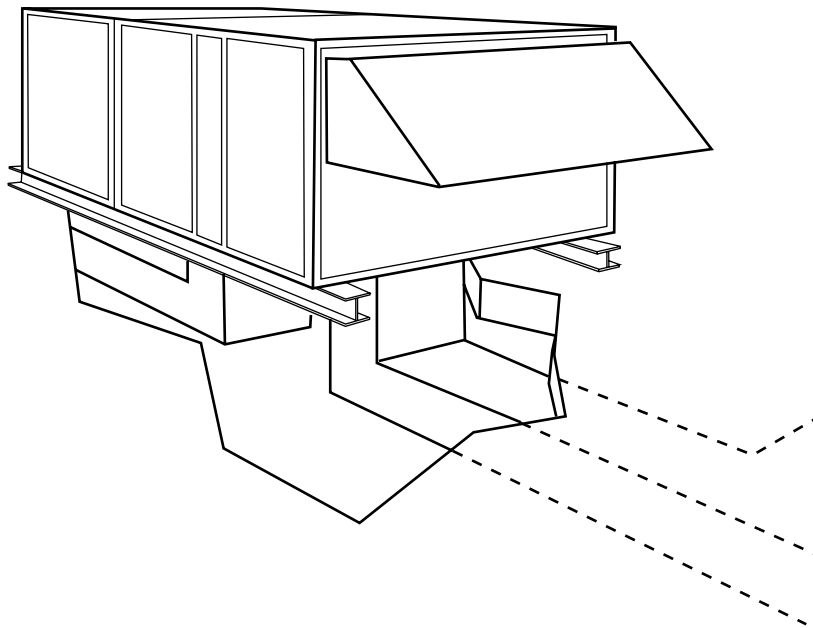




Advance Product Data

50RTG Rooftop Water Source Heat Pump

3 to 20 Nominal Tons



The Carrier Rooftop Water Source Heat Pump is ideal for office building, school, hotel/motel, nursing home, and hospital applications where it is not desirable to install equipment in a ceiling or in a utility closet.

The water source heat pump unit combines the installation flexibility of a stand-alone Rooftop unit with the energy efficiency of a water source heat pump without the need to penetrate the outside wall.

The water source heat pump unit is designed for occupant comfort. The unit is exceptionally quiet and provides individual zone control of heating and air conditioning. Each unit heats and cools based on the demands of room occupants without affecting the comfort of other zones, and without the need to heat or cool the entire facility. This means when one unit is shut down for a reason, the rest of the system can continue to operate.

The water source heat pump unit is engineered for installation flexibility. The unit is typically installed on a roof either as a stand-alone unit, as part of a ground-loop system or as a part of a closed-loop system (with a boiler and a cooling tower). The CXM controller is offered standard and the DXM controller is an option.

Because the water source heat pump unit may be installed on a stand-alone basis, it is an excellent choice for expansion or retrofit applications.

The water source heat pump unit is easy to install and efficient to operate and maintain.

To cut operating costs, the unit operates at a broad range of input water temperature (20 F to 110 F or -6.7 C to 43 C). This reduces the use of coolers or boilers, particularly during changes of season.

Large doors on the side of the water source heat pump unit make access to the fan motor and controls simple.

Refrigerant circuit protection is designed to result in fewer service calls. Units are equipped with easily accessible service access ports on both the suction and the discharge refrigerant lines for easy monitoring of refrigerant pressure and environmentally safe refrigerant recovery, should service be required.

Durability is a hallmark of the water source heat pump unit. The unit features a heavy duty steel cabinet, with a powder coat finish for extended unit life. The water source heat pump units are UL (Underwriters' Laboratories), ARI (Air Conditioning & Refrigeration Institute) and CSA (Canadian Standards Association) listed for owner peace of mind.

Features/Benefits

Compliant scroll

Installed in every Carrier 50RTG Series water source heat pump unit, Compliant scroll compressors are proven efficient, reliable, and readily available. Scroll compressors are quiet, offer better liquid handling, and are self-compensating for wear.

Slide-out blower assembly

The Carrier 50RTG Series water source heat pump unit comes standard with a slide-out blower assembly for easy access and maintenance. This easy access also allows for quick adjustment of drive components.

Coaxial heat exchanger

Provides high efficiency with no outdoor coil and no condenser fan. True counterflow operation.

Variable pitch sheaves

Variable pitch sheaves provide optimum performance for customizing your system to meet your particular air flow requirements.

Balanced port TXV (thermostatic expansion valve)

Provides consistent performance in all operating conditions.

Outside air

Standard features include a manual outside air damper with rain hood and bird screen sized for maximum capacity of 20% to the total unit air volume. Other outdoor air options include a two position motorized damper and a fully modulating enthalpy controlled economizer supplied with direct gear driven outdoor air and return air dampers, as well as a gravity relief damper.

Heavy duty cabinet/powder coated/stainless steel hinges

High quality construction of the Carrier 50RTG Series water

source heat pump unit ensures dependable unit integrity and operation. The powder coated cabinet provides a superior lasting finish.

Fully insulated including basepan

The insulated basepan provides a tight seal to the roof curb without using neoprene gasket material. It also contributes to the Carrier 50RTG water source heat pump Series unit's remarkably quiet operation.

CXM, DXM microprocessor controls

Protects equipment and provides self-diagnostics.

ABS gear driven dampers

Low maintenance and corrosion resistant. This unit has no damper linkage to fail. The 50RTG Series water source heat pump has a direct-drive damper motor and components.

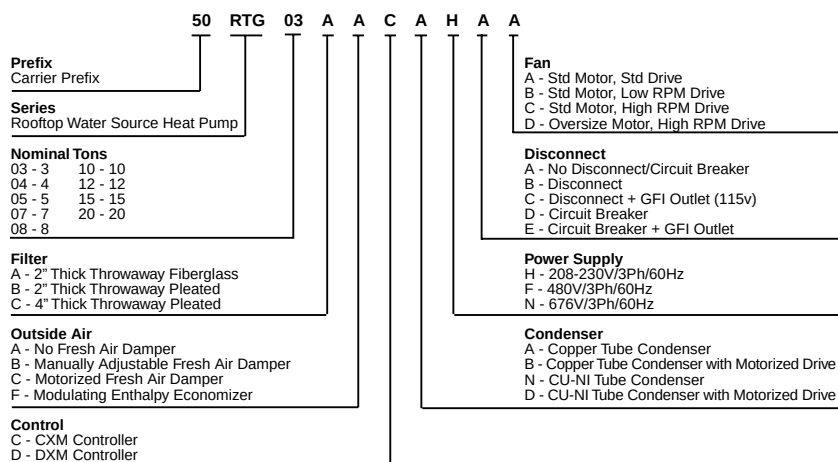
Operating range

Entering-fluid temperatures of 20 to 110 F.

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Model number nomenclature



ARI* capacities

50RTG SERIES PERFORMANCE DATA UNDER ARI 320 RATING CONDITIONS

Unit	Air Flow		COOLING EAT= Dry Bulb 80°F Wet Bulb 67°F, EWT= 85°					HEATING EAT= 70°F, EWT= 70°F				Water Flow	
			Total Cooling	Sensible Cooling	Rejected Heat	Power Input	EER	Heating Capacity	Heat of Absorp.	Power Input	COP	GPM	Pressure Drop Ft. H ₂ O
	Rated SCFM	ESP	Btuh	Btuh	Btuh	Watts		Btuh	Btuh	Watts			
50RTG03	1,200	0.15	33,700	26,900	42,100	2,475	13.6	39,300	30,900	2,450	4.7	8.4	9.5
50RTG04	1,600	0.20	45,600	37,000	56,100	3,100	14.7	50,900	40,700	3,000	5.0	11.2	12.7
50RTG05	2,000	0.20	58,600	45,500	73,200	4,300	13.6	69,800	54,300	4,550	4.5	14.7	18.3
50RTG07	2,600	0.25	78,700	57,800	99,000	5,950	13.2	94,100	72,400	6,350	4.3	19.8	10.5
50RTG08	3,200	0.25	91,900	73,900	113,300	6,300	14.6	100,000	78,200	6,400	4.6	22.7	13.4
50RTG10	4,000	0.30	118,500	91,800	148,500	8,800	13.5	134,400	102,000	9,500	4.1	29.7	19.3
50RTG12	4,800	0.30	130,100	104,900	166,900	10,200	13.0	154,100	117,250	10,800	4.2	33.2	10.1
50RTG15	6,000	0.35	175,000	142,200	214,700	11,650	15.0	184,400	146,900	11,000	4.9	43.0	12.2
50RTG20	8,000	0.40	248,500	191,600	309,500	17,900	13.9	277,900	215,800	18,200	4.5	62.0	20.8

50RTG SERIES PERFORMANCE DATA UNDER ISO 13256-1 RATING CONDITIONS

Unit	Air Flow		COOLING EAT= Dry Bulb 80.6°F Wet Bulb 66.2°F, EWT= 86°F					HEATING EAT= 68°F, EWT= 68°F				Water Flow	
			Total Cooling	Sensible Cooling	Rejected Heat	Power Input	EER	Heating Capacity	Heat of Absorp.	Power Input	COP	GPM	Pressure Drop Ft. H ₂ O
	Rated SCFM	ESP	Btuh	Btuh	Btuh	Watts		Btuh	Btuh	Watts			
50RTG03	1,200	0.15	33,400	26,900	41,900	2,475	13.5	38,300	30,300	2,350	4.8	8.4	9.5
50RTG04	1,600	0.20	45,600	39,900	56,100	3,100	14.7	52,200	40,400	2,875	5.1	11.2	12.7
50RTG05	2,000	0.20	58,100	49,100	73,000	4,350	13.4	68,000	52,900	4,450	4.5	14.7	18.3
50RTG07	2,600	0.25	78,800	62,500	99,800	5,875	13.4	90,900	70,200	6,050	4.4	19.9	10.5
50RTG08	3,200	0.25	91,900	79,500	113,100	6,225	14.7	96,700	75,900	6,100	4.6	22.7	13.4
50RTG10	4,000	0.30	119,100	99,600	149,000	8,750	13.6	129,900	98,700	9,150	4.2	29.7	19.3
50RTG12	4,800	0.30	133,100	114,100	167,000	9,925	13.4	148,200	113,400	10,180	4.3	33.2	10.1
50RTG15	6,000	0.35	175,700	153,200	213,900	11,200	15.7	175,700	140,900	10,210	5.0	43.0	12.2
50RTG20	8,000	0.40	249,700	206,600	309,700	17,575	14.2	267,100	208,100	17,300	4.5	62.0	20.8

Power Input Watts: Fan power adjustment watts have been subtracted and pump power adjustment watts have been added to the power input watts per ISO/FDIS 13256-1.

Capacity: Fan Power adjustment watts have been subtracted from the heating capacity and added to the total and sensible cooling capacity per ISO/FDIS 13256-1.

LEGEND

COP – Coefficient of Performance

EAT – Entering Air Temperature

EER – Energy Efficiency Rating

ESP – External Static Pressure

EWT – Entering Water Temperature

* Air Conditioning & Refrigeration Institute.

NOTE: Performance at ARI 320 rating conditions.

Physical data

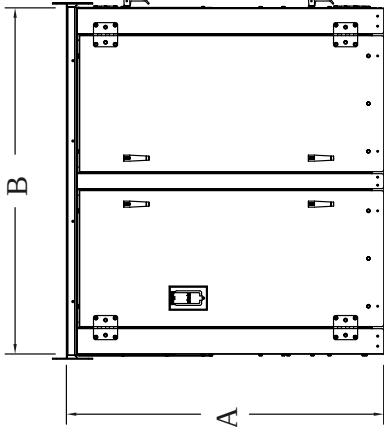
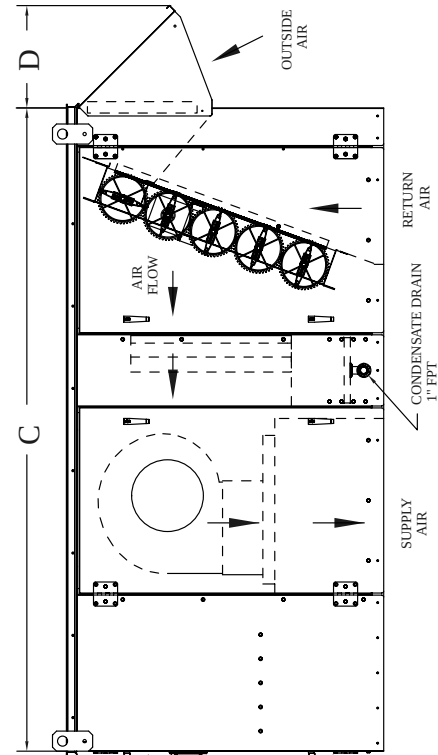
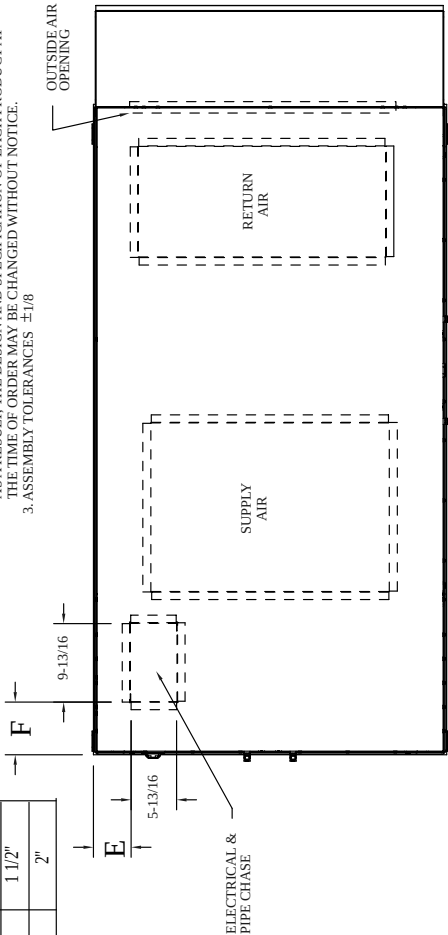
Unit Size	Operating Weight (lb)	Shipping Weight (lb)	Refrigerant to Air Heat Exchanger				Refrigerant Charge R-22/Ckt. (oz)	Number of Circuits	Blower Data (in.)		Filter Data (in.)	
			Face Area Sq Ft.	Number of Rows Deep	Copper Tube Size (in.)	No. of Fins Per Inch			Diameter	Width	Size (in.)	Qty
50RTG03	735	750	5	2	3/8	12	52	1	10	6	16x20	4
50RTG04	785	800	5	3	3/8	12	68	1	10	6	16x20	4
50RTG05	835	850	5	3	3/8	12	86	1	10	10	16x20	4
50RTG07	880	900	7.5	3	3/8	12	132	1	12T	11	16x20	4
50RTG08	1080	1100	9.3	3	3/8	12	68	2	15	11	16x20	6
50RTG10	1125	1150	9.3	3	3/8	12	86	2	15	11	16x20	6
50RTG12	1175	1200	10.5	3	3/8	12	88	2	15	11	16x20	6
50RTG15	1770	1800	20	4	3/8	12	141	2	(2)15	11	16x20	10
50RTG20	1960	2000	20	4	3/8	12	160	2	(2)15	11	16x20	6

Base unit dimensions

DIMENSIONS (in.)

