.5	0.0	3.5	3.0	2.5	1.5	1.0	0.5	0.0		
1404	BkW	0.77	0.82	0.87	0.93	0.98	1.04	1.10	1.16	1.21	1.27	1.32	1.38	1.44			
	RPM	1063	1107	1150	1193	1233	1274	1313	1351	1389	1425	1461	1496	1530			
	URNS	4.0	3.0	2.5	1.5	0.5	0.0	3.5	3.0	2.5	1.5	1.0	0.5	0.0			
1487	BkW	0.90	0.95	1.01	1.07	1.12	1.18	1.24	1.30	1.36	1.42	1.48	1.54				
	RPM	1112	1154	1196	1236	1275	1314	1351	1389	1425	1460	1495	1529				
	URNS	3.0	2.5	1.5	0.5	4.0	3.5	3.0	2.5	1.5	1.0	0.5	0.0				
1569	BkW	1.03	1.09	1.15	1.21	1.27	1.34	1.40	1.45	1.51	1.58	1.65					
	RPM	1159	1200	1239	1278	1316	1353	1390	1425	1460	1495	1529					
	URNS	2.0	1.5	4.5	4.0	3.5	3.0	2.5	1.5	1.0	0.5	0.0					

Bold Face Requires Large Motor. Consult physical data for sizes.

A=Std Static/Std Mtr; B=Low Static/Std Mtr; C=High Static/Std Mtr; E=High Static/Large Mtr

Units factory shipped with standard static sheave and drive at 2.5 turns open (1322 l/s @ 150 pascals ESP Wet Coil). Other speeds require field selection.

ISO/ARI rating point with standard static sheave and drive at 1.5 turns open (1322 l/s @ 100 pascals ESP Wet Coil). Other speeds require field selection.

For applications requiring higher static pressures, contact your local representative.

Performance data does not include drive losses and is based on sea level conditions.

Do not operate in gray region.

All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [mps] = Airflow [l/s] / (Face Area [sq m] \* 1000)).

Then for velocities of 1.0 m/s reduce the static capability by 7.5 pascals, 1.5 m/s by 19.9 pascals, 2.0 m/s by 29.9 pascals and 2.5 m/s by 39.8 pascals.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLH 120 Blower Performance Data

Airflow in l/s with dry coil and clean air filter.

Airflow (l/s)		External Static Pressure (pascals)															
		0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375
1404	BkW		0.62	0.65	0.69	0.72	0.75	0.78	0.81	0.84	0.87	0.90	0.93	0.96	0.99	1.02	1.05
	RPM		963	995	1026	1055	1085	1114	1141	1169	1196	1222	1248	1273	1299	1323	1347
	URNS		4.5	4.0	3.0	2.5	1.5	0.7	0.4	0.0	2.6	2.2	1.9	1.5	1.1	0.7	0.4
1487	BkW	0.68	0.72	0.75	0.78	0.82	0.85	0.88	0.92	0.95	0.98	1.01	1.04	1.08	1.11	1.14	1.17
	RPM	965	998	1027	1057	1087	1115	1142	1170	1197	1223	1248	1273	1299	1322	1346	1370
	URNS	4.5	3.5	3.0	2.5	2.0	1.0	0.5	0.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0
1569	BkW	0.78	0.81	0.85	0.89	0.92	0.95	0.99	1.03	1.07	1.10	1.13	1.16	1.20	1.23	1.27	
	RPM	1001	1030	1060	1089	1117	1144	1171	1199	1224	1249	1274	1299	1323	1347	1370	
	URNS	3.5	3.0	2.5	1.5	1.0	0.5	0.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0	
1652	BkW	0.88	0.92	0.95	0.99	1.04	1.07	1.11	1.15	1.19	1.22	1.26	1.29	1.33	1.37		
	RPM	1034	1063	1092	1120	1147	1174	1201	1226	1251	1276	1301	1325	1348	1371		
	URNS	3.0	2.5	1.5	1.0	0.5	0.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0		
1735	BkW	0.99	1.03	1.07	1.12	1.16	1.19	1.24	1.28	1.31	1.35	1.40	1.43	1.47			
	RPM	1067	1096	1124	1150	1177	1204	1229	1254	1279	1303	1327	1350	1373			
	URNS	2.0	1.5	1.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0			
1817	BkW	1.11	1.16	1.20	1.25	1.28	1.33	1.37	1.41	1.45	1.50	1.54	1.57				
	RPM	1101	1128	1155	1182	1208	1233	1257	1282	1307	1330	1353	1376				
	URNS	1.5	5.0	4.5	3.5	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0				
1900	BkW	1.24	1.28	1.34	1.38	1.42	1.47	1.51	1.56	1.60	1.64	1.69					
	RPM	1133	1160	1187	1212	1237	1262	1287	1310	1334	1357	1380					
	URNS	4.5	4.0	3.5	3.0	2.5	2.5	2.0	1.5	1.0	0.5	0.0					

Bold Face Requires Large Motor. Consult physical data for sizes.

A=Std Static/Std Mtr; B=Low Static/Std Mtr; C=High Static/Std Mtr; E=High Static/Large Mtr

Units factory shipped with standard static sheave and drive at 2.5 turns open (1652 l/s @ 125 pascals ESP Wet Coil). Other speeds require field selection.

ISO/ARI rating point with standard static sheave and drive at 3.5 turns open (1652 l/s @ 100 pascals ESP Wet Coil). Other speeds require field selection.

For applications requiring higher static pressures, contact your local representative.

Performance data does not include drive losses and is based on sea level conditions.

Do not operate in gray region.

All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [mps] = Airflow [l/s] / (Face Area [sq m] \* 1000)).

Then for velocities of 1.0 m/s reduce the static capability by 7.5 pascals, 1.5 m/s by 19.9 pascals, 2.0 m/s by 29.9 pascals and 2.5 m/s by 39.8 pascals.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLV 080 Blower Performance Data

Airflow in l/s with dry coil and clean air filter.

Airflow (l/s)		External Static Pressure (pascals)															
		0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375
826	BkW	0.19	0.22	0.25	0.28	0.31	0.33	0.36	0.39	0.42	0.45	0.48	0.51				
	RPM	561	607	650	694	735	776	816	854	892	929	964	1000				
	Turns	1.5	0.0	4.5	3.0	2.5	1.5	0.5	3.0	2.0	1.5	1.0	0.0				
909	BkW	0.25	0.28	0.31	0.33	0.36	0.39	0.42	0.45	0.48	0.51	0.54	0.57				
	RPM	593	635	675	715	754	793	830	867	903	938	972	1006				
	Turns	0.5	4.5	3.5	2.5	2.0	1.0	0.0	2.5	2.0	1.5	0.5	0.0				
991	BkW	0.31	0.34	0.36	0.39	0.43	0.46	0.48	0.51	0.55	0.58	0.62	0.65				
	RPM	623	663	702	738	775	811	846	881	915	949	982	1014				
	Turns	0.0	4.0	3.0	2.0	1.5	0.5	3.0	2.5	2.0	1.0	0.5	0.0				
1074	BkW	0.37	0.40	0.43	0.46	0.49	0.53	0.56	0.60	0.63	0.66	0.70					
	RPM	656	693	728	763	797	831	864	897	929	961	993					
	Turns	4.0	3.5	2.5	1.5	1.0	0.0	3.0	2.0	1.5	1.0	0.0					
1156	BkW	0.44	0.48	0.51	0.54	0.57	0.61	0.64	0.68	0.72	0.75	0.79					
	RPM	688	722	755	788	820	852	884	915	945	976	1006					
	Turns	3.5	2.5	2.0	1.0	0.0	3.0	2.5	2.0	1.0	0.5	0.0					
1239	BkW	0.52	0.56	0.60	0.63	0.66	0.70	0.74	0.78	0.81	0.86						
	RPM	720	751	783	814	844	875	905	934	963	992						
	Turns	2.5	2.0	1.0	0.5	3.0	2.5	2.0	1.5	1.0	0.5						
1322	BkW	0.62	0.66	0.69	0.72	0.76	0.81	0.84	0.89	0.93	0.96						
	RPM	751	781	811	840	869	898	926	954	982	1010						
	Turns	2.0	1.0	0.5	0.0	2.5	2.0	1.5	1.0	0.5	0.0						

Bold Face Requires Large Motor. Consult physical data for sizes.

A=Std Static/Std Mtr; B=Low Static/Std Mtr; C=High Static/Std Mtr; E=High Static/Large Mtr

Units factory shipped with standard static sheave and drive at 2.5 turns open (1074 l/s @ 125 pascals ESP Wet Coil). Other speeds require field selection.

ISO/ARI rating point with standard static sheave and drive at 1.5 turns open (1074 l/s @ 100 pascals ESP Wet Coil). Other speeds require field selection.

For applications requiring higher static pressures, contact your local representative.

Performance data does not include drive losses and is based on sea level conditions.

Do not operate in gray region.

All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [mps] = Airflow [l/s] / (Face Area [sq m] \* 1000)).

Then for velocities of 1.0 m/s reduce the static capability by 7.5 pascals, 1.5 m/s by 19.9 pascals, 2.0 m/s by 29.9 pascals and 2.5 m/s by 39.8 pascals.



# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLV 100 Blower Performance Data

Airflow in l/s with dry coil and clean air filter.

Airflow (l/s)		External Static Pressure (pascals)															
		0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375
1115	BkW			0.26	0.30	0.34	0.39	0.43	0.48	0.53	0.58	0.63	0.69	0.74	0.79		
	RPM			502	542	583	621	658	694	728	760	793	823	853	883		
	TURNS			4.0	2.5	1.5	4.5	3.5	2.5	1.5	1.0	0.0	1.5	1.0	0.5		
1198	BkW			0.30	0.34	0.38	0.43	0.48	0.53	0.58	0.63	0.69	0.74	0.80	0.85		
	RPM			515	554	594	630	666	701	734	766	798	828	857	886		
	TURNS			3.5	2.0	1.0	4.0	3.0	2.5	1.5	0.5	0.0	1.5	1.0	0.0		
1281	BkW		0.30	0.34	0.37	0.43	0.48	0.52	0.57	0.63	0.69	0.74	0.80	0.86	0.92		
	RPM		488	528	567	605	640	675	708	740	772	803	832	861	890		
	TURNS		4.5	3.0	2.0	4.5	4.0	3.0	2.0	1.5	0.5	0.0	1.5	0.5	0.0		
1363	BkW		0.34	0.37	0.43	0.47	0.52	0.57	0.63	0.69	0.74	0.80	0.86	0.92	0.98		
	RPM		504	542	580	616	650	684	716	747	778	809	837	866	894		
	TURNS		4.0	2.5	1.5	4.5	3.5	3.0	2.0	1.0	0.5	2.0	1.5	0.5	0.0		
1446	BkW	0.34	0.38	0.43	0.47	0.52	0.57	0.63	0.68	0.74	0.80	0.86	0.93	0.98	1.04		
	RPM	480	519	556	593	627	660	694	725	755	785	815	843	871	899		
	TURNS	4.5	3.5	2.0	1.0	4.0	3.5	2.5	2.0	1.0	0.5	2.0	1.0	0.5	0.0		
1528	BkW	0.39	0.43	0.48	0.52	0.57	0.63	0.69	0.74	0.80	0.87	0.93	0.99	1.05	1.11		
	RPM	497	534	571	606	639	671	704	733	763	793	821	848	876	903		
	TURNS	4.0	3.0	1.5	4.5	4.0	3.0	2.5	1.5	1.0	0.0	1.5	1.0	0.5	0.0		
1611	BkW	0.45	0.48	0.53	0.58	0.63	0.69	0.75	0.81	0.87	0.93	0.99	1.06	1.12			
	RPM	514	549	585	619	651	683	713	743	772	801	828	855	882			
	TURNS	3.5	2.5	1.0	4.5	3.5	3.0	2.0	1.5	0.5	0.0	1.5	1.0	0.5			
1694	BkW	0.50	0.54	0.60	0.65	0.70	0.75	0.81	0.87	0.94	1.00	1.06	1.13	1.19			
	RPM	530	565	600	632	663	695	724	752	781	809	835	862	888			
	TURNS	3.0	2.0	0.5	4.0	3.5	2.5	2.0	1.0	0.5	2.0	1.5	0.5	0.0			

Bold Face Requires Large Motor. Consult physical data for sizes.

