RCE/RCF SERIES™ by Desert Aire

RCE SERIES™ - RCF SERIES™ REMOTE CONDENSERS

REMOTE CONDENSERS FOR LARGE APPLICATIONS

Desert Aire designs RCE Series™ and RCF Series™ Remote Condensers to complement Desert Aire dehumidification and indoor climate control systems demanding large commercial thermal transfer solutions.

RCE Series and RCF Series Remote Condensers are featured in Standard (RCE) and Quiet (RCF) models for application flexibility and performance. Vertical airflow models fulfill most application needs; horizontal airflow models are available upon request.

Desert Aire supplies RCE Series and RCF Series Remote Condensers with a commitment to excellence that will provide you with years of reliable service. Our RCE Series and RCF Series Remote Condensers are easy to install too.

HIGH PERFORMANCE, ENERGY EFFICIENCY AND DURABILITY

MOTORS **-** RCE Series and RCF Series Remote Condensers employ specialized configurations of Electronically Commutated Motors (ECM) and single speed external rotor motors to increase energy efficiency and thermal transfer capabilities. These configurations also provide a greater range of airflow rates.

Electronically Commutated Motors are used on the lead fan of each remote condenser circuit in order to improve head pressure stability; and to run at variable speeds to alter the amount of air the ECM drives through the system. All ECMs are controlled in response to condensing pressure inputs. Single speed motors are run in a Vernier sequence with the lead fan or fans to provide full modulation capability while minimizing cost. The single speed fan motors are cycled on and off using pressure inputs. These configurations allow the ECMs to maintain consistent head pressures by ramping up and down in response to fluctuating loads or varying ambient temperatures.

FANS AND CONTROLS **-** The specialized configurations of EC and single speed fans with controls provide the lowest possible refrigerant charge and automatically maintain condensing pressures abient temperatures as low as -20°F. Swept fan blades are designed as part of the motor assemblies, not an addition to them. Precise matching of these two components increases energy efficiency and reduces sound pressure to lower levels.

COILS **-** Round Tube Coils-Enhanced tubing with advanced sinusoidal fin design are provided for optimal performance. Extensive use of 5/16” and 3/8” diameter tubing keeps refrigerant charge to a minimum.

The optional, ElectroFin® E-Coat provides a uniform, flexible coating over the entire coil with negligible impact on thermal conductivity. 100% coverage is assured by the application process, even in the hard to reach center portions of the coil, without bridging between the fins. The ElectroFin E-Coat protects the remote condenser from corrosive airborne particles, and is especially advantageous when your facility is located near a salt water coastline or potential source of corrosive airborne particles.

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NOTES: All data contained in this document is subject to change without notice. Please consult factory for most current data. Condensers in this brochure are limited to an elevation difference of 10 feet (Remote Condenser below) and a maximum linear distance of 50 feet. Consult factory for high-lift model options or longer line requirements.

CABINETS - G90 galvanized steel cabinets provide years of durable finish protection and aesthetic appeal to our RCE Series and RCF Series Remote Condensers. Tall venturi fan panels add to our uncompromised energy efficiency and ultra-low sound. Fully baffled fan cells prevent "wind milling" and enhance performance. Motor lead raceways are fully enclosed to protect wiring.

EASY INSTALLATION

After uncrating, the condenser can easily be lifted into place with the use of eye bolts located on top of the unit. At ground level, the condenser can rest on a solid surface such as a concrete slab. On roofs, the unit should be placed on channels or an I-beam frame.

MULTIPLE REFRIGERATION CIRCUITS

Desert Aire's RCE Series and RCF Series Remote Condensers are available in numerous dual-circuit designs to match the needs of dehumidification systems. Remote condensers with a single row of fans operate based on the highest signal from each circuit. Condensers with two rows of fans operate with independent fan operation for each refrigeration circuit. Available RCE Series and RCF Series configurations include 575V supply voltages.

Elevation above sea level has an effect on the performance of air-cooled condensers. The unit standard capacities shown in the Performance Table as MBH must be multiplied by the correction factors in Table 1 to correct for various elevations.