UNIT	A	B	C	D	E	F	OUTSIDE AIR OPENING SIZE	WATER IN/OUT (PPT)
50RTC03/04	39.52	43.90	81.00	12.32	4.692	6.614	12.57 X 30.00	3/4"
50RTC05	39.52	43.90	81.00	12.32	4.692	6.614	12.57 X 30.00	1"
50RTC07	39.52	43.90	81.00	12.32	4.692	6.614	12.57 X 30.00	1 1/4"
50RTC08	45.40	49.90	91.07	16.48	5.692	6.614	18.95 X 36.00	1 1/4"
50RTC10/12	45.40	49.90	91.07	16.48	5.692	6.614	18.95 X 36.00	1 1/2"
50RTC15/20	50.62	88.00	91.07	16.48	4.543	6.566	18.95 X 74.00	2"

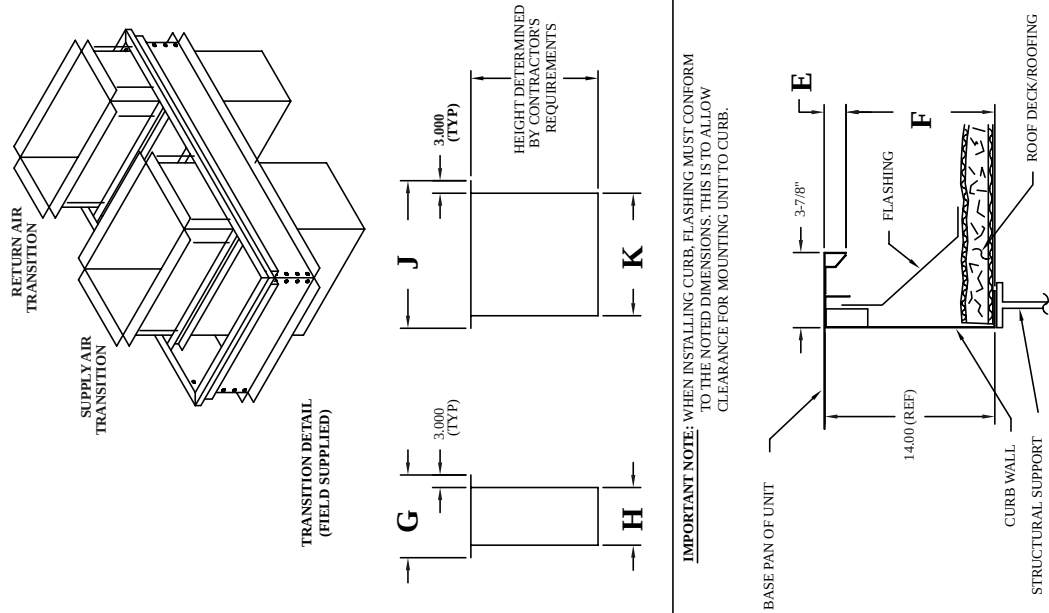
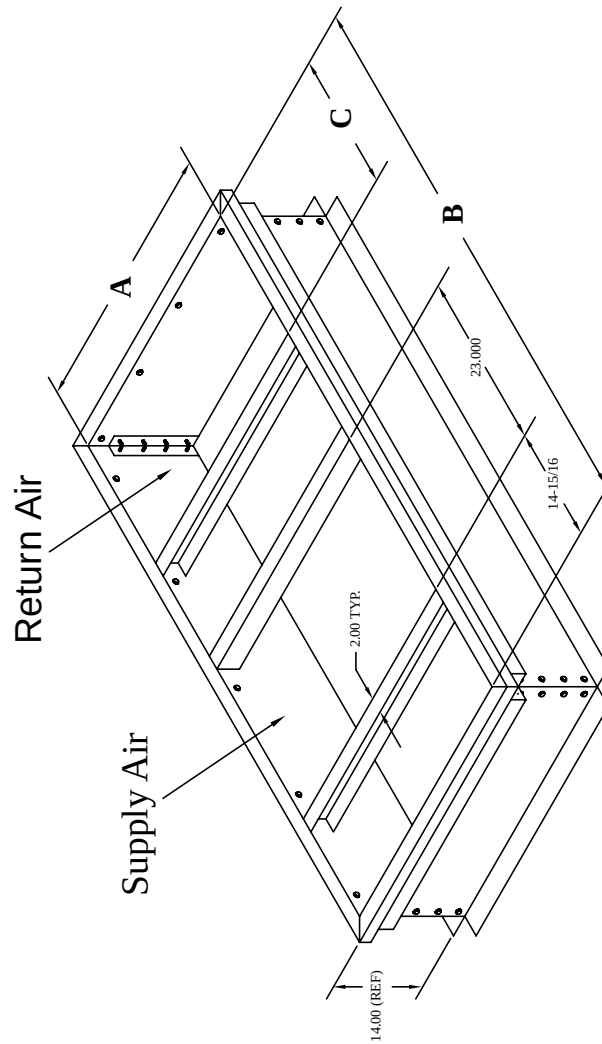
- NOTES:
 1. ALL DIMENSIONS ARE IN INCHES.
 2. CARRIER WORKS CONTINUOUSLY TO IMPROVE ITS PRODUCTS. AS A RESULT, THE DESIGN AND SPECIFICATION OF EACH PRODUCT AT THE TIME OF ORDER MAY BE CHANGED WITHOUT NOTICE.
 3. ASSEMBLY TOLERANCES ±1/8



Accessory dimensions

ROOF CURB ASSEMBLY DETAILS

ROOF CURB		DIMENSIONS (in.)												
		RETURN AIR TRANSITION						SUPPLY AIR TRANSITION						
		A	B	C	E	F	G	H	J	K	G	H	J	K
50RTGACURBAAA		35.25	72.25	18.00	1.50	12.50	22.00	16.00	39.25	33.25	27.00	21.00	39.25	33.25
50RTGACURBBAAA		41.25	82.25	21.00	1.50	12.50	25.00	19.00	45.25	39.25	27.00	21.00	45.25	39.25
50RTGACURBBAAB		47.25	92.25	24.00	1.50	12.50	28.00	22.00	51.25	45.25	33.25	24.00	51.25	45.25
50RTGACURBBAAB		48.75	82.25	21.00	5.00	9.00	25.00	19.00	82.875	76.875	27.00	21.00	82.875	76.875



Performance data

50RTG03 RATED AIR FLOW 1200 SCFM

Water Rate GPM	Entering Water Temp. °F	Cooling Performance - EAT 80/67F					Heating Performance - EAT 70F				Water PD Ft. H ₂ O
		Total Cooling BTUH	Sensible Cooling BTUH	Rejected Heat BTUH	Power Input Watts	EER	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP	
4 6 8 10	20	—	—	—	—	—	Operation Not Recommended				
							21,812 21,937	14,602 14,714	2,113 2,117	3.0 3.0	10.5 15.1
4 6 8 10	30	—	—	—	—	—	23,543 24,313 24,708 24,950	16,197 16,916 17,287 17,519	2,153 2,168 2,175 2,178	3.2 3.3 3.3 3.4	3.1 6.1 9.9 14.3
4 6 8 10	40	38,293 38,910 39,086 39,309	27,889 28,132 28,172 28,275	44,516 44,796 44,781 44,908	1,825 1,726 1,670 1,642	21.0 22.5 23.4 23.9	26,625 27,594 28,122 28,456	19,064 19,995 20,496 20,811	2,216 2,227 2,235 2,241	3.5 3.6 3.7 3.7	2.8 5.8 9.3 12.9
4 6 8 10	50	37,304 37,930 38,206 38,429	27,852 28,115 28,173 28,272	44,059 44,334 44,429 44,553	1,981 1,878 1,825 1,796	18.8 20.2 20.9 21.4	29,588 30,773 31,427 31,843	21,871 22,973 23,580 23,965	2,262 2,286 2,300 2,309	3.8 3.9 4.0 4.0	2.8 5.3 8.9 12.9
4 6 8 10	60	36,115 36,716 37,048 37,278	27,777 28,015 28,069 28,147	43,470 43,696 43,837 43,965	2,157 2,047 1,991 1,961	16.7 17.9 18.6 19.0	32,758 34,223 35,048 35,579	24,815 26,181 26,954 27,454	2,328 2,357 2,372 2,381	4.1 4.3 4.3 4.4	2.8 5.3 8.9 12.9
4 6 8 10	70	34,806 35,441 35,713 35,997	27,342 27,575 27,645 27,595	42,806 43,042 43,109 43,281	2,346 2,229 2,169 2,136	14.8 15.9 16.5 16.9	36,215 38,076 39,155 39,863	28,053 29,816 30,841 31,513	2,392 2,421 2,437 2,447	4.4 4.6 4.7 4.8	2.8 5.3 8.9 12.9
4 6 8 10	80	33,435 34,142 34,345 34,561	26,721 26,976 27,192 27,267	42,131 42,425 42,416 42,517	2,550 2,429 2,367 2,333	13.1 14.1 14.5 14.8	40,088 42,533 44,009 44,994	31,727 34,037 35,416 36,325	2,450 2,490 2,519 2,541	4.8 5.0 5.1 5.2	2.8 5.3 8.9 12.9
4 6 8 10	90	31,962 32,588 32,996 33,136	26,407 26,622 26,575 26,813	41,493 41,638 41,824 41,845	2,795 2,654 2,589 2,554	11.4 12.3 12.7 13.0	— — — —	— — — —	— — — —	— — — —	2.8 5.3 8.9 12.9
4 6 8 10	100	30,499 31,126 31,531 31,676	25,970 26,169 26,125 26,352	40,978 41,073 41,232 41,248	3,073 2,917 2,845 2,807	9.9 10.7 11.1 11.3	— — — —	— — — —	— — — —	— — — —	2.8 5.3 8.9 12.9
4 6 8 10	110	Operation Not Recommended					— — — —	— — — —	— — — —	— — — —	2.8 5.3 8.9 12.9
		29,996 30,202	25,727 25,801	40,703 40,759	3,140 3,096	9.6 9.8					

NOTE : Heavy Border Area Performance is Based On Using 15% by Weight Sodium Chloride and Water Mixture

Correction Factors For Variations in Entering Air Flow

SCFM	Cooling				Heating		
	Total Cooling Capacity	Sensible Cooling Capacity	Rejected Heat	Input Power Watts	Heating Capacity	Heat of Absorption	Power Input Watts
975	0.981	0.907	0.978	0.965	0.991	0.983	1.024
1050	0.991	0.936	0.987	0.973	0.995	0.991	1.010
1125	0.997	0.966	0.995	0.986	1.000	0.999	1.005
1200	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1275	1.004	1.030	1.006	1.011	1.008	1.011	0.998
1350	1.008	1.059	1.011	1.022	1.012	1.016	0.997
1425	1.011	1.079	1.017	1.042	1.018	1.020	1.007

LEGEND

COP — Coefficient of Performance
EAT — Energy Air Temperature
EER — Energy Efficiency Ratio
PD — Pressure Drop
SCFM — Standard Cubic Feet per minute

Correction Factors For Variations in Entering Air Temperature

Cooling										Heating			
Entering Air Wet Bulb	Total Cooling Capacity	Sensible Cooling Capacity Air Entering Dry Bulb						Rejected Heat	Power Input Watts	Entering Air °F	Heating Capacity	Heat of Absorption	Power Input Watts
		70°F	75°F	80°F	85°F	90°F	95°F						
61	0.909	0.828	*	*	*	*	*	0.924	0.983	55	1.012	1.017	0.990
64	0.953	0.691	.913	1.141	*	*	*	0.960	0.991	60	1.007	1.014	0.995
67	1.000	0.552	.773	1.000	1.224	*	*	1.000	1.000	65	1.006	1.008	0.997
70	1.043	—	.612	0.857	1.082	*	*	1.036	1.007	70	1.000	1.000	1.000
73	1.103	—	.455	0.715	0.938	1.167	1.394	1.087	1.020	75	0.998	0.996	1.006
76	1.153	—	—	—	—	1.023	1.254	1.129	1.031	80	0.996	0.991	1.015