A=Std Static/Std Mtr; B=Low Static/Std Mtr; C=High Static/Std Mtr; E=High Static/Large Mtr

Units factory shipped with standard static sheave and drive at 2.5 turns open (1445 l/s @ 100 pascals ESP Wet Coil). Other speeds require field selection.

ISO/ARI rating point with standard static sheave and drive at 2.0 turns open (1446 l/s @ 112 pascals ESP Wet Coil). Other speeds require field selection.

For applications requiring higher static pressures, contact your local representative.

Performance data does not include drive losses and is based on sea level conditions.

Do not operate in gray region.

All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [mps] = Airflow [l/s] / (Face Area [sq m] \* 1000)).

Then for velocities of 1.0 m/s reduce the static capability by 7.5 pascals, 1.5 m/s by 19.9 pascals, 2.0 m/s by 29.9 pascals and 2.5 m/s by 39.8 pascals.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLV 120 Blower Performance Data

Airflow in l/s with dry coil and clean air filter.

Airflow (l/s)		External Static Pressure (pascals)															
		0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375
1404	BkW		0.62	0.65	0.69	0.72	0.75	0.78	0.81	0.84	0.87	0.90	0.93	0.96	0.99	1.02	1.05
	RPM		963	995	1026	1055	1085	1114	1141	1169	1196	1222	1248	1273	1299	1323	1347
	TURNS		4.5	4.0	3.0	2.5	1.5	0.7	0.4	0.0	2.6	2.2	1.9	1.5	1.1	0.7	0.4
1487	BkW	0.68	0.72	0.75	0.78	0.82	0.85	0.88	0.92	0.95	0.98	1.01	1.04	1.08	1.11	1.14	1.17
	RPM	965	998	1027	1057	1087	1115	1142	1170	1197	1223	1248	1273	1299	1322	1346	1370
	TURNS	4.5	3.5	3.0	2.5	2.0	1.0	0.5	0.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0
1569	BkW	0.78	0.81	0.85	0.89	0.92	0.95	0.99	1.03	1.07	1.10	1.13	1.16	1.20	1.23	1.27	
	RPM	1001	1030	1060	1089	1117	1144	1171	1199	1224	1249	1274	1299	1323	1347	1370	
	TURNS	3.5	3.0	2.5	1.5	1.0	0.5	0.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0	
1652	BkW	0.88	0.92	0.95	0.99	1.04	1.07	1.11	1.15	1.19	1.22	1.26	1.29	1.33	1.37		
	RPM	1034	1063	1092	1120	1147	1174	1201	1226	1251	1276	1301	1325	1348	1371		
	TURNS	3.0	2.5	1.5	1.0	0.5	0.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0		
1735	BkW	0.99	1.03	1.07	1.12	1.16	1.19	1.24	1.28	1.31	1.35	1.40	1.43	1.47			
	RPM	1067	1096	1124	1150	1177	1204	1229	1254	1279	1303	1327	1350	1373			
	TURNS	2.0	1.5	1.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0			
1817	BkW	1.11	1.16	1.20	1.25	1.28	1.33	1.37	1.41	1.45	1.50	1.54	1.57				
	RPM	1101	1128	1155	1182	1208	1233	1257	1282	1307	1330	1353	1376				
	TURNS	1.5	5.0	4.5	3.5	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0				
1900	BkW	1.24	1.28	1.34	1.38	1.42	1.47	1.51	1.56	1.60	1.64	1.69					
	RPM	1133	1160	1187	1212	1237	1262	1287	1310	1334	1357	1380					
	TURNS	4.5	4.0	3.5	3.0	2.5	2.5	2.0	1.5	1.0	0.5	0.0					

Bold Face Requires Large Motor. Consult physical data for sizes.

A=Std Static/Std Mtr; B=Low Static/Std Mtr; C=High Static/Std Mtr; E=High Static/Large Mtr

Units factory shipped with standard static sheave and drive at 2.5 turns open (1652 l/s @ 125 pascals ESP Wet Coil). Other speeds require field selection.

ISO/ARI rating point with standard static sheave and drive at 3.5 turns open (1652 l/s @ 100 pascals ESP Wet Coil). Other speeds require field selection.

For applications requiring higher static pressures, contact your local representative.

Performance data does not include drive losses and is based on sea level conditions.

Do not operate in gray region.

All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [mps] = Airflow [l/s] / (Face Area [sq m] \* 1000)).

Then for velocities of 1.0 m/s reduce the static capability by 7.5 pascals, 1.5 m/s by 19.9 pascals, 2.0 m/s by 29.9 pascals and 2.5 m/s by 39.8 pascals.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLV 160 Blower Performance Data

Airflow in l/s with dry coil and clean air filter.

Airflow (l/s)		External Static Pressure (pascals)															
		0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375
1652	BkW	0.40	0.45	0.50	0.55	0.60	0.66	0.72	0.77	0.83	0.90	0.95	1.01				
	RPM	561	607	650	694	735	776	816	854	892	929	964	1000				
	Turns	1.5	0.0	4.5	3.0	2.5	1.5	0.5	3.0	2.0	1.5	1.0	0.0				
1817	BkW	0.50	0.55	0.60	0.66	0.72	0.77	0.84	0.90	0.96	1.02	1.08	1.15				
	RPM	593	635	675	715	754	793	830	867	903	938	972	1006				
	Turns	0.5	4.5	3.5	2.5	2.0	1.0	0.0	2.5	2.0	1.5	0.5	0.0				
1982	BkW	0.61	0.66	0.72	0.78	0.84	0.91	0.97	1.04	1.10	1.16	1.24	1.31				
	RPM	625	663	702	738	775	811	846	881	915	949	982	1014				
	Turns	0.0	4.0	3.0	2.0	1.5	0.5	3.0	2.5	2.0	1.0	0.5	0.0				
2148	BkW	0.74	0.80	0.86	0.93	0.99	1.05	1.12	1.19	1.26	1.33	1.40					
	RPM	656	693	728	763	797	831	864	897	929	961	993					
	Turns	4.0	3.5	2.5	1.5	1.0	0.0	3.0	2.0	1.5	1.0	0.0					
2313	BkW	0.89	0.95	1.01	1.08	1.15	1.22	1.29	1.36	1.43	1.51	1.58					
	RPM	688	722	755	788	820	852	884	915	945	976	1006					
	Turns	3.5	2.5	2.0	1.0	0.0	3.0	2.5	2.0	1.0	0.5	0.0					
2478	BkW	1.05	1.12	1.19	1.26	1.33	1.40	1.48	1.55	1.63	1.71						
	RPM	720	751	783	814	844	875	905	934	963	992						
	Turns	2.5	2.0	1.0	0.5	3.0	2.5	2.0	1.5	1.0	0.5						
2643	BkW	1.23	1.31	1.38	1.45	1.53	1.61	1.69	1.77	1.85	1.93						
	RPM	751	781	811	840	869	898	926	954	982	1010						
	Turns	2.0	1.0	0.5	0.0	2.5	2.0	1.5	1.0	0.5	0.0						

Bold Face Requires Large Motor. Consult physical data for sizes.

A=Std Static/Std Mtr; B=Low Static/Std Mtr; C=High Static/Std Mtr; E=High Static/Large Mtr

Units factory shipped with standard static sheave and drive at 2.5 turns open (2148 l/s @ 38 pascals ESP Wet Coil). Other speeds require field selection.

ISO/ARI rating point with standard static sheave and drive at 1.5 turns open (2148 l/s @ 75 pascals ESP Wet Coil). Other speeds require field selection.

For applications requiring higher static pressures, contact your local representative.

Performance data does not include drive losses and is based on sea level conditions.

Do not operate in gray region.

All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [mps] = Airflow [l/s] / (Face Area [sq m] \* 1000)).

Then for velocities of 1.0 m/s reduce the static capability by 7.5 pascals, 1.5 m/s by 19.9 pascals, 2.0 m/s by 29.9 pascals and 2.5 m/s by 39.8 pascals.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLV 200 Blower Performance Data

Airflow in l/s with dry coil and clean air filter.

Airflow (l/s)		External Static Pressure (pascals)															
		0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375
2230	BkW			0.26	0.30	0.34	0.39	0.43	0.48	0.53	0.58	0.63	0.68	0.73	0.78		
	RPM			502	542	583	621	658	694	728	761	794	824	853	883		
	Turns			4.0	2.5	1.5	4.5	3.5	2.5	1.5	1.0	0.0	1.5	1.0	0.5		
2395	BkW			0.30	0.34	0.38	0.43	0.48	0.52	0.57	0.63	0.69	0.74	0.79	0.85		
	RPM			515	554	594	630	666	702	734	766	799	828	857	887		
	Turns			3.5	2.0	1.0	4.0	3.0	2.5	1.5	0.5	0.0	1.5	1.0	0.0		
2561	BkW		0.30	0.34	0.37	0.43	0.47	0.52	0.57	0.63	0.68	0.74	0.80	0.85	0.91		
	RPM		488	528	567	605	640	675	709	740	772	804	832	861	890		
	Turns		4.5	3.0	2.0	4.5	4.0	3.0	2.0	1.5	0.5	0.0	1.5	0.5	0.0		
2726	BkW		0.34	0.37	0.42	0.47	0.52	0.57	0.63	0.68	0.74	0.80	0.86	0.92	0.98		
	RPM		504	542	580	616	650	684	716	747	779	809	837	866	894		
	Turns		4.0	2.5	1.5	4.5	3.5	3.0	2.0	1.0	0.5	2.0	1.5	0.5	0.0		
2891	BkW	0.34	0.37	0.43	0.47	0.51	0.57	0.63	0.68	0.74	0.80	0.86	0.92	0.98	1.04		
	RPM	479	519	556	593	627	660	694	725	755	785	815	843	871	899		
	Turns	4.5	3.5	2.0	1.0	4.0	3.5	2.5	2.0	1.0	2.5	2.0	1.0	0.5	0.0		
3056	BkW	0.38	0.43	0.48	0.52	0.57	0.63	0.68	0.74	0.80	0.86	0.93	0.98	1.04	1.11		
	RPM	497	534	570	606	639	671	704	733	763	793	821	849	876	903		
	Turns	4.0	3.0	1.5	4.5	4.0	3.0	2.5	1.5	3.0	2.5	1.5	1.0	0.5	0.0		
3221	BkW	0.44	0.48	0.53	0.57	0.63	0.69	0.74	0.80	0.87	0.93	0.99	1.05	1.12			
	RPM	513	549	585	619	651	683	713	743	772	801	828	855	882			
	Turns	3.5	2.5	1.0	4.5	3.5	3.0	2.0	3.5	2.5	2.0	1.5	1.0	0.5			
3387	BkW	0.50	0.54	0.59	0.64	0.69	0.75	0.81	0.87	0.93	1.00	1.06	1.12	1.19			
	RPM	529	565	600	632	663	694	724	752	781	809	835	862	888			
	Turns	3.0	2.0	0.5	4.0	3.5	4.5	4.0	3.0	2.5	2.0	1.5	0.5	0.0			

Bold Face Requires Large Motor. Consult physical data for sizes.

A=Std Static/Std Mtr; B=Low Static/Std Mtr; C=High Static/Std Mtr; E=High Static/Large Mtr

Units factory shipped with standard static sheave and drive at 2.5 turns open (2891 l/s @ 100 pascals ESP Wet Coil). Other speeds require field selection.

ISO/ARI rating point with standard static sheave and drive at 2.0 turns open (2891 l/s @ 112 pascals ESP Wet Coil). Other speeds require field selection.

For applications requiring higher static pressures, contact your local representative.

Performance data does not include drive losses and is based on sea level conditions.

Do not operate in gray region.