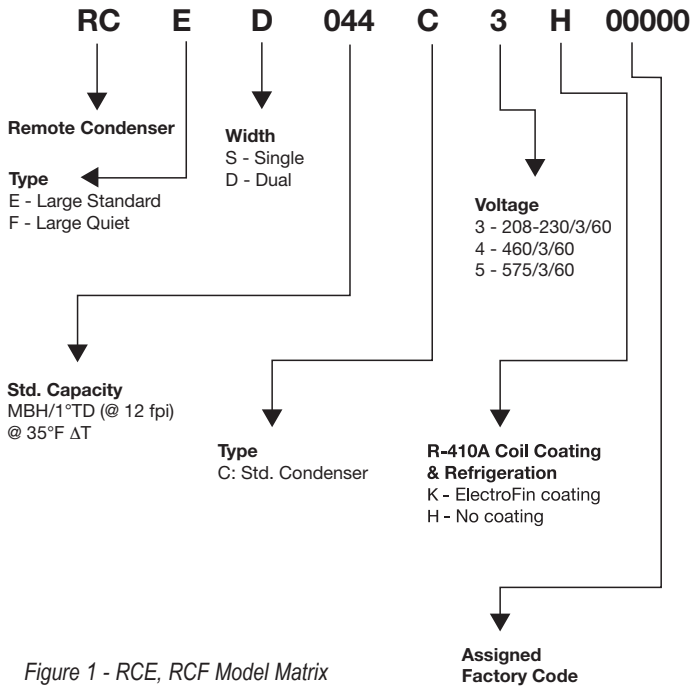


Figure 1 - RCE, RCF Model Matrix

ELEVATION CORRECTION FACTORS

ELEVATION (FEET)	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000
CORRECTION FACTOR	.98	.96	.93	.91	.89	.87	.85	.81

Table 1 - Elevation Correction Factors

SOUND AND POWER

RCE STANDARD SERIES

Desert Aire's RCE units are for customers seeking the most economical solution for their capacity requirements. This group of condensers offers quality sound and power benefits. Enhanced motor technology using an 1100 rpm blower/fan combination provides lower noise levels and significant energy savings.

RCF QUIET SERIES

Desert Aire's RCF units are for customers seeking exceptional low noise, energy efficiency and capacity solutions. The units feature 500 rpm motors coupled with specially designed blades that are precisely mounted in venturi fan panels to provide unprecedented low sound levels. While RCF units may require more fans, these remote condensers actually require significantly lower power consumption through their optimized blower efficiency.

STANDARD FEATURES

Standard equipment on RCE Series and RCF Series Remote Condensers include a door interlock and a main terminal block for motor lead termination. Also included is a main disconnect switch. Standard control panels are rated at 10 kA SCCR when power is supplied with Class J fuses.