*Sensible Equals Total

50RTG04 RATED AIR FLOW 1600 SCFM

Water Rate GPM	Entering Water Temp. °F	Cooling Performance - EAT 80/67F					Heating Performance - EAT 70F				Water PD Ft. H ₂ O
		Total Cooling BTUH	Sensible Cooling BTUH	Rejected Heat BTUH	Power Input Watts	EER	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP	
5.5 8.5 11.5 14	20	—	—	—	—	—	Operation Not Recommended				
							28,584 28,800	19,402 19,601	2,691 2,696	3.1 3.1	15.7 21.7
5.5 8.5 11.5 14	30	—	—	—	—	—	30,997 32,104 32,511 32,934	21,662 22,690 23,067 23,486	2,736 2,759 2,768 2,769	3.3 3.4 3.4 3.5	4.2 8.9 14.8 20.5
5.5 8.5 11.5 14	40	51,826 52,545 52,706 52,933	38,311 38,680 38,698 38,795	59,580 59,921 59,887 60,033	2,274 2,163 2,106 2,082	22.8 24.3 25.0 25.4	34,601 36,661 37,603 38,066	25,382 27,311 28,196 28,632	2,702 2,740 2,757 2,765	3.8 3.9 4.0 4.0	3.9 8.4 13.2 18.6
5.5 8.5 11.5 14	50	50,457 51,366 51,608 51,893	38,299 38,426 38,617 38,615	58,856 59,335 59,383 59,572	2,463 2,337 2,280 2,252	20.5 22.0 22.6 23.0	39,649 41,198 41,913 42,266	30,124 31,587 32,262 32,594	2,792 2,817 2,829 2,835	4.2 4.3 4.3 4.4	3.4 7.8 13.2 18.6
5.5 8.5 11.5 14	60	48,939 49,869 50,189 50,281	37,998 38,120 38,218 38,076	58,081 58,534 58,632 58,622	2,681 2,541 2,476 2,446	18.3 19.6 20.3 20.6	43,256 44,915 45,855 46,403	33,525 35,076 35,950 36,458	2,852 2,884 2,903 2,914	4.4 4.6 4.6 4.7	3.4 7.8 13.2 18.6
5.5 8.5 11.5 14	70	47,251 48,103 48,343 48,217	37,248 37,505 37,788 37,528	57,215 57,556 57,560 57,281	2,922 2,772 2,703 2,658	16.2 17.4 17.9 18.1	47,263 49,688 50,971 51,628	37,256 39,499 40,684 41,292	2,933 2,986 3,015 3,029	4.7 4.9 5.0 5.0	3.4 7.8 13.2 18.6
5.5 8.5 11.5 14	80	45,080 46,382 46,512 46,737	36,227 37,213 37,191 37,271	55,948 56,738 56,595 56,704	3,187 3,037 2,957 2,923	14.1 15.3 15.7 16.0	52,044 54,231 54,724 54,664	41,677 43,709 44,183 44,141	3,038 3,084 3,090 3,084	5.0 5.2 5.2 5.2	3.4 7.8 13.2 18.6
5.5 8.5 11.5 14	90	43,560 44,454 44,806 45,029	36,174 36,312 36,662 36,736	55,512 55,789 55,885 55,982	3,505 3,324 3,249 3,212	12.4 13.4 13.8 14.0	—	—	—	—	3.4 7.8 13.2 18.6
5.5 8.5 11.5 14	100	41,683 42,418 42,862 43,081	35,269 35,804 35,940 36,016	54,818 54,902 55,060 55,142	3,852 3,661 3,577 3,537	10.8 11.6 12.0 12.2	—	—	—	—	3.4 7.8 13.2 18.6
5.5 8.5 11.5 14	110	Operation Not Recommended					—	—	—	—	3.4 7.8 13.2 18.6
		40,884 41,092	35,042 35,143	54,336 54,394	3,945 3,901	10.4 10.5					

NOTE : Heavy Border Area Performance is Based On Using 15% by Weight Sodium Chloride and Water Mixture

Correction Factors For Variations in Entering Air Flow

SCFM	Cooling				Heating		
	Total Cooling Capacity	Sensible Cooling Capacity	Rejected Heat	Input Power Watts	Heating Capacity	Heat of Absorption	Power Input Watts
1300	0.980	0.904	0.977	0.963	0.986	0.976	1.024
1400	0.989	0.935	0.986	0.973	0.991	0.986	1.011
1500	0.996	0.967	0.994	0.984	0.995	0.993	1.002
1600	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1700	1.010	1.029	1.011	1.018	1.004	1.005	1.003
1800	1.013	1.055	1.018	1.038	1.010	1.010	1.010
1900	1.015	1.079	1.023	1.064	1.016	1.014	1.023

LEGEND

COP – Coefficient of Performance
EAT – Energy Air Temperature
EER – Energy Efficiency Ratio
PD – Pressure Drop
SCFM –Standard Cubic Feet per minute

Correction Factors For Variations in Entering Air Temperature

Cooling										Heating			
Entering Air Wet Bulb	Total Cooling Capacity	Sensible Cooling Capacity Entering Air Dry Bulb						Rejected Heat	Power Input Watts	Entering Air °F	Heating Capacity	Heat of Absorption	Power Input Watts
		70°F	75°F	80°F	85°F	90°F	95°F						
61	0.909	0.828	*	*	*	*	*	0.924	0.983	55	1.012	1.017	0.990
64	0.953	0.691	.913	1.141	*	*	*	0.960	0.991	60	1.007	1.014	0.995
67	1.000	0.552	.773	1.000	1.224	*	*	1.000	1.000	65	1.006	1.008	0.997
70	1.043	—	.612	0.857	1.082	*	*	1.036	1.007	70	1.000	1.000	1.000
73	1.103	—	.455	0.715	0.938	1.167	1.394	1.087	1.020	75	0.998	0.996	1.006
76	1.153	—	—	—	—	1.023	1.254	1.129	1.031	80	0.996	0.991	1.015

*Sensible Equals Total

Performance data (cont)

50RTG05 RATED AIR FLOW 2000 SCFM

Water Rate GPM	Entering Water Temp. °F	Cooling Performance - EAT 80/67F					Heating Performance - EAT 70F				Water PD Ft. H ₂ O
		Total Cooling BTUH	Sensible Cooling BTUH	Rejected Heat BTUH	Power Input Watts	EER	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP	
7 11 15 18	20	—	—	—	—	—	Operation Not Recommended				
							38,883	25,764	3,845	3.0	30.2
							40,027	26,881	3,853	3.0	41.1
7 11 15 18	30	—	—	—	—	—	42,011	28,636	3,920	3.1	8.1
							43,339	29,865	3,949	3.2	16.9
							44,072	30,564	3,959	3.3	28.5
							44,331	30,809	3,963	3.3	38.8
7 11 15 18	40	65,987	47,630	76,879	3,194	20.7	46,198	32,742	3,944	3.4	7.5
		66,880	47,973	77,257	3,043	22.0	48,653	34,861	4,042	3.5	15.7
		67,016	47,981	77,140	2,969	22.6	49,864	35,929	4,084	3.6	18.9
		67,248	48,083	77,273	2,940	22.9	50,424	36,428	4,102	3.6	25.6
7 11 15 18	50	64,439	47,457	76,207	3,451	18.7	52,649	38,442	4,164	3.7	5.3
		65,511	47,654	76,706	3,283	20.0	55,150	40,758	4,218	3.8	11.2
		65,831	47,748	76,770	3,208	20.5	56,371	41,902	4,240	3.9	18.9
		66,065	47,851	76,899	3,177	20.8	56,978	42,474	4,251	3.9	25.6
7 11 15 18	60	62,811	46,827	75,547	3,735	16.8	58,465	43,875	4,276	4.0	5.3
		63,672	47,395	75,805	3,558	17.9	61,255	46,497	4,325	4.2	11.2
		64,014	47,501	75,867	3,476	18.4	62,756	47,895	4,355	4.2	18.9
		64,251	47,601	75,988	3,442	18.7	63,451	48,539	4,371	4.3	25.6
7 11 15 18	70	60,730	46,066	74,541	4,050	15.0	64,421	49,432	4,393	4.3	5.3
		61,593	46,634	74,749	3,858	16.0	67,958	52,651	4,486	4.4	11.2
		61,938	46,742	74,790	3,769	16.4	69,915	54,410	4,544	4.5	18.9
		62,171	46,841	74,904	3,734	16.6	70,853	55,249	4,573	4.5	25.6
7 11 15 18	80	58,278	45,437	73,279	4,399	13.2	71,111	55,480	4,581	4.5	5.3
		59,432	45,850	73,737	4,195	14.2	75,516	59,432	4,714	4.7	11.2
		59,780	45,961	73,754	4,098	14.6	77,740	61,464	4,770	4.8	18.9
		60,009	46,059	73,854	4,060	14.8	78,805	62,459	4,791	4.8	25.6
7 11 15 18	90	56,134	44,408	72,478	4,793	11.7					5.3
		57,005	45,001	72,572	4,565	12.5					11.2
		57,517	45,163	72,753	4,468	12.9	—	—	—	—	18.9
		57,748	45,256	72,844	4,427	13.0					25.6
7 11 15 18	100	53,710	43,726	71,589	5,243	10.2					5.3
		54,649	44,234	71,682	4,995	10.9					11.2
		55,178	44,350	71,843	4,887	11.3	—	—	—	—	18.9
		55,529	44,225	72,027	4,838	11.5					25.6
7 11 15 18	110	Operation Not Recommended									5.3
		52,838	43,390	71,102	5,356	9.9	—	—	—	—	11.2
		53,140	43,753	71,244	5,309	10.0					18.9
											25.6

NOTE : Heavy Border Area Performance is Based On Using 15% by Weight Sodium Chloride and Water Mixture

Correction Factors For Variations in Entering Air Flow

SCFM	Cooling				Heating		
	Total Cooling Capacity	Sensible Cooling Capacity	Rejected Heat	Input Power Watts	Heating Capacity	Heat of Absorption	Power Input Watts
1700	0.989	0.936	0.982	0.951	0.990	0.988	0.999
1800	0.994	0.959	0.988	0.965	0.994	0.994	0.995
1900	0.998	0.980	0.994	0.981	0.995	0.995	0.996
2000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2100	1.001	1.020	1.005	1.019	1.005	1.005	1.006
2200	1.004	1.034	1.011	1.039	1.011	1.009	1.015
2300	1.002	1.057	1.014	1.058	1.016	1.013	1.023

LEGEND

COP – Coefficient of Performance
EAT – Energy Air Temperature
EER – Energy Efficiency Ratio
PD – Pressure Drop
SCFM –Standard Cubic Feet per minute

Correction Factors For Variations in Entering Air Temperature

Cooling										Heating			
Entering Air Wet Bulb	Total Cooling Capacity	Sensible Cooling Capacity Entering Air Dry Bulb						Rejected Heat	Power Input Watts	Entering Air °F	Heating Capacity	Heat of Absorption	Power Input Watts
		70°F	75°F	80°F	85°F	90°F	95°F						
61	0.909	0.828	*	*	*	*	*	0.924	0.983	55	1.012	1.017	0.990
64	0.953	0.691	.913	1.141	*	*	*	0.960	0.991	60	1.007	1.014	0.995
67	1.000	0.552	.773	1.000	1.224	*	*	1.000	1.000	65	1.006	1.008	0.997
70	1.043	—	.612	0.857	1.082	*	*	1.036	1.007	70	1.000	1.000	1.000
73	1.103	—	.455	0.715	0.938	1.167	1.394	1.087	1.020	75	0.998	0.996	1.006
76	1.153	—	—	—	—	1.023	1.254	1.129	1.031	80	0.996	0.991	1.015