All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [mps] = Airflow [l/s] / (Face Area [sq m] \* 1000)).

Then for velocities of 1.0 m/s reduce the static capability by 7.5 pascals, 1.5 m/s by 19.9 pascals, 2.0 m/s by 29.9 pascals and 2.5 m/s by 39.8 pascals.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLV 240 Blower Performance Data

Airflow in l/s with dry coil and clean air filter.

Airflow (l/s)		External Static Pressure (pascals)															
		0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375
2313	BkW			0.27	0.31	0.35	0.40	0.45	0.50	0.54	0.60	0.65	0.70	0.75	0.81		
	RPM			502	542	583	620	657	693	726	759	791	822	851	880		
	Turns			4.0	2.5	1.5	4.5	3.5	2.5	1.5	1.0	0.0	1.5	1.0	0.5		
2478	BkW			0.31	0.35	0.40	0.44	0.49	0.54	0.60	0.65	0.70	0.76	0.81	0.87		
	RPM			516	555	594	630	665	700	733	765	797	826	855	884		
	Turns			3.5	2.0	1.0	4.0	3.0	2.5	1.5	1.0	0.0	1.5	1.0	0.0		
2643	BkW		0.31	0.35	0.39	0.44	0.48	0.54	0.59	0.65	0.70	0.76	0.82	0.87	0.93		
	RPM		490	530	568	606	640	674	708	740	771	802	831	860	888		
	Turns		4.0	3.0	1.5	4.5	4.0	3.0	2.0	1.5	0.5	0.0	1.5	1.0	0.0		
2808	BkW		0.35	0.39	0.44	0.48	0.54	0.59	0.64	0.70	0.76	0.82	0.88	0.94	1.00		
	RPM		507	544	581	617	651	684	716	747	778	808	836	865	893		
	Turns		3.5	2.5	1.5	4.5	3.5	3.0	2.0	1.0	0.5	2.0	1.5	0.5	0.0		
2974	BkW	0.36	0.40	0.44	0.49	0.54	0.59	0.64	0.70	0.76	0.82	0.88	0.95	1.01	1.07		
	RPM	483	522	559	595	629	662	695	725	755	785	814	842	870	898		
	Turns	4.5	3.0	2.0	1.0	4.0	3.5	2.5	2.0	1.0	0.5	2.0	1.0	0.5	0.0		
3139	BkW	0.41	0.46	0.50	0.54	0.60	0.65	0.70	0.76	0.82	0.89	0.95	1.01	1.07	1.14		
	RPM	501	537	574	609	641	673	705	735	764	794	821	849	876	903		
	Turns	4.0	2.5	1.5	4.5	4.0	3.0	2.0	1.5	1.0	0.0	1.5	1.0	0.5	0.0		
3304	BkW	0.46	0.51	0.55	0.60	0.66	0.71	0.77	0.83	0.90	0.95	1.01	1.08	1.15			
	RPM	518	553	589	622	653	685	715	744	773	802	829	856	882			
	Turns	3.5	2.0	1.0	4.5	3.5	2.5	2.0	1.5	0.5	0.0	1.5	1.0	0.5			
3469	BkW	0.52	0.57	0.62	0.67	0.72	0.78	0.84	0.90	0.96	1.03	1.09	1.16	1.22			
	RPM	534	569	604	635	666	698	726	755	783	810	837	863	889			
	Turns	3.0	1.5	5.0	4.0	3.0	2.5	1.5	1.0	0.5	2.0	1.5	0.5	0.0			
3634	BkW	0.59	0.64	0.69	0.74	0.80	0.86	0.92	0.98	1.04	1.10	1.16	1.24	1.31			
	RPM	551	586	618	649	679	709	737	765	793	819	845	871	897			
	Turns	2.5	1.0	4.5	3.5	3.0	2.0	1.5	1.0	0.0	1.5	1.0	0.5	0.0			
3800	BkW	0.66	0.71	0.76	0.82	0.88	0.94	1.00	1.06	1.11	1.19	1.25	1.32	1.40			
	RPM	569	602	632	663	693	721	749	776	803	829	854	880	905			
	Turns	1.5	0.5	4.0	3.5	2.5	2.0	1.0	0.5	0.0	1.5	1.0	0.5	0.0			

Bold Face Requires Large Motor. Consult physical data for sizes.

A=Std Static/Std Mtr; B=Low Static/Std Mtr; C=High Static/Std Mtr; E=High Static/Large Mtr

Units factory shipped with standard static sheave and drive at 2.5 turns open (3304 l/s @ 55 pascals ESP Wet Coil). Other speeds require field selection.

ISO/ARI rating point with standard static sheave and drive at 1.5 turns open (3304 l/s @ 100 pascals ESP Wet Coil). Other speeds require field selection.

For applications requiring higher static pressures, contact your local representative.

Performance data does not include drive losses and is based on sea level conditions.

Do not operate in gray region.

All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [mps] = Airflow [l/s] / (Face Area [sq m] \* 1000)).

Then for velocities of 1.0 m/s reduce the static capability by 7.5 pascals, 1.5 m/s by 19.9 pascals, 2.0 m/s by 29.9 pascals and 2.5 m/s by 39.8 pascals.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLV 300 Blower Performance Data

Airflow in l/s with dry coil and clean air filter.

Airflow (l/s)		External Static Pressure (pascals)															
		0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375
3056	BkW	0.47	0.51	0.56	0.61	0.67	0.72	0.78	0.85	0.91	0.97	1.04	1.10				
	RPM	563	600	629	665	698	728	757	787	816	843	871	898				
	Turns	2.0	0.5	0.0	4.0	3.0	2.0	1.5	0.5	2.5	2.0	1.0	0.5				
3221	BkW	0.53	0.58	0.63	0.69	0.75	0.81	0.87	0.93	0.99	1.06	1.12	1.19				
	RPM	587	621	653	685	715	744	774	803	830	857	884	910				
	Turns	1.0	0.0	4.5	3.5	2.5	1.5	1.0	0.0	2.5	1.5	1.0	0.0				
3387	BkW	0.60	0.66	0.71	0.77	0.83	0.90	0.95	1.01	1.08	1.14	1.22					
	RPM	610	642	673	704	733	762	790	818	844	871	897					
	Turns	0.5	4.5	3.5	3.0	2.0	1.0	0.5	2.5	2.0	1.0	0.5					
3552	BkW	0.69	0.74	0.80	0.86	0.93	0.98	1.04	1.10	1.17	1.25	1.31					
	RPM	629	664	695	723	751	779	807	833	859	885	911					
	Turns	0.0	4.0	3.0	2.5	1.5	0.5	0.0	2.0	1.5	0.5	0.0					
3717	BkW	0.78	0.84	0.90	0.95	1.01	1.07	1.14	1.21	1.28	1.35						
	RPM	655	686	715	742	770	798	824	849	875	900						
	Turns	4.0	3.5	2.5	2.0	1.0	0.0	2.5	1.5	1.0	0.5						
3882	BkW	0.88	0.94	0.99	1.05	1.11	1.18	1.25	1.32	1.39	1.45						
	RPM	678	707	735	762	789	815	840	866	891	915						
	Turns	3.5	3.0	2.0	1.0	0.5	2.5	2.0	1.5	0.5	0.0						
4047	BkW	0.98	1.04	1.10	1.16	1.22	1.29	1.36	1.42	1.50							
	RPM	701	728	755	782	808	833	858	882	907							
	Turns	3.0	2.0	1.5	0.5	0.0	2.0	1.5	1.0	0.0							
4213	BkW	1.08	1.14	1.21	1.28	1.34	1.41	1.48	1.55								
	RPM	722	749	775	802	826	851	875	900								
	Turns	2.5	1.5	1.0	0.0	2.5	1.5	1.0	0.5								
4378	BkW	1.20	1.27	1.33	1.40	1.46	1.53	1.61	1.69								
	RPM	744	770	796	821	845	869	893	916								
	Turns	1.5	1.0	0.0	2.5	2.0	1.0	0.5	0.0								

Bold Face Requires Large Motor. Consult physical data for sizes.

A=Std Static/Std Mtr; B=Low Static/Std Mtr; C=High Static/Std Mtr; E=High Static/Large Mtr

Units factory shipped with standard static sheave and drive at 2.5 turns open (3717 l/s @ 32 pascals ESP Wet Coil). Other speeds require field selection.

ISO/ARI rating point with standard static sheave and drive at 1.0 turns open (3717 l/s @ 75 pascals ESP Wet Coil). Other speeds require field selection.

For applications requiring higher static pressures, contact your local representative.

Performance data does not include drive losses and is based on sea level conditions.

Do not operate in gray region.

All airflow is rated at lowest Voltage if unit is dual Voltage rated, i.e. 208V for 208-230V units.

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [mps] = Airflow [l/s] / (Face Area [sq m] \* 1000)).

Then for velocities of 1.0 m/s reduce the static capability by 7.5 pascals, 1.5 m/s by 19.9 pascals, 2.0 m/s by 29.9 pascals and 2.5 m/s by 39.8 pascals.

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## GLH Physical Data Table

GLH Physical Data Table

Model	072	096	120
Compressor (2 each)	Recip	Scroll	Scroll
Factory Charge R407C oz [kg] per Circuit	NA	NA	NA
Standard [kW]	1.1	1.5	1.5
Large [kW]	1.5	2.2	2.2
Wheel Size -Dia x W [cm]	30.5 x 27.9	25.4 x 25.4	27.9 x 25.4
FPT - (in)	1-1/4"	1-1/4"	1-1/4"
FPT - (in)	3/4"	3/4"	3/4"
Air Coil Dimensions - H x W [cm]	50.8 x 61	50.8 x 76.2	50.8 x 76.2
Filter Standard - (25.4mm) Throwaway [cm]	2-50.8x45.7 & 1-50.8x50.8	2-50.8x63.5 & 1-50.8x45.7	2-50.8x63.5 & 1-50.8x45.7
Weight - Operating [kg]	245	263	299
Weight - Packaged [kg]	254	272	308

**Notes:**

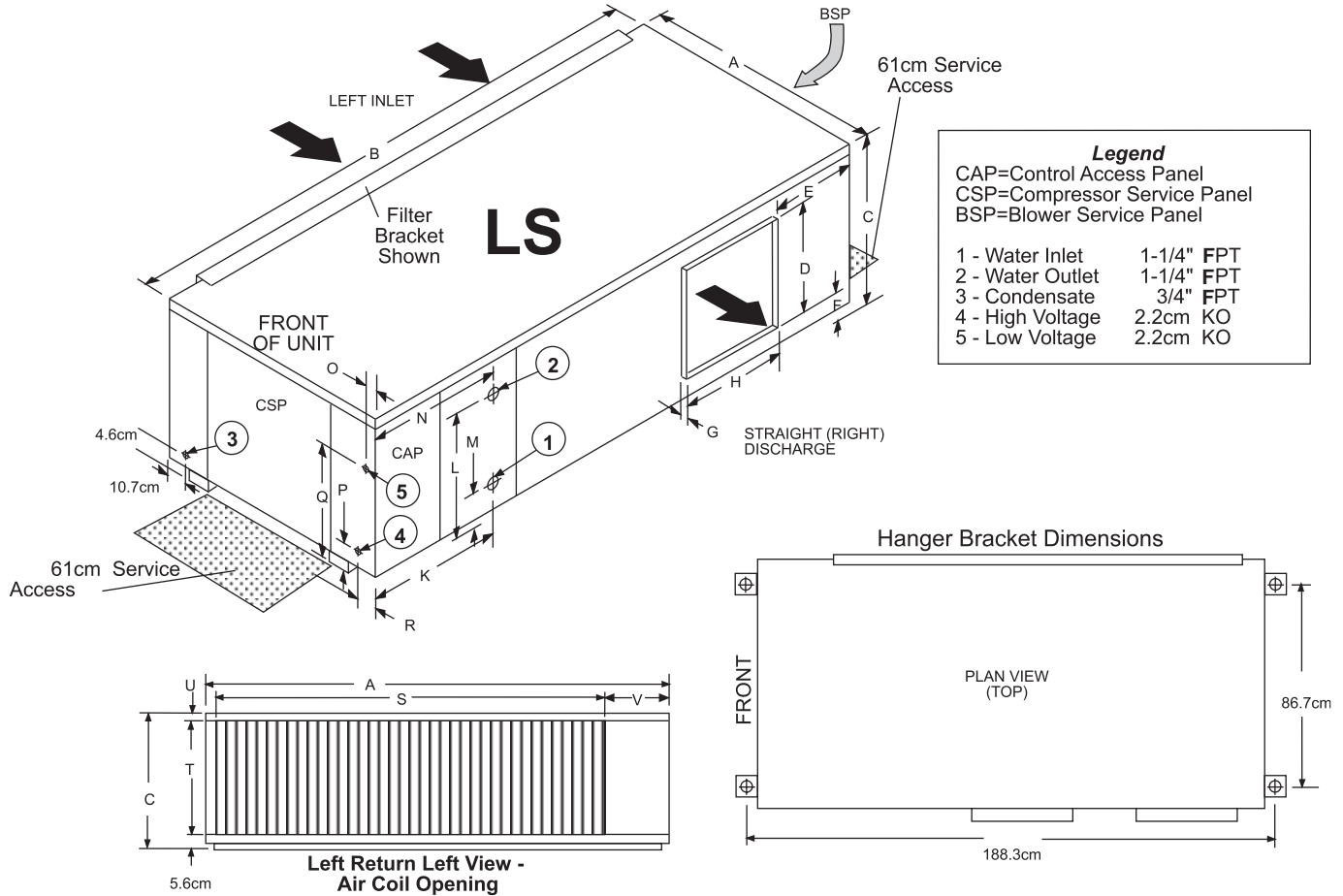
All units have grommet & spring compressor mountings, and 7/8" electrical knockouts.  
Check serial plate for refrigerant type (R22 or R407c).