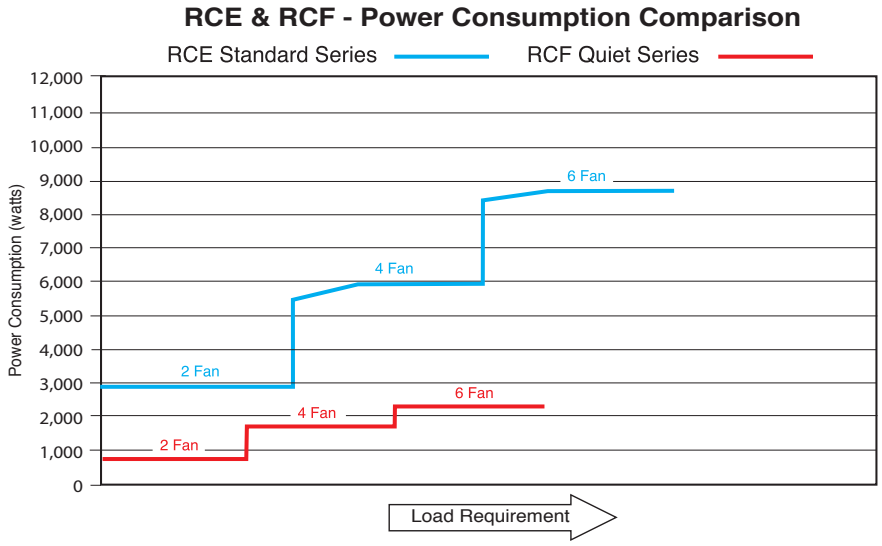


Figure 2 - Power Consumption Comparison

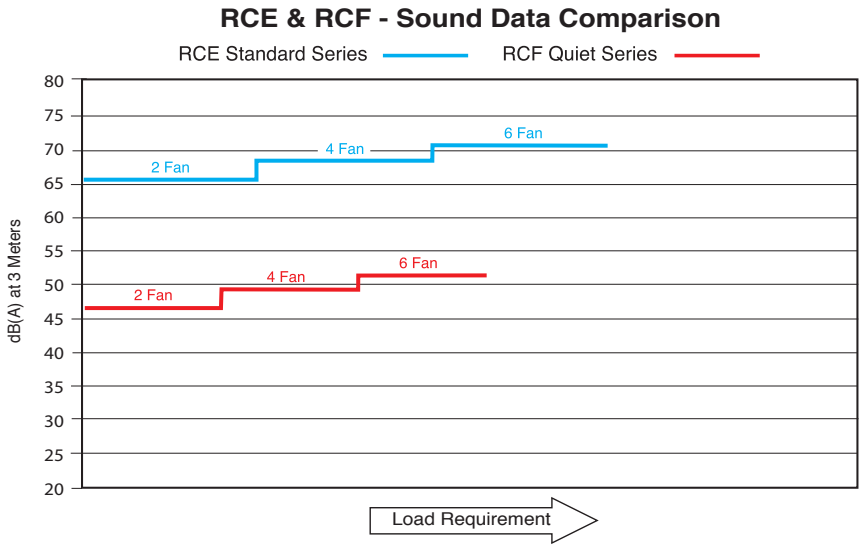


Figure 3 - Unit Sound Data

ELECTRICAL DATA

	MODEL	CFM	ROC SCCR (208/230/460V)*	208-230/3/60			460/3/60			575/3/60			Unit kW 3 PHASE
				FLA	MCA	MOPD**	FLA	MCA	MOPD**	FLA	MCA	MOPD**	
	1100 RPM SINGLE STANDARD												
STANDARD Single Width	RCES018C	22,540	5kA	12.5	14.2	20	6.5	7.4	15	6	6.7	15	2.9
	RCES022C	34,390	5kA	19.3	21	25	10.1	11	15	9.1	9.8	15	4.2
	RCES026C	33,220	5kA	19.3	21	25	10.1	11	15	9.1	9.8	15	4.3
	RCES030C	45,860	5kA	26.1	27.8	30	13.7	14.6	15	12.2	12.9	15	5.6
	RCES035C	44,300	5kA	26.1	27.8	30	13.7	14.6	15	12.2	12.9	15	5.7
	RCES040C	54,480	5kA	32.9	34.6	40	17.3	18.2	20	15.3	16	20	7.3
	RCES046C	52,060	5kA	32.9	34.6	40	17.3	18.2	20	15.3	16	20	7.6
	1100 RPM DUAL STANDARD												
STANDARD Dual Width	RCED022C	47,090	5kA	25	26.7	30	12.9	13.8	15	11.9	12.7	15	5.4
	RCED029C	45,270	5kA	25	26.7	30	12.9	13.8	15	11.9	12.7	15	5.6
	RCED035C	43,630	5kA	25	26.7	30	12.9	13.8	15	11.9	12.7	15	5.8
	RCED044C	68,050	5kA	38.6	40.3	45	20.1	21	25	18.1	18.9	20	8.4
	RCED052C	65,580	5kA	38.6	40.3	45	20	21	25	18.1	18.9	20	8.7
	500 RPM SINGLE QUIET												
QUIET Single Width	RCFS016C	20,033	5kA	9.9	11.3	15	5.3	6	15	4.5	5.2	15	1.1
	RCFS018C	18,828	5kA	9.9	11.3	15	5.2	6	15	4.5	5.2	15	1.2
	RCFS021C	26,711	5kA	12	13.4	15	6.5	7.2	15	5.3	6	15	1.6
	RCFS023C	25,104	5kA	12	13.4	15	6.5	7.2	15	5.3	6	15	1.6
	RCFS027C	30,737	5kA	14.1	15.5	20	7.7	8.4	15	6.1	6.8	15	2.0
	RCFS030C	28,418	5kA	14.1	15.5	20	7.7	8.4	15	6.1	6.8	15	2.0
	RCFS036C	34,101	5kA	16.2	17.6	20	8.9	9.6	15	6.9	7.6	15	2.4
	RCFS042C	39,789	5kA	18.3	19.7	25	10.1	10.8	15	CF	CF	CF	2.8
	500 RPM DUAL QUIET												
QUIET Dual Width	RCFD015C	28,127	5kA	15.6	17	20	8.1	8.8	15	7.3	8	15	1.6
	RCFD020C	36,304	5kA	15.6	17	20	8.1	8.8	15	7.3	8	15	1.6
	RCFD031C	39,353	5kA	19.8	21.2	25	10.5	11.2	15	8.9	9.6	15	2.3
	RCFD036C	36,773	5kA	19.8	21.2	25	10.5	11.2	15	8.9	9.6	15	2.3
	RCFD041C	52,471	5kA	24	25.4	30	12.9	13.6	15	10.5	11.2	15	3.0
	RCFD048C	49,030	5kA	24	25.4	30	12.9	13.6	15	10.5	11.2	15	3.1