*Sensible Equals Total

50RTG07 RATED AIR FLOW 2600 SCFM

Water Rate GPM	Entering Water Temp. °F	Cooling Performance - EAT 80/67F					Heating Performance - EAT 70F				Water PD Ft. H ₂ O
		Total Cooling BTUH	Sensible Cooling BTUH	Rejected Heat BTUH	Power Input Watts	EER	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP	
10 15 20 24	20	—	—	—	—	—	Operation Not Recommended				
							52,536 53,257	35,126 35,745	5,103 5,133	3.0 3.0	17.1 23.8
10 15 20 24	30	—	—	—	—	—	56,123 58,260 59,107 60,692	38,298 40,317 41,126 42,626	5,224 5,259 5,270 5,295	3.1 3.2 3.3 3.4	3.4 10.1 16.0 22.3
10 15 20 24	40	88,908 89,746 89,945 90,289	61,520 61,363 61,116 61,156	104,559 104,858 104,852 105,118	4,587 4,429 4,369 4,346	19.4 20.3 20.6 20.8	64,075 66,265 67,615 68,312	45,520 47,453 48,676 49,309	5,438 5,514 5,551 5,569	3.5 3.5 3.6 3.6	3.2 9.4 10.7 14.9
10 15 20 24	50	86,608 87,265 87,315 87,564	60,913 60,673 60,354 60,350	103,289 103,185 102,911 103,014	4,889 4,666 4,571 4,528	17.7 18.7 19.1 19.3	72,042 74,394 75,904 76,687	52,751 54,849 56,224 56,937	5,654 5,728 5,768 5,789	3.7 3.8 3.9 3.9	2.3 6.7 10.7 14.9
10 15 20 24	60	84,305 85,001 85,022 85,234	60,289 60,079 59,748 59,728	102,290 102,051 101,645 101,659	5,271 4,997 4,872 4,814	16.0 17.0 17.5 17.7	79,803 82,646 84,511 85,499	59,819 62,327 64,000 64,883	5,857 5,955 6,012 6,042	4.0 4.1 4.1 4.1	2.3 6.7 10.7 14.9
10 15 20 24	70	81,743 82,652 82,745 82,976	59,499 59,422 59,134 59,127	101,256 101,087 100,675 100,667	5,719 5,403 5,255 5,185	14.3 15.3 15.7 16.0	88,157 91,819 94,185 95,438	67,323 70,482 72,557 73,652	6,106 6,253 6,339 6,385	4.2 4.3 4.4 4.4	2.3 6.7 10.7 14.9
10 15 20 24	80	78,743 79,976 80,218 80,508	58,406 58,553 58,358 58,389	99,996 100,018 99,687 99,704	6,229 5,874 5,706 5,626	12.6 13.6 14.1 14.3	97,371 101,691 104,246 105,506	75,432 79,065 81,249 82,318	6,430 6,631 6,740 6,796	4.4 4.5 4.5 4.6	2.3 6.7 10.7 14.9
10 15 20 24	90	75,225 76,818 77,248 77,622	56,899 57,341 57,280 57,371	98,457 98,686 98,471 98,538	6,809 6,409 6,220 6,130	11.0 12.0 12.4 12.7	— — — —	— — — —	— — — —	— — — —	2.3 6.7 10.7 14.9
10 15 20 24	100	71,200 73,124 73,746 74,208	54,884 55,673 55,781 55,948	96,756 97,093 96,982 97,092	7,490 7,025 6,810 6,707	9.5 10.4 10.8 11.1	— — — —	— — — —	— — — —	— — — —	2.3 6.7 10.7 14.9
10 15 20 24	110	Operation Not Recommended					— — — —	— — — —	— — — —	— — — —	2.3 6.7 10.7 14.9

NOTE : Heavy Border Area Performance is Based On Using 15% by Weight Sodium Chloride and Water Mixture

Correction Factors For Variations in Entering Air Flow

SCFM	Cooling				Heating		
	Total Cooling Capacity	Sensible Cooling Capacity	Rejected Heat	Input Power Watts	Heating Capacity	Heat of Absorption	Power Input Watts
1950	0.973	0.885	0.964	0.924	0.978	0.965	1.024
2200	0.987	0.935	0.979	0.949	0.986	0.981	1.002
2400	0.994	0.972	0.990	0.973	0.993	0.991	0.997
2600	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2800	1.001	1.034	1.007	1.033	1.008	1.007	1.011
3000	1.006	1.071	1.018	1.069	1.016	1.013	1.027
3250	1.006	1.097	1.028	1.124	1.029	1.020	1.061

LEGEND

COP – Coefficient of Performance
EAT – Energy Air Temperature
EER – Energy Efficiency Ratio
PD – Pressure Drop
SCFM –Standard Cubic Feet per minute

Correction Factors For Variations in Entering Air Temperature

Cooling										Heating			
Entering Air Wet Bulb	Total Cooling Capacity	Sensible Cooling Capacity Entering Air Dry Bulb						Rejected Heat	Power Input Watts	Entering Air °F	Heating Capacity	Heat of Absorption	Power Input Watts
		70°F	75°F	80°F	85°F	90°F	95°F						
61	0.909	0.828	*	*	*	*	*	0.924	0.983	55	1.012	1.017	0.990
64	0.953	0.691	.913	1.141	*	*	*	0.960	0.991	60	1.007	1.014	0.995
67	1.000	0.552	.773	1.000	1.224	*	*	1.000	1.000	65	1.006	1.008	0.997
70	1.043	—	.612	0.857	1.082	*	*	1.036	1.007	70	1.000	1.000	1.000
73	1.103	—	.455	0.715	0.938	1.167	1.394	1.087	1.020	75	0.998	0.996	1.006
76	1.153	—	—	—	—	1.023	1.254	1.129	1.031	80	0.996	0.991	1.015

*Sensible Equals Total

Performance data (cont)

50RTG08 RATED AIR FLOW 3200 SCFM

Water Rate GPM	Entering Water Temp. °F	Cooling Performance - EAT 80/67F					Heating Performance - EAT 70F				Water PD Ft. H ₂ O	
		Total Cooling BTUH	Sensible Cooling BTUH	Rejected Heat BTUH	Power Input Watts	EER	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP		
11 17 22 27	20	—	—	—	—	—	Operation Not Recommended					
		56,225	37,220	5,570	3.0	15						
		56,693	37,654	5,580	3.0	21.2						
11 17 22 27	30	—	—	—	—	—	60,896	41,564	5,666	3.1	4.5	
		62,792	43,330	5,704	3.2	9.4						
		63,572	44,062	5,718	3.3	14.2						
		64,027	44,490	5,726	3.3	20						
11 17 22 27	40	103,452	75,970	119,154	4,602	22.5	67,510	47,733	5,796	3.4	3.5	
		104,876	76,490	119,855	4,390	23.9	70,506	50,523	5,857	3.5	8.1	
		105,174	76,502	119,771	4,278	24.6	71,748	51,679	5,882	3.6	12.7	
		105,620	76,708	120,053	4,230	25.0	72,566	52,440	5,899	3.6	18.2	
11 17 22 27	50	100,860	76,300	117,872	4,986	20.2	76,267	55,880	5,975	3.7	3.5	
		102,370	76,832	118,570	4,748	21.6	79,511	58,897	6,042	3.9	8.1	
		102,946	76,972	118,750	4,632	22.2	80,914	60,203	6,070	3.9	12.7	
		103,404	77,164	119,024	4,578	22.6	81,868	61,091	6,089	3.9	18.2	
11 17 22 27	60	97,982	75,862	116,489	5,424	18.1	84,739	63,767	6,147	4.0	3.5	
		99,552	76,410	117,158	5,160	19.3	88,466	67,248	6,219	4.2	8.1	
		100,170	76,570	117,332	5,030	19.9	90,147	68,820	6,251	4.2	12.7	
		100,632	76,760	117,596	4,972	20.2	91,296	69,895	6,272	4.3	18.2	
11 17 22 27	70	95,054	75,068	115,239	5,916	16.1	93,492	71,952	6,313	4.3	3.5	
		96,612	75,618	115,815	5,628	17.2	97,858	76,045	6,393	4.5	8.1	
		97,244	75,798	115,955	5,484	17.7	99,875	77,936	6,430	4.6	12.7	
		97,256	75,398	115,735	5,416	18.0	101,153	79,134	6,453	4.6	18.2	
11 17 22 27	80	91,342	73,388	113,349	6,450	14.2	102,562	80,455	6,479	4.6	3.5	
		93,012	74,390	114,009	6,154	15.1	107,519	85,095	6,572	4.8	8.1	
		93,650	74,562	114,115	5,998	15.6	109,706	87,136	6,615	4.9	12.7	
		94,094	74,738	114,320	5,928	15.9	111,136	88,468	6,644	4.9	18.2	
11 17 22 27	90	87,642	71,944	111,765	7,070	12.4	—	—	—	—	3.5	
		89,180	72,576	112,136	6,728	13.3	—	—	—	—	8.1	
		90,028	72,888	112,458	6,574	13.7	—	—	—	—	12.7	
		90,462	73,082	112,640	6,500	13.9	—	—	—	—	18.2	
11 17 22 27	100	83,620	71,070	110,152	7,776	10.8	—	—	—	—	3.5	
		85,174	71,624	110,436	7,404	11.5	—	—	—	—	8.1	
		86,048	71,880	110,737	7,236	11.9	—	—	—	—	12.7	
		86,488	72,046	110,897	7,154	12.1	—	—	—	—	18.2	
11 17 22 27	110	Operation Not Recommended					—	—	—	—	3.5	
		81,968	70,704	109,189	7,978	10.3	—	—	—	—	8.1	
		82,406	70,864	109,327	7,890	10.4	—	—	—	—	12.7	
							—	—	—	—	18.2	

NOTE : Heavy Border Area Performance is Based On Using 15% by Weight Sodium Chloride and Water Mixture

Correction Factors For Variations in Entering Air Flow

SCFM	Cooling				Heating		
	Total Cooling Capacity	Sensible Cooling Capacity	Rejected Heat	Input Power Watts	Heating Capacity	Heat of Absorption	Power Input Watts
2400	0.970	0.869	0.965	0.943	0.982	0.970	1.028
2650	0.981	0.909	0.976	0.957	0.987	0.981	1.009
2900	0.988	0.949	0.986	0.974	0.993	0.991	1.000
3200	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3450	1.005	1.029	1.009	1.025	1.007	1.006	1.008
3700	1.007	1.059	1.016	1.055	1.014	1.012	1.024
4000	1.007	1.103	1.022	1.089	1.023	1.017	1.042

LEGEND

COP – Coefficient of Performance
EAT – Energy Air Temperature
EER – Energy Efficiency Ratio
PD – Pressure Drop
SCFM – Standard Cubic Feet per minute

Correction Factors For Variations in Entering Air Temperature

Cooling										Heating			
Entering Air Wet Bulb	Total Cooling Capacity	Sensible Cooling Capacity Entering Air Dry Bulb						Rejected Heat	Power Input Watts	Entering Air °F	Heating Capacity	Heat of Absorption	Power Input Watts
		70°F	75°F	80°F	85°F	90°F	95°F						
61	0.909	0.828	*	*	*	*	*	0.924	0.983	55	1.012	1.017	0.990
64	0.953	0.691	.913	1.141	*	*	*	0.960	0.991	60	1.007	1.014	0.995
67	1.000	0.552	.773	1.000	1.224	*	*	1.000	1.000	65	1.006	1.008	0.997
70	1.043	—	.612	0.857	1.082	*	*	1.036	1.007	70	1.000	1.000	1.000
73	1.103	—	.455	0.715	0.938	1.167	1.394	1.087	1.020	75	0.998	0.996	1.006
76	1.153	—	—	—	—	1.023	1.254	1.129	1.031	80	0.996	0.991	1.015

*Sensible Equals Total

50RTG10 RATED AIR FLOW 4000 SCFM

Water Rate GPM	Entering Water Temp. °F	Cooling Performance - EAT 80/67F					Heating Performance - EAT 70F				Water PD Ft. H ₂ O
		Total Cooling BTUH	Sensible Cooling BTUH	Rejected Heat BTUH	Power Input Watts	EER	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP	
14 22 30 36	20	—	—	—	—	—	Operation Not Recommended				
							76,473 77,099	48,754 49,366	8,124 8,128	2.8 2.8	31.1 42.3
14 22 30 36	30	—	—	—	—	—	82,944 85,343 86,457 86,885	54,706 56,914 57,946 58,340	8,276 8,332 8,356 8,366	2.9 3.0 3.0 3.0	8.3 17.6 29.4 39.9
14 22 30 36	40	132,588 134,398 134,652 135,122	95,060 95,752 95,746 95,956	155,223 155,982 155,725 155,997	6,634 6,326 6,176 6,118	20.0 21.2 21.8 22.1	92,263 95,622 97,400 98,205	63,320 66,417 68,056 68,798	8,483 8,559 8,600 8,619	3.2 3.3 3.3 3.3	7.8 16.5 19.7 26.7
14 22 30 36	50	129,814 131,742 132,568 133,048	95,098 95,832 95,684 95,898	154,217 154,998 155,285 155,554	7,152 6,816 6,658 6,596	18.2 19.3 19.9 20.2	102,385 106,651 108,901 110,007	72,651 76,583 78,656 79,675	8,714 8,812 8,864 8,890	3.4 3.5 3.6 3.6	5.5 11.7 19.7 26.7
14 22 30 36	60	126,534 128,748 129,252 129,738	94,512 94,896 95,424 95,630	152,909 153,853 153,805 154,059	7,730 7,358 7,196 7,128	16.4 17.5 18.0 18.2	113,439 118,588 121,357 122,616	82,837 87,577 90,126 91,284	8,969 9,089 9,153 9,183	3.7 3.8 3.9 3.9	5.5 11.7 19.7 26.7
14 22 30 36	70	122,396 124,436 125,138 125,620	93,142 93,834 94,016 94,210	150,927 151,609 151,690 151,927	8,362 7,964 7,782 7,710	14.6 15.6 16.1 16.3	125,015 131,272 134,542 136,050	93,491 99,242 102,246 103,631	9,239 9,387 9,465 9,501	4.0 4.1 4.2 4.2	5.5 11.7 19.7 26.7
14 22 30 36	80	117,764 120,116 120,818 121,290	91,516 92,356 92,558 92,762	148,663 149,589 149,622 149,828	9,056 8,638 8,442 8,364	13.0 13.9 14.3 14.5	137,239 144,622 148,297 150,147	104,723 111,496 114,863 116,558	9,530 9,709 9,799 9,844	4.2 4.4 4.4 4.5	5.5 11.7 19.7 26.7
14 22 30 36	90	113,870 115,334 116,346 116,806	90,292 90,656 91,048 91,214	147,505 147,345 147,695 147,842	9,858 9,382 9,188 9,096	11.6 12.3 12.7 12.8	— — — —	— — — —	— — — —	— — — —	5.5 11.7 19.7 26.7
14 22 30 36	100	109,206 111,268 112,320 112,798	88,732 89,456 89,792 89,986	145,912 146,207 146,522 146,679	10,758 10,240 10,024 9,930	10.2 10.9 11.2 11.4	— — — —	— — — —	— — — —	— — — —	5.5 11.7 19.7 26.7
14 22 30 36	110	Operation Not Recommended					— — — —	— — — —	— — — —	— — — —	5.5 11.7 19.7 26.7