GLV Physical Data Table

Model	080	100	120	160	200	240	300
	Scroll			Scroll			
Number of Circuits (Compressors)	1			2			
Factory Charge R407C-[kg] per circuit	3.12	3.41	3.64	13.12	13.41	3.64	5.46
Blower Motor Quantity	1	1	1	1	2	2	2
Standard motor [kW]	1.12	1.12	1.49	2.24	1.12	1.49	2.24
Large Motor [kW]	1.49	1.49	2.24	NA	1.49	2.24	NA
No. of Blowers	1			2			
Blower Wheel Size D x W [cm]	30.5 x 22.9	38.1 x 38.1		30.5 x 22.9	38.1 x 38.1		
<b>Water Connection Size</b>							
FPT (in)	1-1/2"						
<b>Connection Connection Size</b>							
FPT (in)	1"						
Air Coil Dimensions H x W[cm]	91.4 x 91.4			91.4 x 91.4			95.3 x 91.4
Filter Standard - [25.4mm] Throwaway (qty) [cm]	635 X 635			635 X 635			
Weight - Operating [kg]	272	311	333	508	574	612	664
Weight - Packaged [kg]	277	315	338	519	578	624	669

All units have grommets for compressor mounting, TXV expansion devices, 12.7mm & 35.0-44.5mm knockouts.

### LEFT RETURN STRAIGHT DISCHARGE



**NOTE:**  
All Dimensions in cm  
Flanged filter bracket shipped with unit. Leave one end of duct collar open for filter removal.  
All side panels are removable.  
Available in left return, straight discharge only.  
**FPT=Female Pipe Thread**

Horizontal Model		Overall Cabinet			Discharge Connections duct flange (± 2.5mm)					Water Connections				Electrical Knockouts				Return Air Connections using return air opening			
		A	B	C	D	E	F	G	H	K	L	M	N	O	P	Q	R	S	T	U	V
		Width	Depth	Height	Supply Height				Supply Depth									Return Depth	Return Height		
072	cm.	92.2	183.6	54.9	40.6	36.8	10.2	2.5	40.6	53.3	45.2	10.0	57.2	5.1	14.2	46.5	5.1	129.5	46.7	2.5	49.8

Condensate is 3/4" FPT copper.

Horizontal unit shipped with filter bracket only. This bracket should be removed for return duct connection.



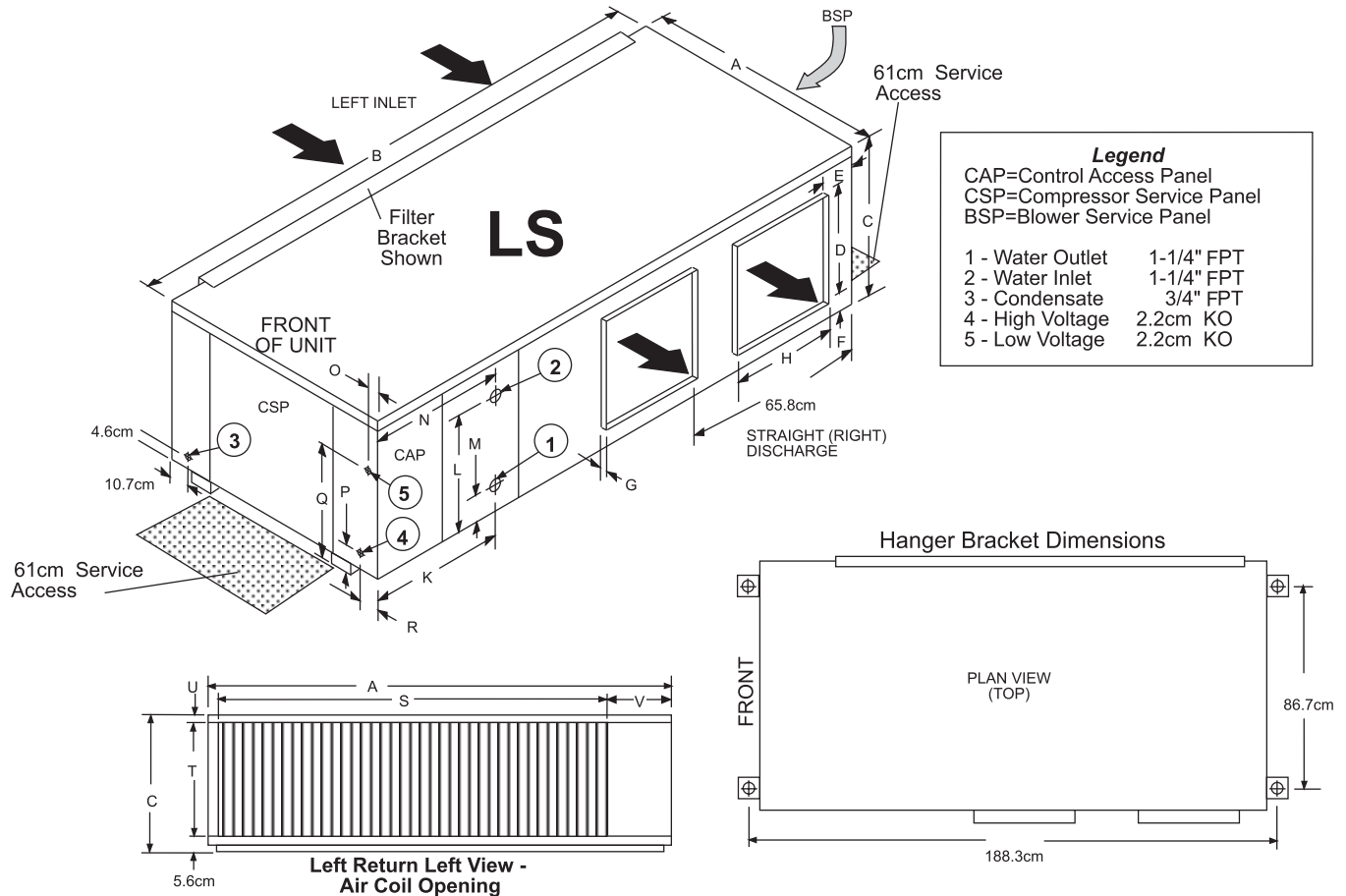
# GL Series 50Hz - R407C Submittal Data Eng/S-I



GLH096-120 Horizontal

Dimensional Data

## LEFT RETURN STRAIGHT DISCHARGE



**NOTE:**  
 All Dimensions in cm  
 Flanged filter bracket shipped with unit. Leave one end of duct collar open for filter removal.  
 All side panels are removable.  
 Available in left return, straight discharge only.

Horizontal Model		Overall Cabinet			Discharge Connections					Water Connections				Electrical Knockouts				Return Air Connections			
					duct flange (± 2.5mm)													using return air opening			
		A	B	C	D	E	F	G	H	K	L	M	N	O	P	Q	R	S	T	U	V
		Width	Depth	Height	Supply Height				Supply Depth								Return Depth	Return Height			
096	cm.	92.2	183.6	54.9	33.3	7.4	9.7	2.5	38.4	52.6	47.3	9.7	56.9	5.1	14.2	46.5	5.1	160.5	46.7	2.5	19.1
120	cm.	92.2	183.6	54.9	33.3	7.4	11.9	2.5	38.4	48.3	48.8	9.7	56.9	5.1	14.2	46.5	5.1	160.5	46.7	2.5	19.1

Condensate is 3/4" FPT copper.

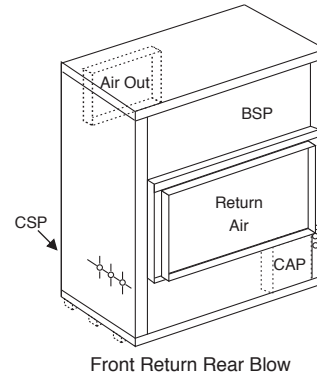
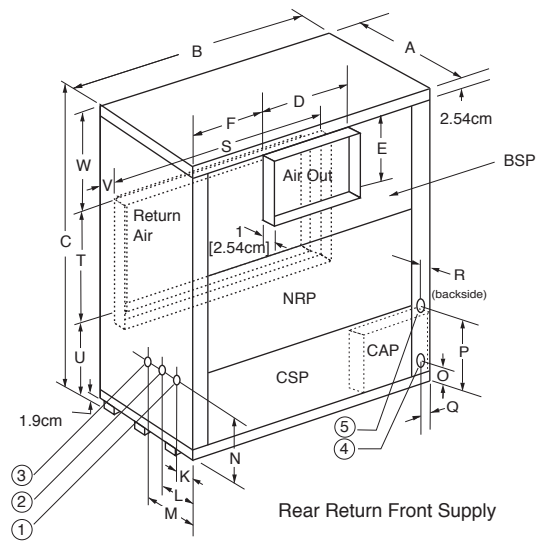
Horizontal unit shipped with filter bracket only. This bracket should be removed for return duct connection.