** Standard control panels are rated at 10 kA SCCR when power is supplied with Class J fuses.*

*** MOPD - Maximum Overcurrent Protection Device*

CF = Consult Factory

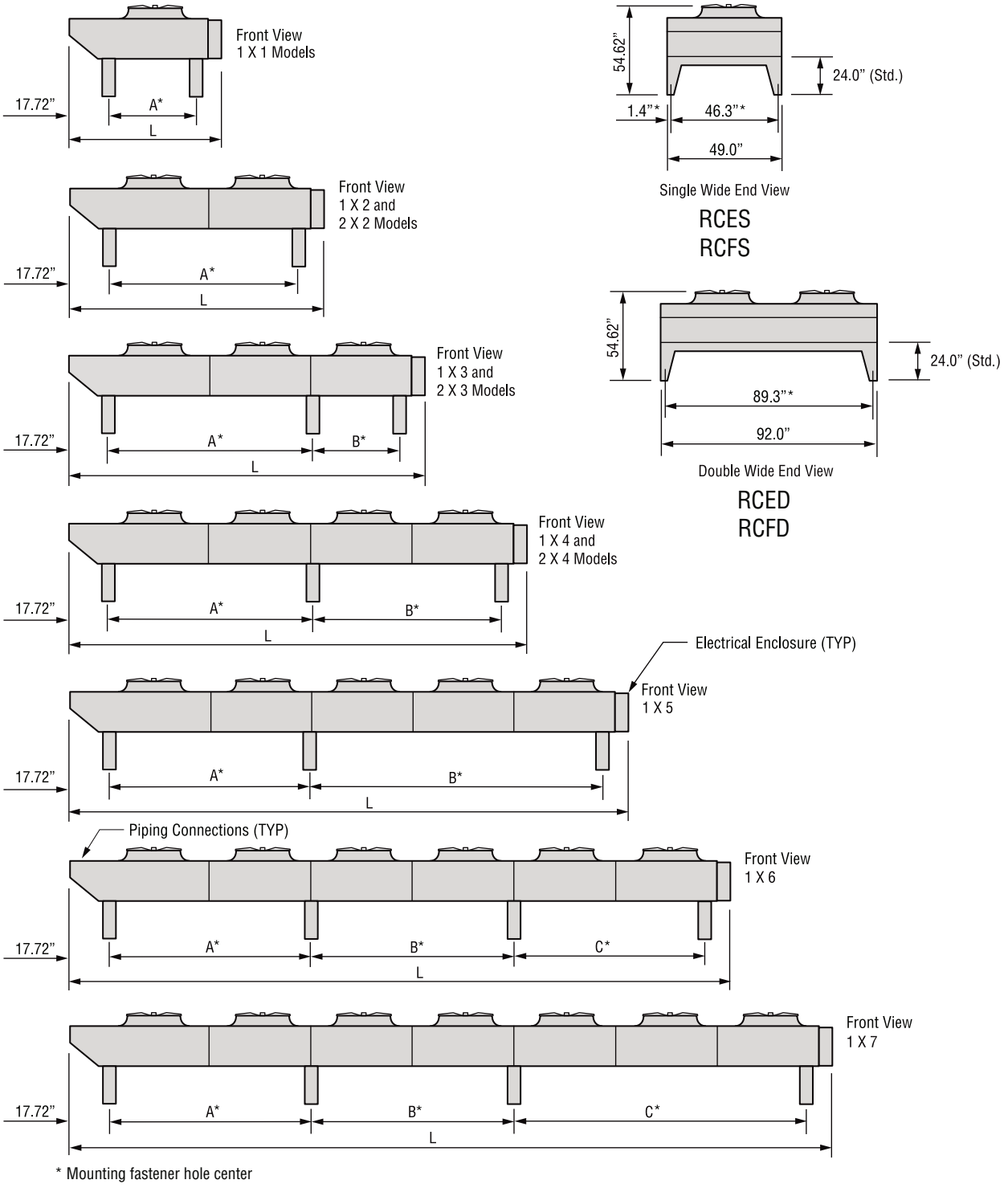
PERFORMANCE, SPECIFICATIONS AND DIMENSIONS TABLE