NOTE : Heavy Border Area Performance is Based On Using 15% by Weight Sodium Chloride and Water Mixture

Correction Factors For Variations in Entering Air Flow

SCFM	Cooling				Heating		
	Total Cooling Capacity	Sensible Cooling Capacity	Rejected Heat	Input Power Watts	Heating Capacity	Heat of Absorption	Power Input Watts
3000	0.981	0.886	0.968	0.919	0.979	0.969	1.011
3300	0.991	0.922	0.980	0.938	0.984	0.981	0.996
3600	0.996	0.959	0.989	0.963	0.990	0.990	0.993
4000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
4300	1.007	1.030	1.013	1.036	1.009	1.006	1.017
4700	1.006	1.065	1.022	1.083	1.020	1.013	1.042
5000	1.002	1.086	1.028	1.129	1.031	1.018	1.073

LEGEND

COP – Coefficient of Performance
EAT – Energy Air Temperature
EER – Energy Efficiency Ratio
PD – Pressure Drop
SCFM –Standard Cubic Feet per minute

Correction Factors For Variations in Entering Air Temperature

Cooling									Heating				
Entering Air Wet Bulb	Total Cooling Capacity	Sensible Cooling Capacity Entering Air Dry Bulb					Rejected Heat	Power Input Watts	Entering Air °F	Heating Capacity	Heat of Absorption	Power Input Watts	
		70°F	75°F	80°F	85°F	90°F							95°F
61	0.909	0.828	*	*	*	*	0.924	0.983	55	1.012	1.017	0.990	
64	0.953	0.691	.913	1.141	*	*	0.960	0.991	60	1.007	1.014	0.995	
67	1.000	0.552	.773	1.000	1.224	*	1.000	1.000	65	1.006	1.008	0.997	
70	1.043	—	.612	0.857	1.082	*	1.036	1.007	70	1.000	1.000	1.000	
73	1.103	—	.455	0.715	0.938	1.167	1.394	1.087	1.020	75	0.998	0.996	1.006
76	1.153	—	—	—	—	1.023	1.254	1.129	1.031	80	0.996	0.991	1.015

*Sensible Equals Total

Performance data (cont)

50RTG12 RATED AIR FLOW 4800 SCFM

Water Rate GPM	Entering Water Temp. °F	Cooling Performance - EAT 80/67F					Heating Performance - EAT 70F				Water PD Ft. H ₂ O
		Total Cooling BTUH	Sensible Cooling BTUH	Rejected Heat BTUH	Power Input Watts	EER	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP	
17 25 34 40	20	—	—	—	—	—	Operation Not Recommended				
							87,589	55,646	9,362	2.7	13.6
							88,427	56,422	9,380	2.8	22.8
17 25 34 40	30	—	—	—	—	—	95,258	62,694	9,544	2.9	4.8
							97,740	64,964	9,606	3.0	9.4
							98,900	66,152	9,598	3.0	13.1
							100,285	67,414	9,634	3.1	22
17 25 34 40	40	147,926	108,092	174,908	7,908	18.7	106,109	72,810	9,760	3.2	4.5
		149,342	108,562	175,621	7,702	19.4	109,549	75,959	9,845	3.3	9
		149,720	108,168	175,617	7,590	19.7	111,673	77,910	9,896	3.3	10.3
		150,184	108,346	175,945	7,550	19.9	112,591	78,754	9,917	3.3	13.5
17 25 34 40	50	144,934	108,390	173,520	8,378	17.3	118,500	84,205	10,051	3.5	3.2
		146,748	108,532	174,481	8,128	18.1	122,797	88,184	10,145	3.5	6.0
		147,364	108,646	174,667	8,002	18.4	125,427	90,623	10,201	3.6	10.3
		147,836	108,844	174,975	7,954	18.6	126,569	91,683	10,225	3.6	13.5
17 25 34 40	60	141,518	107,542	171,980	8,928	15.9	131,584	96,342	10,329	3.7	3.2
		143,234	108,084	172,721	8,642	16.6	136,640	101,041	10,433	3.8	6.0
		143,708	108,612	172,676	8,490	16.9	139,707	103,891	10,497	3.9	10.3
		144,182	108,816	172,959	8,434	17.1	141,031	105,120	10,525	3.9	13.5
17 25 34 40	70	136,710	106,348	169,390	9,578	14.3	144,877	108,688	10,607	4.0	3.2
		138,588	106,624	170,122	9,242	15.0	150,591	113,974	10,732	4.1	6.0
		139,318	106,772	170,251	9,066	15.4	154,064	117,180	10,810	4.2	10.3
		139,794	106,976	170,509	9,002	15.5	155,562	118,560	10,845	4.2	13.5
17 25 34 40	80	132,238	105,024	167,491	10,332	12.8	158,214	121,000	10,907	4.3	3.2
		134,366	105,824	168,363	9,964	13.5	164,671	126,935	11,060	4.4	6.0
		134,278	105,544	167,579	9,760	13.8	168,660	130,602	11,154	4.4	10.3
		134,772	105,698	167,800	9,680	13.9	170,418	132,220	11,195	4.5	13.5
17 25 34 40	90	127,108	103,216	165,404	11,224	11.3					3.2
		129,016	103,570	165,838	10,792	12.0					6.0
		129,964	104,352	166,056	10,578	12.3	—	—	—	—	10.3
		130,436	104,552	166,242	10,494	12.4					13.5
17 25 34 40	100	121,736	101,510	163,553	12,256	9.9					3.2
		123,564	102,084	163,737	11,774	10.5					6.0
		124,732	102,424	164,079	11,532	10.8	—	—	—	—	10.3
		125,210	102,612	164,236	11,438	10.9					13.5
17 25 34 40	110	Operation Not Recommended									3.2
		119,118	100,880	162,246	12,640	9.4	—	—	—	—	6.0
		119,602	101,052	162,368	12,534	9.5					10.3
											13.5

NOTE : Heavy Border Area Performance is Based On Using 15% by Weight Sodium Chloride and Water Mixture

Correction Factors For Variations in Entering Air Flow

SCFM	Cooling				Heating		
	Total Cooling Capacity	Sensible Cooling Capacity	Rejected Heat	Input Power Watts	Heating Capacity	Heat of Absorption	Power Input Watts
3600	0.984	0.887	0.965	0.892	0.972	0.970	0.978
4000	0.992	0.926	0.977	0.922	0.980	0.982	0.973
4400	0.993	0.965	0.986	0.958	0.989	0.992	0.981
4800	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5200	0.996	1.027	1.008	1.052	1.013	1.007	1.032
5600	0.992	1.050	1.015	1.107	1.026	1.012	1.070
6000	0.983	1.070	1.022	1.172	1.042	1.018	1.118

LEGEND

COP – Coefficient of Performance
EAT – Energy Air Temperature
EER – Energy Efficiency Ratio
PD – Pressure Drop
SCFM –Standard Cubic Feet per minute

Correction Factors For Variations in Entering Air Temperature

Cooling										Heating			
Entering Air Wet Bulb	Total Cooling Capacity	Sensible Cooling Capacity Entering Air Dry Bulb						Rejected Heat	Power Input Watts	Entering Air °F	Heating Capacity	Heat of Absorption	Power Input Watts
		70°F	75°F	80°F	85°F	90°F	95°F						
61	0.909	0.828	*	*	*	*	*	0.924	0.983	55	1.012	1.017	0.990
64	0.953	0.691	.913	1.141	*	*	*	0.960	0.991	60	1.007	1.014	0.995
67	1.000	0.552	.773	1.000	1.224	*	*	1.000	1.000	65	1.006	1.008	0.997
70	1.043	—	.612	0.857	1.082	*	*	1.036	1.007	70	1.000	1.000	1.000
73	1.103	—	.455	0.715	0.938	1.167	1.394	1.087	1.020	75	0.998	0.996	1.006
76	1.153	—	—	—	—	1.023	1.254	1.129	1.031	80	0.996	0.991	1.015

*Sensible Equals Total

50RTG15 RATED AIR FLOW 6000 SCFM

Water Rate GPM	Entering Water Temp. °F	Cooling Performance - EAT 80/67F					Heating Performance - EAT 70F				Water PD Ft. H ₂ O
		Total Cooling BTUH	Sensible Cooling BTUH	Rejected Heat BTUH	Power Input Watts	EER	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP	
21 32 42 51	20	—	—	—	—	—	Operation Not Recommended				
							104,003 104,643	72,708 73,314	9,172 9,182	3.3 3.3	18.2 25.4
21 32 42 51	30	—	—	—	—	—	112,438 115,782 117,303 118,113	80,372 83,470 84,896 85,658	9,398 9,470 9,498 9,512	3.5 3.6 3.6 3.6	5.2 10.7 17.4 24.3
21 32 42 51	40	198,634 201,496 201,958 202,926	147,558 148,482 148,452 148,876	229,001 230,703 230,612 231,293	8,900 8,560 8,398 8,314	22.3 23.5 24.0 24.4	125,310 129,953 132,247 133,645	92,466 96,717 98,826 100,113	9,626 9,741 9,795 9,828	3.8 3.9 4.0 4.0	4.8 10.2 11.6 16.5
21 32 42 51	50	194,062 197,042 198,190 199,150	147,738 148,740 148,694 149,134	226,640 228,323 228,891 229,537	9,548 9,168 8,998 8,906	20.3 21.5 22.0 22.4	140,303 145,856 148,708 150,409	106,264 111,411 114,057 115,636	9,976 10,095 10,156 10,192	4.1 4.2 4.3 4.3	2.9 7.4 11.6 16.5
21 32 42 51	60	188,310 191,034 192,126 193,098	146,002 147,932 148,166 148,536	223,249 224,588 225,031 225,655	10,240 9,834 9,644 9,542	18.4 19.4 19.9 20.2	155,956 162,721 165,975 167,871	120,780 127,043 130,048 131,797	10,309 10,457 10,529 10,573	4.4 4.6 4.6 4.7	2.9 7.4 11.6 16.5
21 32 42 51	70	181,720 184,406 185,492 186,442	143,698 145,636 145,882 146,236	219,293 220,450 220,820 221,395	11,012 10,564 10,354 10,244	16.5 17.5 17.9 18.2	172,309 180,159 183,999 186,387	135,882 143,079 146,588 148,768	10,676 10,868 10,964 11,026	4.7 4.9 4.9 5.0	2.9 7.4 11.6 16.5
21 32 42 51	80	174,086 177,548 178,620 179,838	141,986 143,104 143,380 142,880	214,648 216,431 216,718 217,479	11,888 11,396 11,166 11,032	14.6 15.6 16.0 16.3	189,253 198,564 203,383 206,319	151,382 159,875 164,283 166,976	11,099 11,339 11,460 11,531	5.0 5.1 5.2 5.2	2.9 7.4 11.6 16.5
21 32 42 51	90	167,314 170,230 171,434 172,348	138,478 139,658 141,064 141,386	211,254 212,259 212,726 213,183	12,878 12,318 12,102 11,968	13.0 13.8 14.2 14.4	— — — —	— — — —	— — — —	— — — —	2.9 7.4 11.6 16.5
21 32 42 51	100	159,584 162,530 164,054 164,948	137,094 138,050 138,502 138,838	207,482 208,326 208,990 209,386	14,038 13,422 13,170 13,024	11.4 12.1 12.5 12.7	— — — —	— — — —	— — — —	— — — —	2.9 7.4 11.6 16.5
21 32 42 51	110	Operation Not Recommended					— — — —	— — — —	— — — —	— — — —	2.9 7.4 11.6 16.5

NOTE : Heavy Border Area Performance is Based On Using 15% by Weight Sodium Chloride and Water Mixture

Correction Factors For Variations in Entering Air Flow

SCFM	Cooling				Heating		
	Total Cooling Capacity	Sensible Cooling Capacity	Rejected Heat	Input Power Watts	Heating Capacity	Heat of Absorption	Power Input Watts
4500	0.970	0.861	0.964	0.936	0.978	0.967	1.022
5000	0.985	0.908	0.979	0.955	0.985	0.980	1.005
5500	0.995	0.952	0.991	0.975	0.992	0.990	0.998
6000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
6500	1.006	1.034	1.010	1.028	1.003	1.001	1.012
7000	1.006	1.080	1.016	1.060	1.011	1.007	1.028
7500	1.008	1.117	1.024	1.096	1.020	1.013	1.051

LEGEND

COP – Coefficient of Performance
EAT – Energy Air Temperature
EER – Energy Efficiency Ratio
PD – Pressure Drop
SCFM –Standard Cubic Feet per minute

Correction Factors For Variations in Entering Air Temperature

Cooling									Heating				
Entering Air Wet Bulb	Total Cooling Capacity	Sensible Cooling Capacity Entering Air Dry Bulb						Rejected Heat	Power Input Watts	Entering Air °F	Heating Capacity	Heat of Absorption	Power Input Watts
		70°F	75°F	80°F	85°F	90°F	95°F						
61	0.909	0.828	*	*	*	*	*	0.924	0.983	55	1.012	1.017	0.990
64	0.953	0.691	.913	1.141	*	*	*	0.960	0.991	60	1.007	1.014	0.995
67	1.000	0.552	.773	1.000	1.224	*	*	1.000	1.000	65	1.006	1.008	0.997
70	1.043	—	.612	0.857	1.082	*	*	1.036	1.007	70	1.000	1.000	1.000
73	1.103	—	.455	0.715	0.938	1.167	1.394	1.087	1.020	75	0.998	0.996	1.006
76	1.153	—	—	—	—	1.023	1.254	1.129	1.031	80	0.996	0.991	1.015

*Sensible Equals Total

Performance data (cont)