# GL Series 50Hz - R407C Submittal Data Eng/S-I

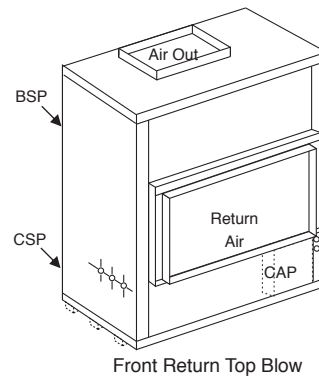
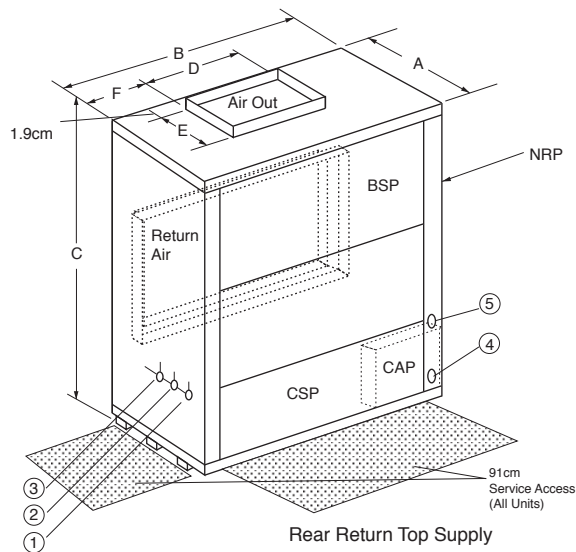


GLV080-120 Vertical

Dimensional Data



Legend		
① Water Inlet	1-1/2" FPT	
② Water Outlet	1-1/2" FPT	
③ Condensate Drain	1 FPT	
④ High Voltage Access	3.49 or 4.45cm K.O.	
⑤ Low Voltage Access	12.7cm K.O.	
NRP - Non-Removable Panel		
CAP - Control Access Panel		
BSP - Blower Service Panel		
CSP - Compressor Service Panel		
NRP Non-Removable Panel		

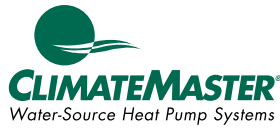


NOTES:

Model		Overall Cabinet			Discharge Connections			Water Connections				Electrical Knockouts				Return Air Connections				
		A	B	C	duct flange (± 2.5mm)			K	L	M	N	O	P	Q	R	using duct flange				
		Width	Depth	Height	D	E	F	1-Water Inlet	2-Water Outlet	3-Condensate						S	T	U	V	W
080	cm.	73.7	104.1	181.6	37.3	40.1	28.4	10.2	18.7	36.8	52.1	5.3	52.3	2.5	7.9	88.4	59.4	64.5	7.9	57.4
100-120	cm.	73.7	104.1	181.6	47.6	40.9	14.7	10.2	18.7	36.8	52.1	5.3	52.3	2.5	7.9	88.4	59.4	64.5	7.9	57.4

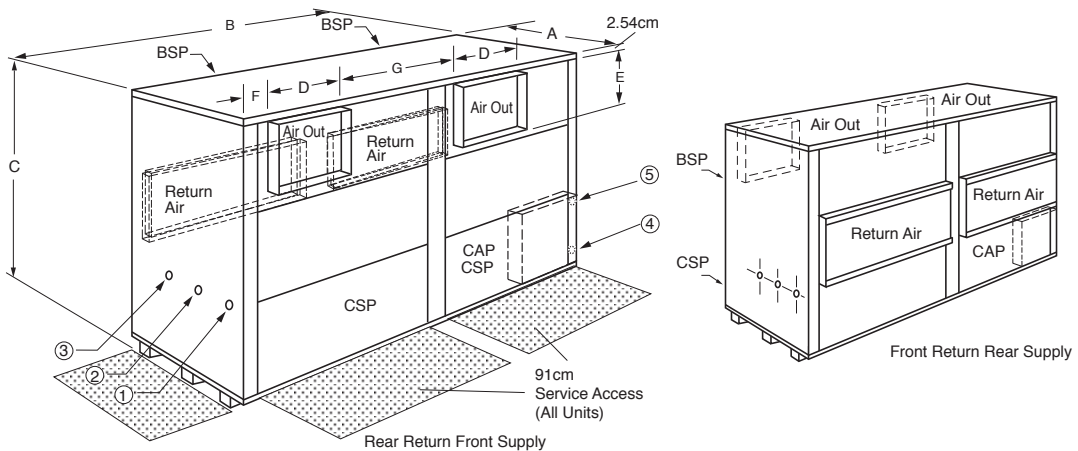
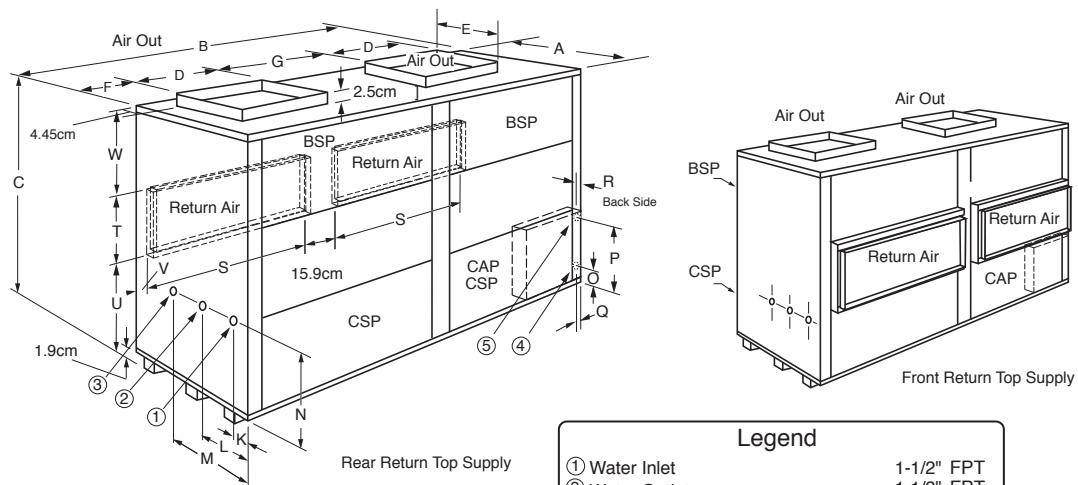
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# GL Series 50Hz - R407C Submittal Data Eng/S-I



GLV160-240 Vertical

Dimensional Data



**NOTES:**

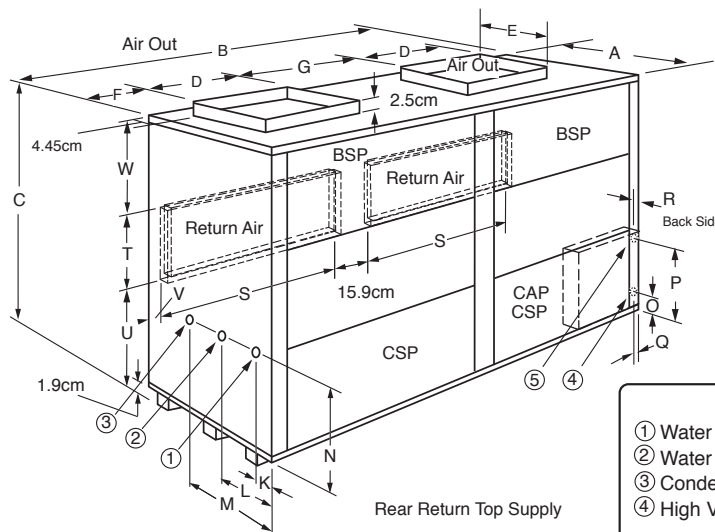
- All Dimensions in cm
- Units require 91cm clearance for water connections, CAP, CSP and BSP Service access.
- All side panels are removable Except those identified by NRP(Non-Removable Panel)
- Overall cabinet height dimension does not include duct flange when in the top discharge configuration
- Overall cabinet width dimension does not include duct flange when in the front or back discharge configuration

Model		Overall Cabinet			Discharge Connections				Water Connections				Electrical Knockouts				Return Air Connections				
					duct flange (± 2.5mm)												using duct flange				
		A	B	C	D	E	F	G	K	L	M	N	O	P	Q	R	S	T	U	V	W
		Width	Depth	Height	Supply Width	Supply Depth			1-Water Inlet	2-Water Outlet	3-Condensate						Return Depth	Return Height			
160	cm.	73.7	208.3	181.6	37.3	40.1	49.3	35.1	10.2	18.8	36.8	52.1	5.3	52.3	2.5	7.9	88.4	59.4	64.5	7.9	57.4
200-240	cm.	73.7	208.3	181.6	47.6	40.9	14.6	56.6	10.2	18.8	36.8	52.1	5.3	52.3	2.5	7.9	88.4	59.4	64.5	7.9	57.4

# GL Series 50Hz - R407C Submittal Data Eng/S-I

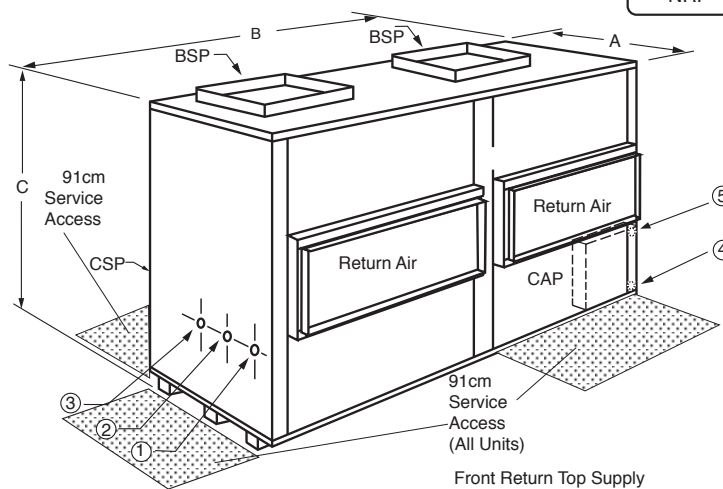


## GLV300 Vertical Dimensional Data



### Legend

- |                                |                     |
|--------------------------------|---------------------|
| ① Water Inlet                  | 1-1/2" FPT          |
| ② Water Outlet                 | 1-1/2" FPT          |
| ③ Condensate Drain             | 1" FPT              |
| ④ High Voltage Access          | 3.49 or 4.45cm K.O. |
| ⑤ Low Voltage Access           | 12.7mm K.O.         |
| NRP - Non-Removable Panel      |                     |
| CAP - Control Access Panel     |                     |
| BSP - Blower Service Panel     |                     |
| CSP - Compressor Service Panel |                     |
| NRP - Non-Removable Panel      |                     |



### NOTES:

- All Dimensions in cm
- Units require 91cm clearance for water connections, CAP, CSP and BSP Service access.
- All side panels are removable Except those identified by NRP(Non-Removable Panel)
- Overall cabinet height dimension does not include duct flange when in the top discharge configuration
- Overall cabinet width dimension does not include duct flange when in the front or back discharge configuration

Model		Overall Cabinet			Discharge Connections duct flange (± 2.5mm)				Water Connections				Electrical Knockouts				Return Air Connections using duct flange				
		A	B	C	D	E	F	G	K	L	M	N	O	P	Q	R	S	T	U	V	W
		Width	Depth	Height	Supply Width	Supply Depth			1-Water Inlet	2-Water Outlet	3-Condensate						Return Depth	Return Height			
300	cm.	73.7	208.3	181.6	47.6	40.9	14.6	56.1	10.2	18.8	36.8	52.1	5.3	52.3	2.5	7.9	88.4	59.4	64.5	7.9	57.4

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## Electrical Data

### GLH Electrical Data

Model	Volt Code	Rated Voltage	Voltage Min/Max	Blower Motor Option	Compressor			Fan Motor			Total Unit FLA	Min Circ Amp	Max Fuse
					Qty	RLA	LRA	Qty	HP	FLA			
072	U	380-420/50/3	342-462	Standard	2	4.9	33	1	1.5	2.4	12.2	13.4	15
				Large	2	4.9	33	1	2.0	3.3	13.1	14.3	15
096	U	380-420/50/3	342-462	Standard	2	7.2	48	1	2.0	3.3	17.7	19.5	25
				Large	2	7.2	48	1	3.0	4.9	19.3	21.1	25
120	U	380-420/50/3	342-462	Standard	2	7.5	51.5	1	2.0	3.3	18.3	20.2	25
				Large	2	7.5	51.5	1	3.0	4.9	19.9	21.8	25