		MODEL	STANDARD CAPACITY MBH/1°F	DUAL CIRC. CONN (IN)*		FAN LAYOUT	OVERALL LENGTH	MOUNTING DIMENSIONS (IN)			APPROX. NET WT. (LBS)**	DBA***
				DISCH. LINE	LIQUID LINE			A	B	C		
		1100 RPM SINGLE STANDARD										
STANDARD	Single Width	RCES018C	18.00	1 3/8	7/8	1 x 2	138.9	106.2	-	-	869	65.5
		RCES022C	24.73	1 5/8	1 1/8	1 x 3	196.9	111.1	53.1	-	1,186	67.3
		RCES026C	28.16	1 5/8	1 1/8	1 x 3	196.9	111.1	53.1	-	1,246	67.3
		RCES030C	33.49	1 5/8	1 1/8	1 x 4	254.9	111.1	111.1	-	1,497	68.5
		RCES035C	37.72	1 5/8	1 1/8	1 x 4	254.9	111.1	111.1	-	1,574	69.5
		RCES040C	43.57	1 5/8	1 1/8	1 x 5	312.9	111.1	169.1	-	1,658	69.5
		RCES046C	47.76	1 5/8	1 3/8	1 x 5	312.9	111.1	169.1	-	1,746	69.5
		1100 RPM DUAL STANDARD										
	Dual Width	RCED022C	23.17	1 5/8	1 1/8	2 x 2	138.9	106.2	-	-	1,301	68.5
		RCED029C	30.18	1 5/8	1 1/8	2 x 2	138.9	106.2	-	-	1,537	68.5
		RCED035C	34.84	1 5/8	1 1/8	2 x 2	138.9	106.2	-	-	1,614	68.5
		RCED044C	47.81	1 5/8	1 3/8	2 x 3	196.9	111.1	53.1	-	2,086	70.3
		RCED052C	54.12	1 5/8	1 3/8	2 x 3	196.9	111.1	53.1	-	2,196	70.3
		500 RPM SINGLE QUIET										
QUIET	Single Width	RCFS016C	16.90	1 3/8	7/8	1 x 3	196.9	111.1	53.1	-	1,186	48.3
		RCFS018C	17.97	1 3/8	7/8	1 x 3	196.9	111.1	53.1	-	1,246	48.3
		RCFS021C	22.92	1 5/8	1 1/8	1 x 4	254.9	111.1	111.1	-	1,497	49.5
		RCFS023C	24.10	1 5/8	1 1/8	1 x 4	254.9	111.1	111.1	-	1,574	49.5
		RCFS027C	28.10	1 5/8	1 1/8	1 x 5	312.9	111.1	169.1	-	1,658	50.5
		RCFS030C	28.67	1 5/8	1 1/8	1 x 5	312.9	111.1	169.1	-	1,746	50.5
		RCFS036C	34.66	1 5/8	1 1/8	1 x 6	370.9	111.1	116	111.1	2,068	51.3
		RCFS042C	40.71	1 5/8	1 1/8	1 x 7	428.9	111.1	116	169.1	2,368	52
		500 RPM DUAL QUIET										
	Dual Width	RCFD015C	16.88	1 3/8	7/8	2 x 2	138.9	106.2	-	-	1,301	49.5
		RCFD020C	20.60	1 5/8	7/8	2 x 2	138.9	106.2	-	-	1,537	49.5
		RCFD031C	32.73	1 5/8	1 1/8	2 x 3	196.9	111.1	53.1	-	2,086	51.3
		RCFD036C	34.70	1 5/8	1 1/8	2 x 3	196.9	111.1	53.1	-	2,196	51.3
		RCFD041C	44.94	1 5/8	1 1/8	2 x 4	254.9	111.1	111.1	-	2,845	52.5
		RCFD048C	47.26	1 5/8	1 3/8	2 x 4	254.9	111.1	111.1	-	2,999	52.5

** Actual line sizes at 35°F DT. Line connections may vary with different application ratings, so consult the I/O manual or factory.*

***Add 200 LBS for 575V *** Listed DBA values are sound ratings for the maximum number of fans in operation per RC at 3m in accordance with AHRI standard 370-2001.*

DIMENSIONAL DATA RCE AND RCF SERIES



* Mounting fastener hole center

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