50RTG20 RATED AIR FLOW 8000 SCFM

Water Rate GPM	Entering Water Temp. °F	Cooling Performance - EAT 80/67F					Heating Performance - EAT 70F				Water PD Ft. H ₂ O
		Total Cooling BTUH	Sensible Cooling BTUH	Rejected Heat BTUH	Power Input Watts	EER	Heating Capacity BTUH	Heat of Absorption BTUH	Power Input Watts	COP	
31 47 62 74	20	—	—	—	—	—	Operation Not Recommended				
							154,530 153,929	101,392 100,634	15,574 15,620	2.9 2.9	36 48.7
31 47 62 74	30	—	—	—	—	—	168,950 173,314 175,936 175,820	114,658 118,688 121,180 120,948	15,912 16,010 16,048 16,082	3.1 3.2 3.2 3.2	10.6 21.2 34.2 46.2
31 47 62 74	40	282,426 285,918 286,940 288,034	201,998 203,288 202,878 203,362	328,440 330,281 330,416 331,175	13,486 13,002 12,742 12,644	20.9 22.0 22.5 22.8	187,712 194,650 198,257 200,135	131,989 138,425 141,778 143,525	16,331 16,479 16,553 16,591	3.4 3.5 3.5 3.5	10.1 20 20.8 28
31 47 62 74	50	275,488 279,038 280,568 281,678	200,504 202,314 202,754 203,214	324,819 326,519 327,080 327,788	14,458 13,916 13,632 13,514	19.1 20.1 20.6 20.8	211,373 219,945 224,399 226,701	153,994 161,987 166,140 168,287	16,817 16,986 17,075 17,120	3.7 3.8 3.9 3.9	6.4 13.1 20.8 28
31 47 62 74	60	266,934 270,918 272,548 273,674	198,908 200,216 200,786 201,242	320,120 322,002 322,547 323,223	15,588 14,972 14,654 14,522	17.1 18.1 18.6 18.8	235,780 245,874 250,867 253,524	176,746 186,139 190,778 193,246	17,302 17,508 17,611 17,667	4.0 4.1 4.2 4.2	6.4 13.1 20.8 28
31 47 62 74	70	258,440 262,304 263,856 264,968	194,898 196,524 197,558 197,990	315,905 317,476 317,841 318,461	16,842 16,170 15,822 15,678	15.3 16.2 16.7 16.9	260,331 271,892 277,882 280,871	199,561 210,272 215,815 218,580	17,811 18,060 18,191 18,256	4.3 4.4 4.5 4.5	6.4 13.1 20.8 28
31 47 62 74	80	247,318 251,934 254,004 255,078	191,808 193,438 193,074 193,562	309,594 311,787 312,499 313,041	18,252 17,542 17,144 16,988	13.6 14.4 14.8 15.0	285,616 299,680 307,024 311,050	222,970 235,988 242,797 246,535	18,360 18,667 18,824 18,908	4.6 4.7 4.8 4.8	6.4 13.1 20.8 28
31 47 62 74	90	237,132 241,040 243,020 244,110	186,828 188,438 190,250 190,660	304,833 306,011 306,715 307,225	19,842 19,042 18,668 18,498	12.0 12.7 13.0 13.2	— — — —	— — — —	— — — —	— — — —	6.4 13.1 20.8 28
31 47 62 74	100	225,698 229,690 232,442 233,502	184,022 185,340 185,116 185,578	299,568 300,612 301,917 302,349	21,650 20,786 20,362 20,178	10.4 11.1 11.4 11.6	— — — —	— — — —	— — — —	— — — —	6.4 13.1 20.8 28
31 47 62 74	110	Operation Not Recommended					—	—	—	—	6.4 13.1 20.8 28
		220,774 221,828	181,280 181,732	296,759 297,144	22,270 22,074	9.9 10.0	—	—	—	—	

NOTE : Heavy Border Area Performance is Based On Using 15% by Weight Sodium Chloride and Water Mixture

Correction Factors For Variations in Entering Air Flow

SCFM	Cooling				Heating		
	Total Cooling Capacity	Sensible Cooling Capacity	Rejected Heat	Input Power Watts	Heating Capacity	Heat of Absorption	Power Input Watts
6000	0.890	0.725	0.895	0.913	0.976	0.965	1.015
6600	1.076	1.334	1.053	0.955	0.983	0.978	0.999
7200	0.990	0.948	0.986	0.968	0.991	0.988	0.998
8000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
8600	1.002	1.024	1.009	1.038	1.010	1.007	1.020
9300	1.002	1.056	0.806	1.083	1.022	1.014	1.048
10000	1.003	1.099	1.024	1.108	1.028	1.020	1.058

LEGEND

COP – Coefficient of Performance
EAT – Energy Air Temperature
EER – Energy Efficiency Ratio
PD – Pressure Drop
SCFM –Standard Cubic Feet per minute

Correction Factors For Variations in Entering Air Temperature

Cooling										Heating			
Entering Air Wet Bulb	Total Cooling Capacity	Sensible Cooling Capacity Entering Air Dry Bulb						Rejected Heat	Power Input Watts	Entering Air °F	Heating Capacity	Heat of Absorption	Power Input Watts
		70°F	75°F	80°F	85°F	90°F	95°F						
61	0.909	0.828	*	*	*	*	*	0.924	0.983	55	1.012	1.017	0.990
64	0.953	0.691	.913	1.141	*	*	*	0.960	0.991	60	1.007	1.014	0.995
67	1.000	0.552	.773	1.000	1.224	*	*	1.000	1.000	65	1.006	1.008	0.997
70	1.043	—	.612	0.857	1.082	*	*	1.036	1.007	70	1.000	1.000	1.000
73	1.103	—	.455	0.715	0.938	1.167	1.394	1.087	1.020	75	0.998	0.996	1.006
76	1.153	—	—	—	—	1.023	1.254	1.129	1.031	80	0.996	0.991	1.015

*Sensible Equals Total

BLOWER DATA

50RTG03

SCFM Air Flow		External Static Pressure (in. wg)									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
975	BHP	0.12	0.14	0.17	0.19	0.21	0.23	0.26	0.29	0.31	0.33
	RPM	550	609	667	724	779	833	885	933	980	1024
	Turns Out	5.0	3.5	4.5	3.5	2.5	1.5	1.0	0.0	2.0	1.5
1050	BHP	0.14	0.17	0.19	0.22	0.24	0.26	0.30	0.32	0.35	0.37
	RPM	580	636	691	745	798	849	898	946	991	1035
	Turns Out	4.0	3.0	4.0	3.0	2.5	1.5	0.5	0.0	2.0	1.5
1125	BHP	0.18	0.20	0.23	0.25	0.28	0.31	0.33	0.36	0.39	0.42
	RPM	619	670	721	772	821	870	917	963	1008	1051
	Turns Out	3.5	4.5	3.5	3.0	2.0	1.0	0.5	2.5	2.0	1.0
1200	BHP	0.22	0.24	0.26	0.29	0.32	0.35	0.37	0.41	0.44	0.46
	RPM	658	705	752	799	846	892	937	982	1025	1066
	Turns Out	4.5	4.00	3.00	2.5	1.5	1.0	0.0	2.0	1.5	1.0
1275	BHP	0.26	0.29	0.31	0.33	0.36	0.40	0.42	0.45	0.48	0.52
	RPM	688	732	777	822	867	911	954	997	1038	1079
	Turns Out	4.0	3.5	2.5	2.0	1.5	0.5	2.5	2.0	1.5	1.0
1350	BHP	0.29	0.32	0.35	0.39	0.41	0.44	0.47	0.51	0.54	0.57
	RPM	721	764	807	850	893	935	976	1017	1057	1096
	Turns Out	3.5	3.0	2.5	1.5	1.0	0.0	2.0	1.4	1.0	0.5
1425	BHP	0.4	0.40	0.42	0.44	0.46	0.50	0.53	0.56	0.61	0.64
	RPM	763	803	843	883	923	963	1003	1041	1080	1118
	Turns Out	3.0	2.5	1.5	1.0	0.5	2.5	2.0	1.5	1.0	0.5

Fan BHP includes drive losses.

Region "A" is standard drive package.

Regions "B" and "C" require optional drive packages.

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

50RTG04

SCFM Air Flow		External Static Pressure (in. wg)									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
1300	BHP	0.26	0.30	0.33	0.36	0.40	0.42	Operation Not Recommended			
	RPM	633	694	755	812	869	925				
	Turns Out	5	3.5	4.5	3.5	2.5	1.5				
1400	BHP	0.33	0.36	0.40	0.43	0.46	0.50	0.53			
	RPM	668	725	782	836	890	943	995			
	Turns Out	4	3.0	4.0	3.0	2.0	1.0	0.5			
1500	BHP	0.418	0.45	0.48	0.52	0.55	0.58	0.62	0.65		
	RPM	712	766	819	871	922	970	1017	1063		
	Turns Out	3.0	4.5	3.5	2.5	1.5	0.5	3.5	3.0		
1600	BHP	0.506	0.54	0.57	0.61	0.64	0.67	0.70	0.75	0.78	0.83
	RPM	750	801	851	900	948	995	1040	1083	1125	1166
	Turns Out	4.5	3.5	3.0	2.0	1.0	0.0	3.5	1.5	2.0	1.5
1700	BHP	0.572	0.62	0.66	0.70	0.74	0.78	0.81	0.86	0.89	0.94
	RPM	792	840	887	934	979	1024	1068	1110	1152	1194
	Turns Out	4.0	3.0	2.0	1.5	0.5	3.5	3.0	2.5	1.5	1.0
1800	BHP	0.671	0.72	0.76	0.80	0.85	0.89	0.94	0.97	1.01	1.06
	RPM	832	878	923	967	1010	1053	1095	1136	1176	1219
	Turns Out	3.0	2.5	1.5	1.0	0.0	3.0	2.5	2.0	1.5	1.0
1900	BHP	0.80	0.85	0.89	0.94	0.98	1.02	1.07	1.11	1.16	1.20
	RPM	875	919	961	1003	1045	1086	1127	1166	1204	1242
	Turns Out	2.5	1.5	1.0	0.0	3.0	2.5	2.0	1.5	1.0	0.5

Fan BHP includes drive losses.

Region "A" is standard drive package.

Regions "B" and "C" require optional drive packages.

Region "D" represents oversized motor and special sheaves.

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

Performance data (cont)

BLOWER DATA (cont)

50RTG05

SCFM Air Flow		External Static Pressure (in. wg)									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
1700	BHP	0.37	0.42	0.45	0.50	0.54	0.58	0.63	0.67	Operation Not Recommended	
	RPM	797	845	892	938	984	1029	1072	1114		
	Turns Out	3.5	2.5	1.5	3.0	2.5	1.5	1.0	0.5		
1800	BHP	0.44	0.48	0.53	0.56	0.61	0.65	0.70	0.75	0.79	
	RPM	836	882	927	971	1015	1057	1099	1140	1180	
	Turns Out	2.5	1.5	3.5	2.5	2.0	1.0	0.5	0.5	0.0	
1900	BHP	0.52	0.56	0.61	0.65	0.69	0.74	0.78	0.84	0.88	0.94
	RPM	880	923	966	1008	1049	1090	1131	1170	1208	1246
	Turns Out	1.5	3.5	3.0	2.0	1.5	0.5	0.5	0.0	3.0	2.5
2000	BHP	0.61	0.65	0.69	0.74	0.78	0.84	0.88	0.94	0.98	1.03
	RPM	926	967	1007	1047	1087	1126	1164	1203	1240	1277
	Turns Out	3.5	3.0	2.0	1.5	1.0	0.5	0.0	3.0	2.5	2.0
2100	BHP	0.69	0.74	0.78	0.84	0.88	0.94	0.98	1.03	1.09	1.14
	RPM	966	1005	1044	1082	1120	1158	1195	1231	1268	1303
	Turns Out	3.0	2.0	1.5	1.0	0.5	0.0	3.0	2.5	2.0	1.5
2200	BHP	0.79	0.84	0.89	0.94	0.99	1.05	1.09	1.14	1.20	1.25
	RPM	1009	1047	1084	1120	1157	1193	1229	1264	1298	1333
	Turns Out	2.0	1.5	1.0	0.5	3.5	3.0	2.5	2.0	1.5	1.0
2300	BHP	0.9	0.96	1.00	1.06	1.11	1.17	1.22	1.28	1.33	1.39
	RPM	1055	1091	1126	1161	1196	1231	1265	1299	1332	1365
	Turns Out	1.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5

Fan BHP includes drive losses.

Region "A" is standard drive package.

Regions "B" and "C" require optional drive packages.

Region "D" represents oversized motor and special sheaves.