All fuses Class RK-5

### GLV Electrical Data

Model	Volt Code	Rated Voltage	Voltage Min/Max	Blower Motor Option	Compressor			Fan Motor			Total Unit FLA	Min Circ Amp	Max Fuse
					Qty	RLA	LRA	Qty	HP	FLA			
080	U	380-420/50/3	342/462	Standard	1	10.0	74	1	1.5	2.4	12.4	14.9	20
				Large	1	10.0	74	1	2.0	3.3	13.3	15.8	25
100	U	380-420/50/3	342/462	Standard	1	16.4	95	1	1.5	2.4	18.8	22.9	35
				Large	1	16.4	95	1	2.0	3.3	19.7	23.8	40
120	U	380-420/50/3	342/462	Standard	1	17.3	111	1	2.0	3.3	20.6	24.9	40
				Large	1	17.3	111	1	3.0	4.9	22.2	26.5	40
160	U	380-420/50/3	342/462	Standard	2	10.0	74	1	3.0	4.9	24.9	27.4	35
200	U	380-420/50/3	342/462	Standard	2	16.4	95	2	1.5	2.4	37.6	41.7	50
				Large	2	16.4	95	2	2.0	3.3	39.4	43.5	50
240	U	380-420/50/3	342/462	Standard	2	17.3	111	2	2.0	3.3	41.2	45.5	60
				Large	2	17.3	111	2	3.0	4.9	44.4	48.7	60
300	U	380-420/50/3	342/462	Standard	2	19.6	118	2	3.0	4.9	49.0	53.9	70

All fuses Class RK-5

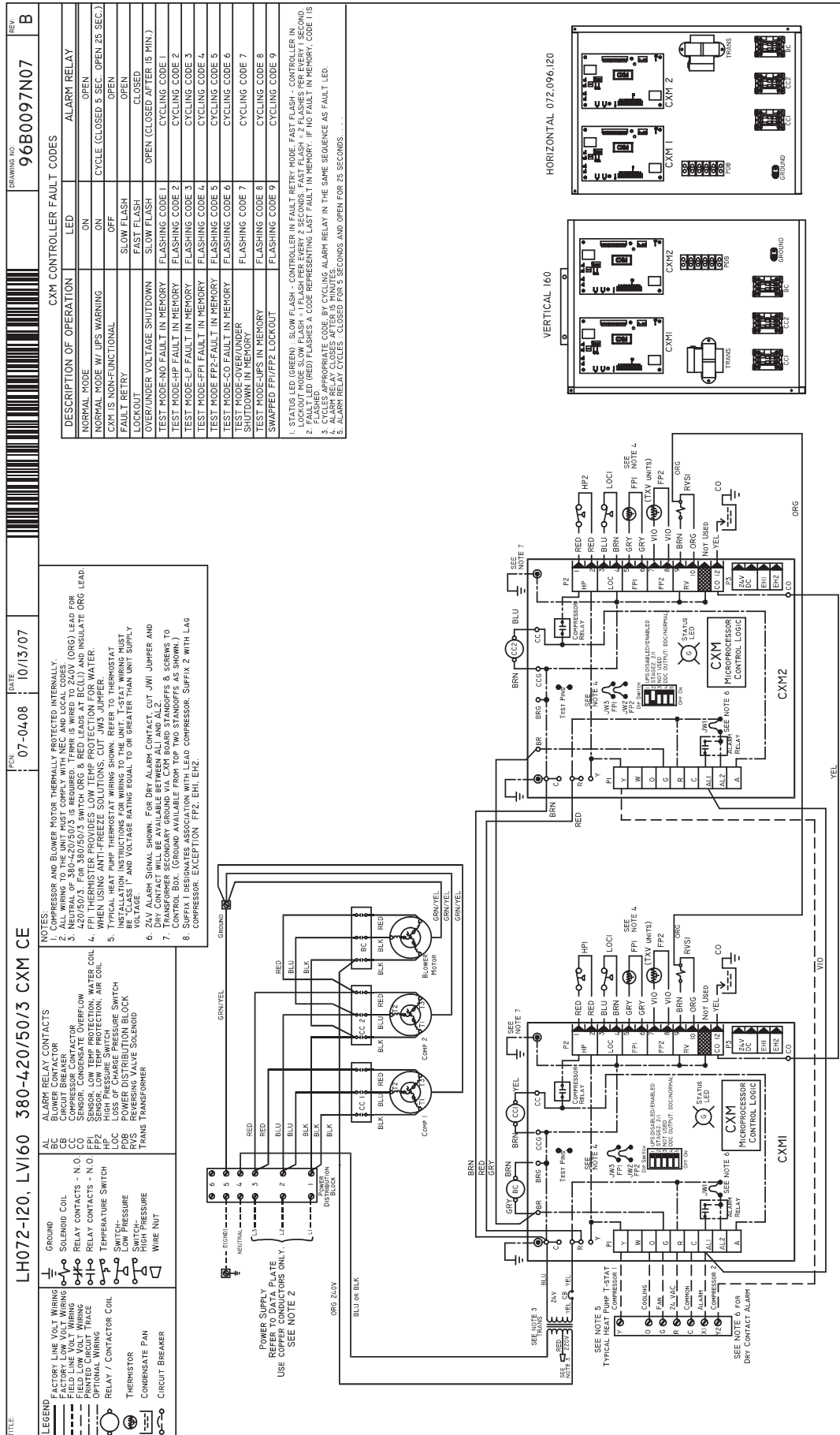
# GL Series 50Hz - R407C Submittal Data Eng/S-I



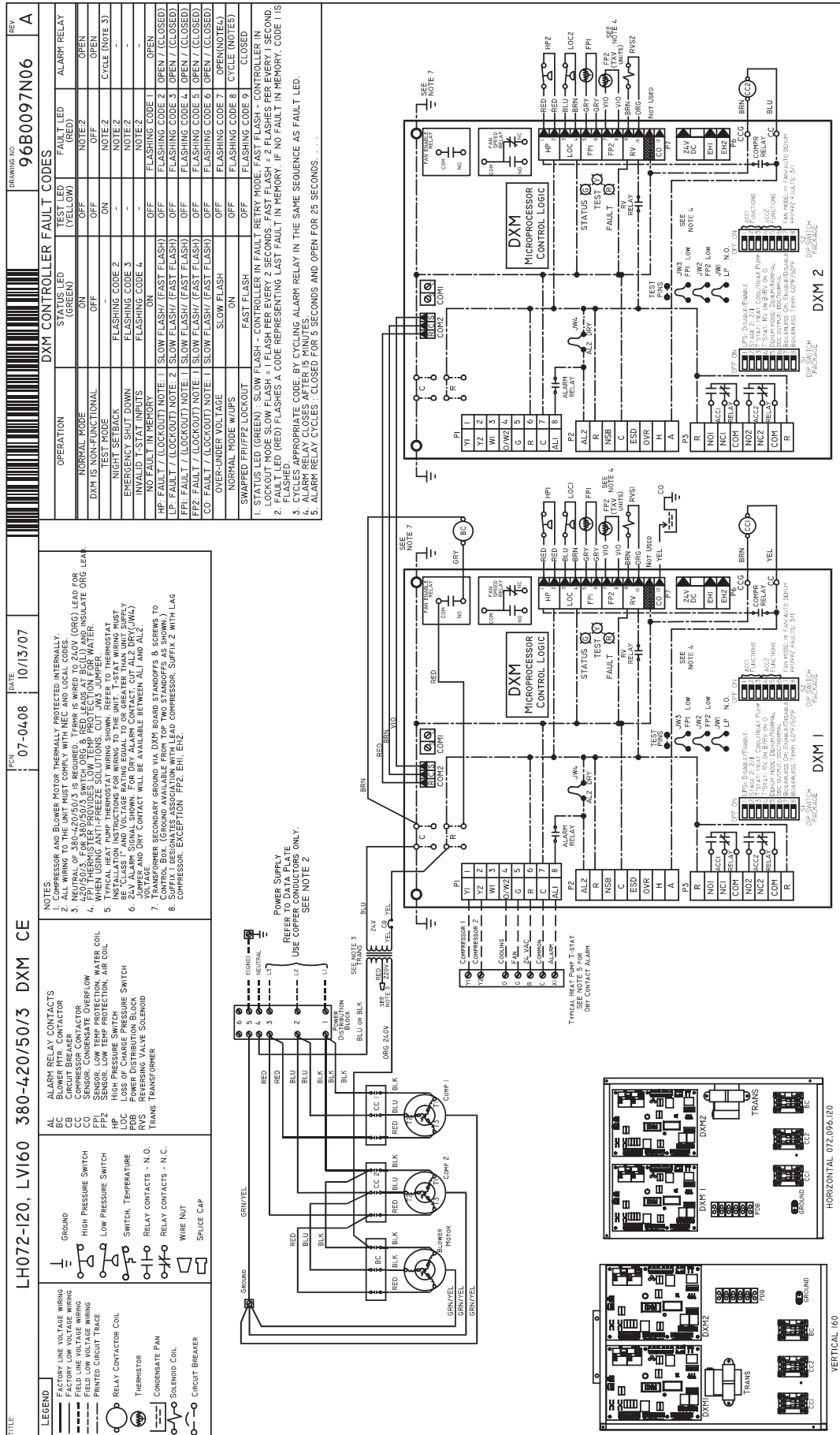
## GLV/H Series Wiring Diagram Matrix

Only CXM and DXM diagrams, with a representative diagram of LON and MPC Options are presented in this submittal. Other diagrams can be located online at [climatemaster.com](http://climatemaster.com) using the part numbers presented below.

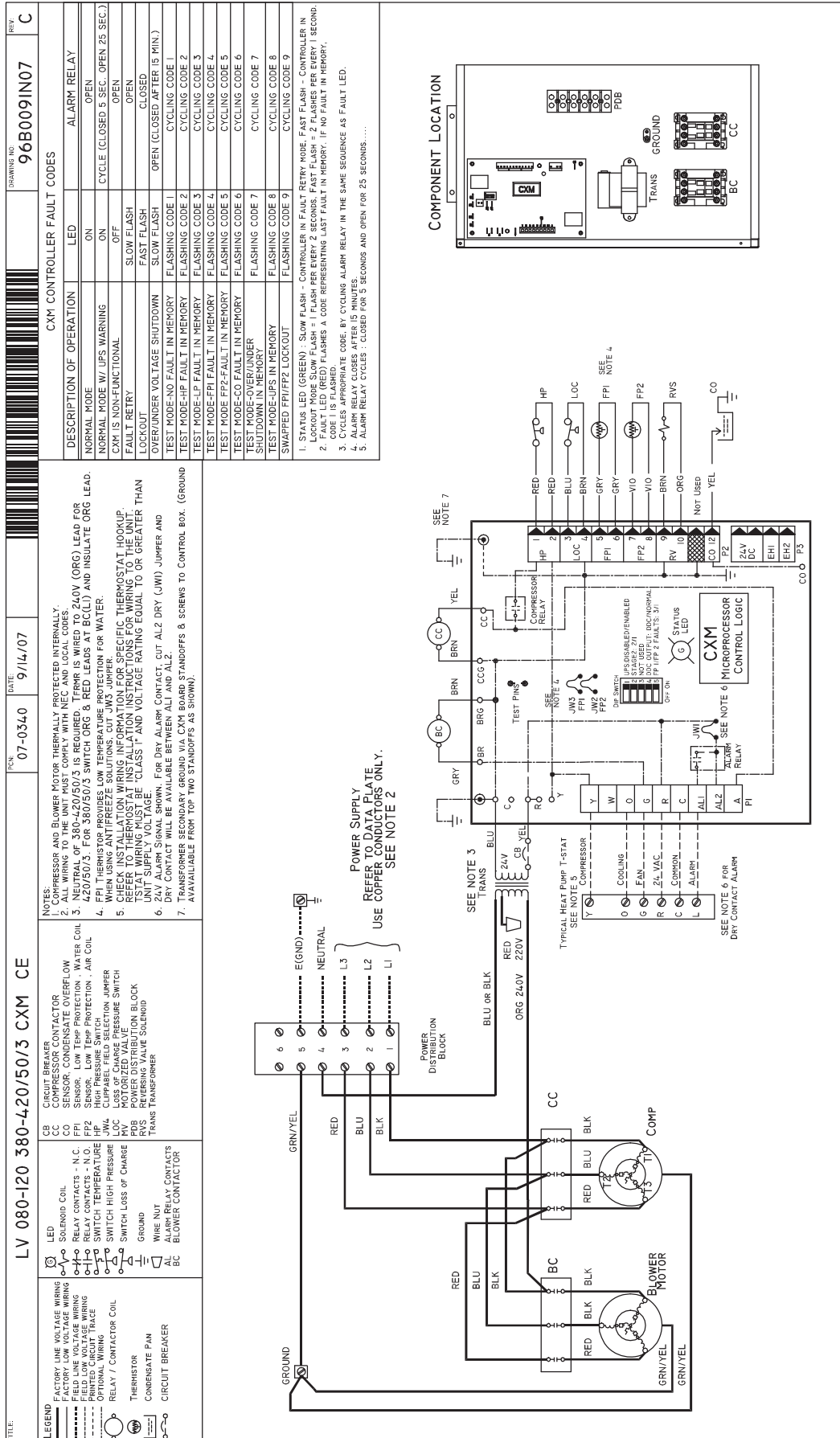
Model	Refrigerant	Wiring Diagram Part Number	Electrical	Control	Agency	DDC
GLV080-120	R407C	96B0091N06	380-420/60/3	DXM	CE	-
		96B0091N07		CXM		-
		96B0091N08		CXM		LON
		96B0091N12		DXM		LON
		96B0091N13		CXM		MPC
		96B0091N15		DXM		MPC
GLH072-120 & GLV160		96B0097N06		DXM		-
		96B0097N07		CXM		-
		96B0097N08		CXM		LON
		96B0097N12		DXM		LON
		96B0097N13		CXM		MPC
		96B0097N15		DXM		MPC
GLV200-300		96B0090N06		DXM		-
		96B0090N07		CXM		-
		96B0090N08		CXM		LON
		96B0090N12		DXM		LON
		96B0090N13		CXM		MPC
		96B0090N15		DXM		MPC

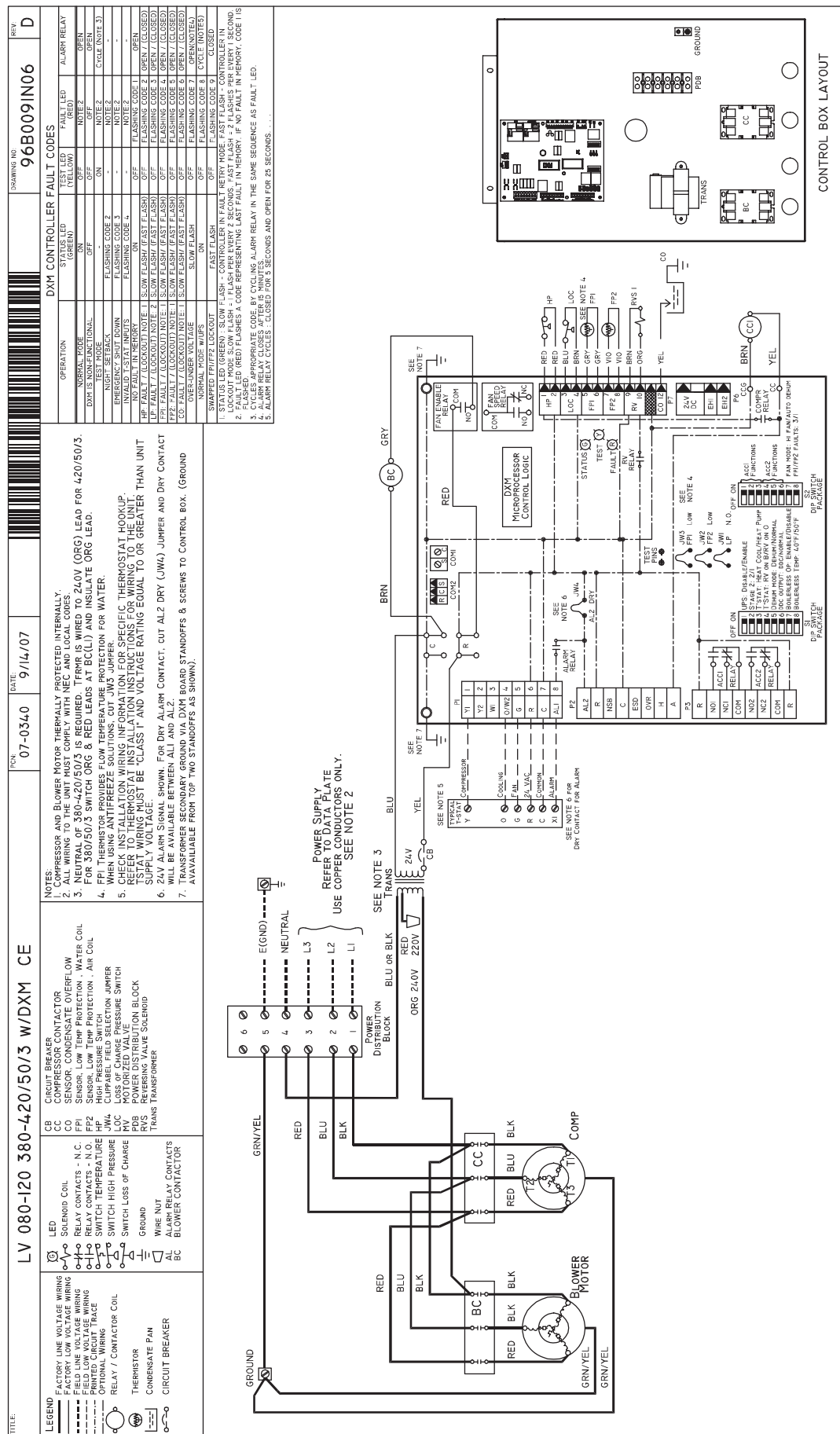


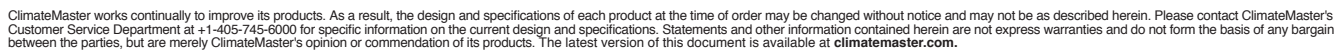
















# NOTICE!

This product specification document is furnished as a means to copy and paste ClimateMaster product information into a project specification. It is not intended to be a complete list of product requirements. This document is an excerpt from the product submittal and must not be used without consulting the complete product submittal. For complete product installation and application requirements, please consult the complete product submittal. ClimateMaster is not responsible for misuse of this document or a failure to adequately review specific requirements in the product submittal.

**General:**

Furnish and install ClimateMaster Water Source Heat Pumps, as indicated on the plans. Equipment shall be completely assembled, piped and internally wired. Capacities and characteristics as listed in the schedule and the specifications that follow.

**Horizontal and Vertical Water Source Heat Pumps:**

Units shall be supplied completely factory built and capable of operation with an entering water temperature range from -6.6° to 43.3°C as standard. Equivalent units from other manufacturers can be proposed provided approval to bid is given 10 days prior to bid closing. All equipment listed in this section must be performance rated in accordance with (but not certified) AHRI/ISO/ASHRAE 13256. The 407C units shall have CE labels.

All units shall be fully quality tested by factory run testing under normal operating conditions as described herein. Quality control system shall automatically perform via computer: triple leak check, pressure tests, evacuation and accurately charge system, perform detailed heating and cooling mode tests, and quality cross check all operational and test conditions to pass/fail criteria. Detailed report card will ship with each unit displaying status for critical tests and components. **Note: If unit fails on any cross check, it shall not be allowed to ship. Serial numbers will be recorded by factory and furnished to contractor on report card for ease of unit warranty status. Units tested without water flow are not acceptable.**

**Basic Construction:****Horizontal Units:**

Units shall have the following air flow arrangements: Left Return/Right Discharge as shown on the plans. **Units can be field converted without requiring new panels or belts. Units that cannot be field converted shall not be acceptable.**

If units with these arrangements are not used, the contractor is responsible for any extra costs incurred by other trades. All units must have a minimum of two access panels for serviceability of compressor compartment. **Units having only one access panel to compressor/heat exchangers/expansion device/refrigerant piping shall not be acceptable.**

**Vertical Units:**

Units shall have 'Left or Right Return and Top, Front or Back Discharge' (GLV300 Top Only) as shown in the dimensional drawings.

If units with these arrangements ARE NOT used, the contractor is responsible for any extra costs incurred by other trades. All units must have a minimum of two access panels for serviceability of compressor compartments. If other arrangements make servicing difficult, the contractor must provide access panels and clear routes to ease service. Architect must approve any changes in layout.

The vertical heat pumps shall be fabricated from heavy gauge galvanized sheet metal. All interior surfaces shall be lined with thick 12mm, 24kg/m3 density acoustic type glass fiber insulation. All fiberglass shall be coated and shall not have exposed edges to prevent the introduction of glass fibers into the air stream. All insulation must meet NFPA 90A requirements, air erosion limits of UL-181; and shall meet the comprehensive ASTM-C 1071 test for thermal conductivity, temperature resistance, acoustical, surface burning, odor emission, fiber erosion, moisture vapor sorption and fungi resistance. All vertical heat pumps shall have an epoxy based powder paint finish. The color will be Polar Ice.

Option: Mute package shall consist of high density sound attenuating materials that are applied to the base pan and compressor access panels, in addition to the 12.3mm fiberglass insulation that is specifically selected to focus on Noise Reduction at the lower 125 and 250 Hz frequencies. Blower housing shall be covered with high density noise suppression material.

Units shall have a factory installed 1 inch wide filter bracket for filter removal from either side using with filter pull (horizontal units only). Units shall have 1 inch thick throwaway type glass fiber filter. The contractor shall purchase one spare set of filters and replace factory shipped filters on completion of start-up. Filters shall be standard sizes. If units utilize non-standard filter sizes then the contractor shall provide 12 spare filters for each unit.

Option: Contractor shall install 2 inch filter brackets and 2 inch glass fiber throwaway filters on all units.

Cabinets shall have separate openings and knockouts for entrance of line voltage and low voltage control wiring. Supply and return water connections shall be copper FPT fittings. All water connections and electrical knockouts must be in the compressor compartment corner post as to not interfere with the serviceability of unit. All water connections shall be secured to the cabinet eliminating the need for back-up wrenches during installation. Contractor shall be responsible for any extra costs involved in the installation of units that do not have this feature. Contractor must ensure that units can be easily removed for servicing and coordinate locations of electrical conduit and lights with the electrical contractor.





Option: Extended Operation Option shall include closed cell insulation on the water circuit piping, water to refrigerant heat exchanger and all refrigerant suction piping for applications with inlet water temperatures below 12.8°C.

#### Fan and Motor Assembly:

Units shall have belt-driven single or dual centrifugal fans. The fan motor(s) shall be a permanently lubricated with internal thermal overload protection. Units supplied without permanently lubricated motors must provide external oilers for easy service. The fan and motor assembly must be capable of overcoming the external static pressures as shown on the schedule. CFM/Static pressure rating of the unit shall be based on a dry coil and a clean filter in place. The units shall have up to 5 blower sheave/fan motor combinations to provide a wide range of airflows and external static pressure capability.

#### Refrigerant Circuit:

Units shall have one or two sealed refrigerant circuits each including a high efficient scroll compressor designed for heat pump operation (GLH072 has reciprocating), a thermostatic expansion valve for refrigerant metering, an enhanced aluminum lanced fin and rifled copper tube refrigerant to air heat exchanger, a reversing valve, a coaxial (tube in tube) refrigerant to water heat exchanger, and safety controls including a high pressure switch, a low pressure sensor, and a low water temperature sensor. Access fittings shall be factory installed on each high and low pressure refrigerant lines to facilitate field service. Activation of any safety device shall prevent compressor operation via a lockout device. The lockout shall be reset at the thermostat or at the contractor supplied disconnect switch. Units which may be reset only at the disconnect switch only SHALL NOT be acceptable.

The compressor will be mounted on external computer selected isolating grommets. The external grommets will be secured to a heavy gauge compressor plate that has rubber grommet isolation from the cabinet base, which provides multiple levels of isolation. Compressor shall have thermal overload protection and be located in an insulated compartment away from air stream to minimize sound transmission. Refrigerant to air heat exchangers shall utilize enhanced lanced aluminum fins and rifled copper tube construction rated to withstand 450 PSIG refrigerant working pressure. Refrigerant to water heat exchangers shall be of copper inner water tube and steel refrigerant outer tube design, rated to withstand 450 PSIG working refrigerant pressure and 450 PSIG working water pressure. Plate heat exchangers ARE NOT acceptable. Reversing valves shall be four-way solenoid activated refrigerant valves which shall fail to heating operation should the solenoid fail to function. If the reversing valve solenoid fails to cooling, a low temperature thermostat must be provided to prevent over-cooling an already cold room.