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

50RTG07

SCFM Air Flow		External Static Pressure (in. wg)													
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5
1950	BHP	0.42	0.46	0.51	0.56	0.62	0.67	0.73	0.78	Operation Not Recommended					
	RPM	620	664	707	750	792	832	870	908						
	Turns Out	4.5	3.5	2.5	4.5	3.5	2.5	2.0	1.5						
2200	BHP	0.56	0.62	0.67	0.73	0.78	0.85	0.90	0.97	1.03	1.10	1.17			
	RPM	675	716	755	793	831	869	905	941	975	1007	1038			
	Turns Out	3	2.0	4.5	3.5	3.0	2.0	1.5	0.5	5.0	3.0	2.5			
2400	BHP	0.70	0.76	0.83	0.88	0.95	1.00	1.07	1.14	1.21	1.28	1.34	1.41		
	RPM	721	758	795	830	865	900	935	969	1002	1034	1066	1097		
	Turns Out	2.0	4.5	3.5	3.0	2.0	1.5	0.5	0.0	4.5	4.0	3.5	3.0		
2600	BHP	0.87	0.94	0.99	1.06	1.12	1.19	1.25	1.33	1.40	1.47	1.55	1.63	1.69	1.77
	RPM	765	800	835	868	901	933	965	997	1029	1060	1090	1120	1149	1178
	Turns Out	4	3.5	3.0	2.0	1.5	0.5	0.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5
2800	BHP	1.07	1.13	1.20	1.27	1.33	1.40	1.47	1.54	1.62	1.69	1.77	1.86	1.94	2.01
	RPM	812	845	877	908	939	970	1000	1030	1059	1089	1118	1147	1175	1203
	Turns Out	3.5	2.5	2.0	1.5	0.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0
3000	BHP	1.28	1.35	1.42	1.50	1.56	1.64	1.72	1.79	1.87	1.95	2.02	2.11	2.20	2.28
	RPM	857	889	919	949	978	1007	1035	1064	1091	1119	1147	1174	1202	1228
	Turns Out	2.5	1.5	1.0	0.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	1.0
3250	BHP	1.60	1.67	1.75	1.83	1.90	1.98	2.06	2.13	2.22	2.30	2.39	2.48	2.56	2.65
	RPM	915	945	974	1001	1029	1056	1082	1109	1135	1161	1187	1212	1238	1263
	Turns Out	1.0	0.5	5.0	4.5	4.0	3.5	3.0	2.5	2.5	2.0	1.5	1.0	1.0	0.5

Fan BHP includes drive losses.

Region "A" is standard drive package.

Regions "B" and "C" require optional drive packages.

Region "D" represents oversized motor and special sheaves.

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

BLOWER DATA (cont)

50RTG08

SCFM Air Flow		External Static Pressure (in. wg)													
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5
2400	BHP	0.40	0.45	0.50	0.55	0.61	0.66	0.72	0.77	0.83	0.87	0.91	0.98	1.03	1.10
	RPM	482	521	559	594	629	661	693	723	751	779	806	832	858	883
	Turns Out	4.5	3.5	2.0	4.5	3.5	2.5	1.5	1.0	0.0	4.5	4.0	3.5	3.0	2.5
2650	BHP	0.51	0.56	0.62	0.67	0.74	0.79	0.86	0.91	0.98	1.05	1.10	1.16	1.21	1.27
	RPM	514	550	585	619	651	683	713	742	770	797	823	848	872	895
	Turns Out	4	2.5	4.5	3.5	3.0	2.0	1.0	0.5	4.5	4.0	3.5	3.0	2.5	2.0
2900	BHP	0.64	0.69	0.76	0.83	0.88	0.95	1.01	1.08	1.14	1.22	1.29	1.35	1.42	1.49
	RPM	549	583	615	647	677	707	736	764	791	818	843	868	894	915
	Turns Out	2.5	4.5	4.0	3.0	2.0	1.5	0.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0
3200	BHP	0.81	0.88	0.95	1.02	1.09	1.16	1.23	1.30	1.38	1.45	1.52	1.60	1.67	1.74
	RPM	588	619	649	679	707	735	763	789	815	841	865	890	913	936
	Turns Out	5	3.5	3.0	2.0	1.5	0.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5
3450	BHP	1.00	1.07	1.14	1.21	1.29	1.36	1.44	1.52	1.60	1.67	1.75	1.83	1.90	1.99
	RPM	623	652	681	709	736	763	789	814	839	863	887	911	934	956
	Turns Out	3.5	3.0	2.0	1.5	0.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0
3700	BHP	1.20	1.28	1.35	1.43	1.51	1.60	1.67	1.75	1.84	1.91	2.00	2.08	2.17	2.26
	RPM	657	685	712	739	764	790	815	839	863	886	909	932	954	976
	Turns Out	2.5	2.0	1.0	0.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5
4000	BHP	1.47	1.56	1.64	1.73	1.82	1.89	1.98	2.07	2.16	2.24	2.33	2.42	2.51	2.61
	RPM	699	725	750	775	799	823	847	870	892	915	937	958	980	1001
	Turns Out	1.5	1.0	0.0	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	0.0

Fan BHP includes drive losses.

Region "A" is standard drive package.

Regions "B" and "C" require optional drive packages.

Region "D" represents oversized motor and special sheaves.

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

50RTG10

SCFM Air Flow		External Static Pressure (in. wg)													
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5
3000	BHP	0.69	0.76	0.83	0.89	0.96	1.02	1.09	1.16	1.22	1.29	1.36	1.43	1.50	1.57
	RPM	563	596	628	658	688	718	746	773	800	826	851	876	900	923
	Turns Out	4.5	3.5	2.5	1.5	1.0	4.0	3.5	3.0	2.5	2.0	1.5	0.5	0.0	2.5
3300	BHP	0.89	0.96	1.03	1.10	1.18	1.24	1.32	1.39	1.46	1.54	1.62	1.69	1.77	1.85
	RPM	604	635	664	693	721	748	775	801	827	852	876	900	923	946
	Turns Out	3	2.5	1.5	4.5	4.0	3.5	3.0	2.5	2.0	1.0	0.5	0.0	2.5	2.0
3600	BHP	1.12	1.20	1.28	1.35	1.43	1.51	1.58	1.66	1.75	1.83	1.90	1.99	2.07	2.16
	RPM	647	676	703	730	756	782	807	832	856	880	903	926	949	971
	Turns Out	2.0	1.0	4.5	4.0	3.5	2.5	2.0	1.5	1.0	0.5	0.0	2.5	2.0	1.5
4000	BHP	1.47	1.56	1.64	1.73	1.82	1.89	1.98	2.07	2.16	2.24	2.33	2.42	2.51	2.61
	RPM	699	725	750	775	799	823	847	870	892	915	937	958	980	1001
	Turns Out	4.5	4.0	3.5	3.0	2.5	2.0	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5
4300	BHP	1.82	1.90	1.99	2.09	2.18	2.27	2.35	2.45	2.54	2.64	2.73	2.83	2.93	
	RPM	746	770	794	817	840	863	885	907	929	950	971	991	1012	
	Turns Out	3.5	3.0	4.5	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	1.0	0.5	
4700	BHP	2.32	2.42	2.52	2.61	2.71	2.81	2.90							
	RPM	803	825	848	869	891	912	933							
	Turns Out	4.5	4.0	3.5	3.5	3.0	2.5	2.0							
5000	BHP	2.76	2.86	2.96											
	RPM	847	868	889											
	Turns Out	3.5	3.5	3.0											

Operation Not Recommended

Fan BHP (Brake Horsepower) Includes drive losses.

Region "A" is standard drive package.

Region "B" and "C" require optional drive packages.

Region "D" represents oversized motor and special sheaves.

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

Performance data (cont)

BLOWER DATA (cont)

50RTG12

SCFM Air Flow		External Static Pressure (in. wg)																
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5			
3600	BHP	1.02	1.10	1.18	1.25	1.33	1.41	1.49	1.56	1.64	1.72	1.80	1.88	1.97	2.05			
	RPM	609	639	667	695	722	748	774	800	825	849	873	896	919	942			
	Turns Out	5.5	4.5	3.5	2.5	1.5	5.5	4.5	3.5	3.0	2.5	1.5	1.0	4.5	4.0			
4000	BHP	1.38	1.45	1.54	1.62	1.71	1.78	1.87	1.96	2.05	2.13	2.22	2.31	2.40	2.49			
	RPM	664	691	717	742	767	792	816	839	863	886	908	930	952	973			
	Turns Out	4.5	3.0	2.0	5.5	4.5	4.0	3.5	2.5	2.0	1.5	4.5	4.0	3.5	3.0			
4400	BHP	1.77	1.86	1.96	2.05	2.13	2.23	2.32	2.41	2.51	2.61	2.70	2.79	2.89	2.98			
	RPM	716	741	765	789	812	835	858	879	901	923	944	965	985	1006			
	Turns Out	2.0	5.5	4.5	4.0	3.5	3.0	2.0	1.5	5.0	4.5	4.0	3.5	3.0	2.5			
4800	BHP	2.23	2.33	2.43	2.53	2.63	2.73	2.83	2.93	3.03	3.12	3.23	3.33	3.43	3.54			
	RPM	765	788	810	833	854	876	897	918	938	959	978	998	1018	1037			
	Turns Out	5.5	4.0	3.5	3.0	2.5	1.5	1.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5			
5200	BHP	2.82	2.93	3.04	3.14	3.25	3.36	3.47	3.58	3.69	3.78	3.89	4.00	4.11				
	RPM	825	846	867	888	908	928	948	968	987	1006	1025	1044	1062				
	Turns Out	4.5	2.5	5.5	5.0	4.5	4.0	3.5	3.5	3.0	2.5	2.0	1.5	1.0				
5600	BHP	3.47	3.58	3.70	3.81	3.93	4.04	4.16	4.27	4.39	4.51	4.62	Operation Not Recommended					
	RPM	879	899	918	938	957	976	995	1013	1031	1050	1067						
	Turns Out	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0							
6000	BHP	4.20	4.33	4.46	4.58	4.70	4.82	4.95	Operation Not Recommended									
	RPM	933	952	970	989	1007	1025	1042										
	Turns Out	4.0	3.5	3.0	3.0	2.5	2.0	1.5										

Fan BHP includes drive losses.

Region "A" is standard drive package.

Regions "B" and "C" require optional drive packages.

Region "D" represents oversized motor and special sheaves.

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

50RTG15

SCFM Air Flow		External Static Pressure (in. wg)													
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5
4500	BHP	0.68	0.78	0.88	0.98	1.08	1.17	1.28	1.39	1.43	1.54	1.65	1.76	Operation Not Recommended	
	RPM	465	506	545	582	617	650	681	711	740	768	795	821		
	Turns Out	5.0	3.5	2.5	4.5	4.0	3.5	2.5	2.0	1.0	4.0	3.5	3.0		
5000	BHP	0.87	0.98	1.09	1.20	1.31	1.42	1.52	1.65	1.76	1.87	1.94	2.07	2.16	2.31
	RPM	493	531	568	603	636	669	701	732	762	791	819	846	872	897
	Turns Out	4.0	3.0	2.0	4.5	3.5	3.0	2.0	1.0	4.0	3.5	3.0	2.5	1.5	1
5500	BHP	1.10	1.22	1.33	1.45	1.57	1.71	1.83	1.94	2.07	2.20	2.31	2.44	2.51	2.64
	RPM	525	561	595	627	659	690	720	749	777	804	830	855	879	902
	Turns Out	3.0	2.0	4.5	4.0	3.0	2.0	1.5	4.5	4.0	3.0	2.5	2.0	1.5	1
6000	BHP	1.36	1.49	1.62	1.75	1.88	2.01	2.15	2.28	2.42	2.55	2.71	2.84	2.97	3.102
	RPM	556	589	621	652	682	712	740	768	795	821	846	871	895	918
	Turns Out	2.0	4.5	4.0	3.0	2.5	1.5	1.0	4.0	3.5	3.0	2.5	2.0	1.0	0.5
6500	BHP	1.69	1.83	1.97	2.10	2.24	2.39	2.53	2.67	2.83	2.97	3.12	3.26	3.41	3.564
	RPM	593	624	654	683	711	739	766	793	819	844	868	890	913	936
	Turns Out	4.5	4.0	3.0	2.5	1.5	1.0	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5
7000	BHP	2.05	2.19	2.34	2.49	2.64	2.79	2.95	3.10	3.26	3.41	3.56	3.73	3.88	
	RPM	625	654	683	710	737	764	790	815	840	864	888	911	934	
	Turns Out	4.0	3.0	2.5	2.0	1.0	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	
7500	BHP	2.46	2.62	2.77	2.94	3.09	3.26	3.41	3.58	3.74	3.91	4.08	4.25	Operation Not Recommended	
	RPM	660	687	714	740	766	791	816	840	864	887	910	933		
	Turns Out	3.0	2.5	1.5	1.0	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5		

Fan BHP (Brake Horsepower) includes drive losses.

Region "A" is standard drive package.

Regions "B" and "C" require optional drive packages.

Region "D" represents oversized motor and special sheaves.

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

BLOWER DATA (cont)

50RTG20

SCFM Air Flow		External Static Pressure (in. wg)													
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5
6000	BHP	1.38	1.51	1.63	1.76	1.89	2.02	2.16	2.30	2.43	2.57	2.71	2.84	2.99	3.12
	RPM	560	592	624	655	685	715	743	771	797	823	849	874	897	921
	Turns Out	5.5	4.0	3.0	5.5	4.5	3.5	2.5	1.5	1.0	0.0	4.0	3.5	2.5	2.0
6600	BHP	1.83	1.73	2.10	2.24	2.39	2.53	2.67	2.83	2.97	3.12	3.28	3.34	3.50	3.65
	RPM	614	644	673	702	729	757	783	809	834	859	883	895	919	941
	Turns Out	3.5	2.0	5.0	4.0	3.0	2.0	1.5	0.5	4.5	3.5	3.0	2.5	2.0	1.5
7200	BHP	2.30	2.44	2.60	2.75	2.90	3.06	3.22	3.38	3.54	3.70	3.86	4.03	4.20	4.27
	RPM	656	684	711	738	764	790	815	839	863	887	910	933	957	966
	Turns Out	5.5	4.5	3.5	3.0	2.0	1.0	0.0	4.5	3.5	3.0	2.5	1.5	1.0	0.5
8000	BHP	2.94	3.10	3.27	3.44	3.61	3.77	3.95	4.13	4.30	4.47	4.65	4.83	5.01	
	RPM	696	722	747	772	797	821	844	867	890	912	935	956	978	
	Turns Out	4.0	3.5	2.5	1.5	1.0	0.0	4.0	3.5	3.0	2.0	1.5	1.0	0.5	
8600	BHP	3.71	3.88	4.06	4.25	4.42	4.61	4.79	4.97	5.16	5.35	5.53			
	RPM	756	780	803	827	849	872	894	916	937	958	979			
	Turns Out	2.0	1.5	0.5	4.5	4.0	3.5	3.0	2.0	1.5	1.0	0.5			
9300	BHP	4.59	4.77	4.97	5.16	5.36	5.56	5.75	5.95	6.15					
	RPM	805	828	850	872	893	914	935	955	976					
	Turns Out	0.5	4.5	4.0	3.5	2.5	2.0	1.5	1.0	0.5					
10000	BHP	5.43	5.63	5.84	6.05	6.26	6.47	6.68	6.89						
	RPM	838	859	881	901	922	942	962	981						
	Turns Out	4.5	3.5	3.0	2.5	2.0	1.5	0.5	0.0						

Fan BHP (Brake Horsepower) includes drive losses.