Option: The air coil shall be coated.

Option: The unit will be supplied with cupro-nickel coaxial water to refrigerant heat exchangers.

#### Drain Pan:

The drain pan shall be constructed to inhibit corrosion and fully insulated. Drain outlet shall be located on pan as to allow complete and unobstructed drainage of condensate. The unit as standard will be supplied with solid-state electronic condensate overflow protection. Mechanical float switches WILL NOT be accepted.

#### Electrical:

A control box shall be located within the unit compressor compartment and shall contain a 75VA transformer, 24 Volt activated, 3 pole compressor contactor, terminal block for thermostat wiring and solid-state controller for complete unit operation. Electro-mechanical operation WILL NOT be accepted. Units shall be name-plated for use with time delay fuses or HACR circuit breakers. Unit controls shall be 24 Volt and provide heating or cooling as required by the remote thermostat/sensor.

#### Solid-State Control System:

Units shall have employ two solid-state control systems (CXM) for each refrigerant circuit. The control shall interface with a heat pump (Y,O) wall thermostat, mechanical or electronic. The control system microprocessor board shall be specifically designed to protect against building electrical system noise contamination, EMI, and RFI interference. The control system shall have the following features:

- A. Anti-short cycle time delay on compressor operation, time delay shall be 5 minutes minimum.
- B. Random start on power up mode.
- C. Low voltage protection.
- D. High voltage protection.
- E. Unit shutdown on high or low refrigerant pressures.
- F. Unit shutdown on low water temperature.
- G. Water coil low temperature cutout (selectable for water or anti-freeze).
- H. Condensate overflow shutdown.
- I. Option to reset unit at thermostat or disconnect. Fault type shall be retained in memory if reset at thermostat.
- J. Automatic intelligent reset. Unit shall automatically reset 5 minutes after trip if the fault has cleared. Should a fault re-occur 3 times sequentially then permanent lockout will occur.
- K. Ability to defeat time delays for servicing.



- L. Light emitting diodes (LED) to indicate high pressure, low pressure, low voltage, high voltage, low water temperature cut-out, condensate overflow and control status.
- M. The low pressure switch SHALL NOT be monitored for the first 120 seconds after a compressor start command to prevent nuisance safety trips.
- N. Remote fault type indication at thermostat.
- O. Selectable 24V or pilot duty dry contact alarm output.
- P. 24V output to cycle a motorized water valve with compressor contactor.

**Option: Enhanced control features (DXM):**

Control shall have all the features of the CXM control with the following additional features:

- A. A removable thermostat connector.
- B. Random start on return from night setback.
- C. Minimized reversing valve operation for extended life and quiet operation.
- D. Night setback control from low temperature thermostat, with 2-hour override initiated by a momentary signal from the thermostat.
- E. Dry contact night setback output for digital night setback thermostats.
- F. Ability to work with heat/cool (Y, W) thermostats.
- G. Ability to work with heat pump thermostats using O or B reversing valve control.
- H. Single grounded wire to initiate night setback, or emergency shutdown.
- I. Boilerless system control can switch automatically to electric heat at low loop water temperature.
- J. Control board shall allow up to 3 units to be operated from one thermostat without any auxiliary controls.
- K. A relay to operate an external damper. The control to be such that the damper WILL NOT open until 30 minutes after the unit comes back from unoccupied mode.
- L. Fan speed selection at thermostat.
- M. A relay to restart a central pump or control a 24V motorized water valve.
- N. Intelligent fan speed selection based upon thermostat demand and/or dehumidistat signal.

**Option: LonWorks Control System:**

Units shall have all the features listed above and the CXM or DXM control board will be supplied with a LonWorks interface board. This will permit all units to be daisy chain connected by a 2-wire twisted pair shielded cable. The following points must be available at a central or remote computer location:

- A. space temperature.
- B. leaving water temperature.
- C. discharge air temperature.
- D. command of space temperature setpoint.
- E. cooling status.
- F. heating status.
- G. fan "ON/AUTO" position of space thermostat as specified above.
- H. unoccupied/occupied command.
- I. compressor shutdown (load shedding) command.
- J. emergency shutdown command.
- K. cooling command.
- L. heating command.
- M. fan "ON/AUTO" command.

**Option: MPC Control System (see MPC submittal set for complete detail)**

Units shall have all the features listed above and the CXM or DXM control board will be supplied with a MPC interface board. This will permit all units to be daisy chain connected by a 2-wire twisted pair shielded cable. The Multi-Protocol Controller (MPC) shall support BACnet MST/P, Modbus, and Johnson Controls N2 protocols. The MPC shall support a minimum of 5 field selectable baud rates (9600, 19.2k, 38.4k, 76.8k, and 156kbaud). The following points must be available at a central or remote computer location:

- A. space temperature.
- B. leaving water temperature.
- C. discharge air temperature.
- D. command of space temperature setpoints.
- E. cooling status.
- F. heating status.
- G. fan "ON/AUTO" position of space thermostat as specified above.
- H. unoccupied/occupied command.
- I. alarm state.
- J. emergency shutdown command.
- K. cooling command.
- L. heating command.
- M. fan "ON/AUTO" command.
- N. RV status.

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- O. UPS signal.
- P. Compressor 1 and 2 Runtime.
- Q. Dirty filter alarm.
- R. Faulty sensor event.
- S. Resets for Comp1 and 2 runtime, Dirty filter, and C1 System lockout.
- T. Run signal for occupied and unoccupied mode.
- U. Pulse Signal Value for last wshp fault type.

## FIELD INSTALLED OPTIONS

### Hose Kits:

All units shall be connected with hoses. The hoses shall be 2 feet long, braided stainless steel; fire rated hoses complete with adapters. Only fire rated hoses will be accepted.

### Thermostats:

The thermostat shall be a ClimateMaster mechanical or electronic type thermostat as selected below with the described features:

- a. Single Stage Standard Manual Changeover (ATM11C11)  
Thermostat shall be a single-stage, horizontal mount, manual changeover with HEAT-OFF-COOL system switch and fan ON-AUTO switch. Thermostat shall have a mechanical temperature set point indicator. Thermostat shall only require 4 wires for connection. Mercury bulb thermostats are not acceptable.
- b. Single Stage Digital Auto or Manual Changeover (ATA11U01)  
Thermostat shall be a single-stage, digital, auto or manual changeover with HEAT-OFF-COOL-AUTO system switch and fan ON-AUTO switch. Thermostat shall have an LCD display with temperature and set-point(s) in °F or °C. The Thermostat shall provide permanent memory of set-point(s) without batteries. A fault LED shall be provided to display specific fault condition. Thermostat shall provide temperature display offset for custom applications.
- c. Single Stage Digital Automatic Changeover (ATA11C06)  
Thermostat shall be a single-stage, digital, auto or manual changeover with HEAT-OFF-COOL-AUTO system switch and fan ON-AUTO switch. Thermostat shall have an LCD display with temperature and set-point(s) in °F or °C. A fault LED shall be provided to display specific fault condition. Thermostat shall allow use of an accessory remote temperature sensor (AST009), but may be operated with internal sensor via orientation of a jumper.
- d. Multistage Digital Automatic Changeover (ATA22U01)  
Thermostat shall be multi-stage (2H/2C), manual or automatic changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. Thermostat shall have an LCD display with temperature, set-point(s), mode, and status indication. The temperature indication shall be selectable for °F or °C. The thermostat shall provide permanent memory of set-point(s) without batteries. A fault LED shall be provided to indicate specific fault condition(s). Thermostat shall provide temperature display offset for custom applications. Thermostat shall allow unit to provide better dehumidification with optional DXM controller by automatically using lower fan speed on stage 1 cooling (higher latent cooling) as main cooling mode, and automatically shifting to high speed fan on stage 2 cooling.
- e. Multistage Manual Changeover Programmable 5/2 Day (ATP21U01)  
Thermostat shall be 5 day/2 day programmable (with up to 4 set points per day), multi-stage (2H/1C), manual changeover with HEAT-OFF-COOL-EM HEAT system settings and fan ON-AUTO settings. Thermostat shall have an LCD display with temperature, set-point(s), mode, and status indication. The temperature indication shall be selectable for °F or °C. The thermostat shall provide permanent memory of set-point(s) without batteries. Thermostat shall provide convenient override feature to temporarily change set point.
- f. Multistage Automatic or Manual Changeover Programmable 7 Day (ATP32U03)  
Thermostat shall be 7 day programmable (with up to 4 set points per day), multi-stage (3H/2C), automatic or manual changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. Thermostat shall have a blue backlit dot matrix LCD display with temperature, set-points, mode, and status indication. The temperature indication shall be selectable for °F or °C. Time display shall be selectable for 12 or 24-hour clock. Fault identification shall be provided (when used with ClimateMaster CXM or DXM controls) to simplify troubleshooting by providing specific unit fault at the thermostat with red backlit LCD during unit lockout. The thermostat shall provide permanent memory of set-points without batteries. Thermostat shall provide heating set-point range limit, cooling set-point range limit, temperature display offset, keypad lockout, dead-band range setting, and inter-stage differential settings. Thermostat shall provide progressive recovery to anticipate time required to bring space temperature to the next programmed event. Thermostat shall provide an installer setup for configuring options and for setup of servicing contractor name and contact information. Thermostat shall allow the use of an accessory remote and/or outdoor temperature sensor (AST008). Thermostat navigation shall be accomplished via five buttons (up/down/right/left/select) with menu-driven selections for ease of use and programming.



- g. Multistage Automatic or Manual Changeover Programmable 7 Day with Humidity Control (ATP32U04)  
Thermostat shall be 7 day programmable (with up to 4 set points per day), multi-stage (3H/2C), automatic or manual changeover with HEAT-OFF-COOL-AUTO-EM HEAT system settings and fan ON-AUTO settings. Separate dehumidification and humidification set points shall be configurable for discreet outputs to a dehumidification option and/or an external humidifier. Installer configuration mode shall allow thermostat dehumidification mode to operate with ClimaDry reheat or with ECM fan dehumidification mode via settings changes. Thermostat shall have a blue backlit dot matrix LCD display with temperature, relative humidity, set-points, mode, and status indication. The temperature indication shall be selectable for °F or °C. Time display shall be selectable for 12 or 24 hour clock. Fault identification shall be provided (when used with ClimateMaster CXM or DXM controls) to simplify troubleshooting by providing specific unit fault at the thermostat with red backlit LCD during unit lockout. The thermostat shall provide permanent memory of set-points without batteries. Thermostat shall provide heating set-point range limit, cooling set-point range limit, temperature display offset, keypad lockout, dead-band range setting, and inter-stage differential settings. Thermostat shall provide progressive recovery to anticipate time required to bring space temperature to the next programmed event. Thermostat shall provide an installer setup for configuring options and for setup of servicing contractor name and contact information. Thermostat shall allow the use of an accessory remote and/or outdoor temperature sensor (AST008). Thermostat navigation shall be accomplished via five buttons (up/down/right/left/select) with menu-driven selections for ease of use and programming.

#### DDC Sensors:

ClimateMaster wall mounted DDC sensor to monitor room temperature and interfaces with optional interface system described above. Several types as described below:

- a. Sensor only with no display (LON and MPC).
- b. Sensor with override (LON only).
- c. Sensor with setpoint adjustment and override (MPC only).
- d. Sensor with setpoint adjustment and override, LCD display, status/fault indication (LON and MPC).

# GL Series 50Hz - R407C Submittal Data Eng/S-I



## Revision History

Date:	Item:	Action:
08/12/10	Entire Document	Removed I-P Unit Measurements Updated Engineering Specifications
08/3/10	Nomenclature	Updated
08/3/10	Wiring Diagrams	Updated
07/27/10	Revision History Added	