Region "A" is standard drive package.

Regions "B" and "C" require optional drive packages.

Region "D" represents oversized motor and special sheaves.

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

Electrical data

Unit	Power Supply			Compressor (each)			Blower Motor			Max. Fuse or HACR Breaker	Minimum Circuit Ampacity
	Voltage	Hz	PH	RLA	LRA	QTY	HP	FLA	QTY		
50RTG03	208/230	60	3	10.7	63.0	1	1	3.6	1	25 AMP	17.0
	460	60	3	5.0	31.0	1	1	1.8	1	15 AMP	8.1
50RTG04	208/230	60	3	13.9	88.0	1	1	3.6	1	30 AMP	21.0
	460	60	3	6.4	44.0	1	1	1.8	1	15 AMP	9.8
	575	60	3	5.3	34.0	1	1	1.6	1	15 AMP	8.2
50RTG05	208/230	60	3	20.0	123.0	1	1	3.6	1	45 AMP	28.6
	460	60	3	7.5	49.5	1	1	1.8	1	15 AMP	11.2
	575	60	3	6.4	40.0	1	1	1.6	1	15 AMP	9.6
50RTG07	208/230	60	3	20.7	156.0	1	2	6.2	1	50 AMP	32.1
	460	60	3	10.0	70.0	1	2	3.1	1	25 AMP	15.6
	575	60	3	8.2	54.0	1	2	2.3	1	20 AMP	12.6
50RTG08	208/230	60	3	13.9	88.0	2	2	6.2	1	50 AMP	37.5
	460	60	3	6.4	44.0	2	2	3.1	1	20 AMP	17.5
	575	60	3	5.3	34.0	2	2	2.3	1	15 AMP	14.2
50RTG10	208/230	60	3	20.0	123.0	2	2	6.2	1	70 AMP	51.2
	460	60	3	7.5	49.5	2	2	3.1	1	25 AMP	20.0
	575	60	3	6.4	40.0	2	2	2.3	1	20 AMP	16.7
50RTG12	208/230	60	3	19.3	123.0	2	3	9.2	1	70 AMP	52.6
	460	60	3	10.0	62.0	2	3	4.3	1	35 AMP	26.8
	575	60	3	7.8	50.0	2	3	3.4	1	25 AMP	21.0
50RTG15	208/230	60	3	20.7	156.0	2	3	9.2	1	70 AMP	55.8
	460	60	3	10.0	70.0	2	3	4.3	1	35 AMP	26.8
	575	60	3	8.2	54.0	2	3	3.4	1	30 AMP	21.9
50RTG20	208/230	60	3	33.3	232.0	2	5	13.2	1	125 AMP	88.1
	460	60	3	17.0	116.0	2	5	6.6	1	60 AMP	44.9
	575	60	3	12.8	97.0	2	5	5.6	1	45 AMP	34.4

LEGEND

FLA – Full Load Amps

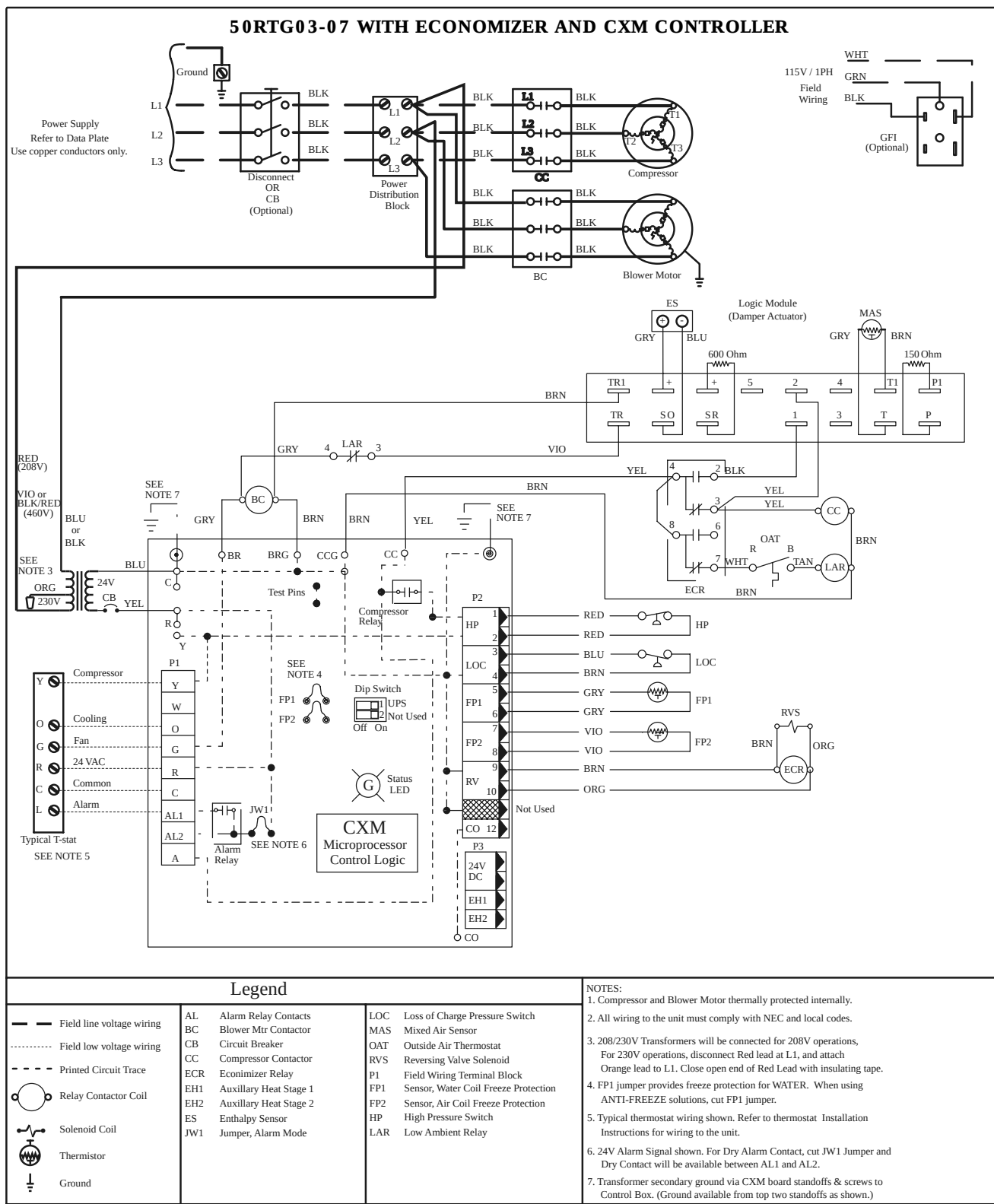
HACR – Heating, Air Conditioning and Refrigeration

LRA – Lock Rotor Amps

RLA – Rated Load Amps

NOTE: Contact factory for oversize blower motor electrical data

Typical wiring schematic



Guide specifications

Rooftop Water Source Heat Pumps

HVAC Guide Specifications

Size Range: **33,700 to 248,700 Btuh**

Cooling Capacity

39,300 to 277,900 Btuh

Heating Capacity

Carrier Model Number: **50RTG**

The unit shall be a packaged factory assembled pre-wired rooftop water source heat pump consisting of a cabinet, supply fan, plate fin air to refrigerant heat exchanger coil(s), scroll compressor(s), coaxial heat exchanger(s), controls and air filters. The unit shall be capable of providing cooling and heating to the space as control demands. The unit shall be CSA approved.

Unit Fabrication

All panels shall be constructed of galvanized steel. All exterior panels shall be finished with powder paint coating on both sides.

All openings in the galvanized base pan shall be formed with at least a 1-in. upturned lip.

The compressor and electrical control compartment shall be isolated from the system air stream.

Access to the filters, indoor blower, electrical controls and compressor compartments shall be provided by double wall doors that have hinges and lift and turn compression latches that will withstand a 500-hour salt spray test. All access doors and panels in the unit shall have a compression seal around the cabinet opening and an overhanging lip above them that is formed in the top panel.

The cabinet shall be insulated with 1-in. (25 mm) thick neoprene coated or foil faced fiberglass insulation with edges protected from erosion.

The drain pan shall be 18-gauge galvanized sheet steel coated with powder paint to provide a tough chemical resistant finish. The drain pan shall be accessible for cleaning. The condensate drain piping connection shall be FPT.

The unit shall be supplied with one set of 2-in. thick throwaway filters. The filter racks shall be oriented vertically and perpendicular to the filter access door. The filter rack will be constructed to accommodate optional 4-in. thick filters.

Supply Air Fan

The unit shall be supplied with a forward curved, low speed, centrifugal type, supply air fan that has been statically and dynamically balanced and tested in accordance with current A.M.C.A. standards bulletin 210. The fan bearings will be permanently lubricated, self-aligning ball bearings. The blower shall be supplied with a V-belt drive.

The blower motor shall be selected to properly accelerate and operate the fan without abnormal or prolonged starting current inrush. The motor shall be high efficiency, ball bearing, open drip proof, air cooled and constant speed. The motor shall be hinge mounted and supplied with an adjustable variable pitch pulley.

The blower and motor assembly shall be mounted on a slide out base. The motor shall have wiring of a sufficient length that the slide out assembly may be placed on the roof deck for servicing without disconnecting the wiring from the motor.

Compressor(s) and Refrigeration Circuit(s)

The unit shall be supplied with 3600-RPM fully hermetic scroll compressor(s) designed and rated for heat pump applications. The compressor(s) mounting will be in such a manner as to keep vibration and noise from transmitting through the bottom pan.

The refrigerant circuit(s) shall be provided with an externally equalized thermostatic expansion valve with wide mass flow control characteristics keyed to condensing efficiency, compressor discharge line filter-drier, and heat pump reversing valve.

The reversing valve(s) shall be four-way solenoid activated, which will fail to the heating mode of operation should the solenoid fail to function. The controller will move the reversing valves only on a change from heat to cool or vice versa.

The refrigerant circuit(s) shall be provided with a high-pressure and low-pressure switches that are installed on Schrader fittings to permit replacement without refrigerant loss. The circuit(s) shall be supplied with low water temperature safety devices.

All internal suction piping shall be fully insulated to assure peak efficiency.

The refrigerant system(s) shall be capable of operating efficiently with a wide range of entering air and water temperatures.

The unit refrigerant circuit(s) shall be factory charged and tested in all modes of operation to assure peak performance.

Refrigeration Air Coil(s)

The air coil(s) shall be computer selected to provide optimum capacity and matched to the selected refrigeration compressor. The copper tubes shall be ASTM B447 or ASTM B75. The fins shall be plate aluminum with self-spacing die formed collars. End plates shall be galvanized steel. The fin-tube bond shall be permanent, tight, and metal, achieved by mechanical or hydrostatic expansion of the tube into the fin collar. The coil brazing shall be with inert gas inside tubes for bright, clean surfaces. The inside of the coil shall be free from flux, scale and foreign matter.

Guide specifications (cont)

Refrigerant to Water Heat Exchanger

The refrigerant to water heat exchanger shall be a coaxial design. The heat exchanger shall be manufactured with a carbon steel jacket finished to withstand salt spray tests conforming to ASTM B117 and an enhanced particulated deeply fluted copper or optional cupronickel inner tube. Each heat exchanger shall be individually tested for integrity, leak resistance and fluid flow before installation in the unit. The heat exchangers will be approved and labeled to meet UL standards for use with refrigerants to a maximum working pressure of 500 PSIG.

Control Panel

The control panel shall be an integral part of the unit located in a compartment isolated from the air stream. Contactors shall be supplied for control of the compressor(s) and blower motor. A power block shall be provided to facilitate electrical connections with lugs for proper wire size.

Controls

The standard controls shall include a microprocessor mounted in the control panel. The control system shall have the following features:

CXM Controls Standard

DXM Controls Optional

Outdoor Air

The unit shall be supplied with a manual outside air damper with rain hood and bird screen sized for a maximum capacity of 20% of the total unit air volume.

Other outdoor air options include:

- Two-position motorized damper operation.
- Full modulating enthalpy controlled economizer supplied with direct gear driven outdoor air and return air dampers. The economizer package shall also be supplied with a gravity relief damper.
- No outside air.

Other Options

- Factory-mounted disconnect switch.
- Factory-mounted circuit breaker.
- 120V non-powered GFI service outlet.
- 2-in. pleated 30% efficient filters.
- 4-in. pleated 30% efficient filters.
- Cupronickel inner tube refrigerant to water heat exchanger.
- 14-in. high knockdown roof curb for flat roofs.
- Additional 4-year compressor warranty.



Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.