



**THE SAUDI FACTORY FOR
AIR CONDITIONING EQUIPMENT**



**HIGH EFFICIENCY
AIR COOLED CONDENSING UNITS
1.2 THRU 10 TON
(50 - 60 HZ)**

DESCRIPTION/APPLICATION

This High Efficiency Condensing Unit is ruggedly design for outdoor ground level or roof top installation. This series is highly recommended whenever energy conservation is the main design factor. This condensing unit has a SEER 'S as high as 8.2 and are available in nominal cooling capacity from 14,400 to 120,000 Btuh. All the unit is design for hermetic compressor and high efficiency aluminum fin condenser coil, and ideally suited for residential and light commercial applications. Each condensing units is completely factory assembled, wired, tested and shipped with an operating charge of refrigerant 22.

The wide range of condensing unit and evaporator blower or coil sizes available permits system to be matched closely to specific air conditioning load requirements. The flexibility of component selection can result in great savings in both initial and operating cost.

CABINET CONSTRUCTION

The High Efficiency Series Unit is house in a weather resistant cabinet fabricated from die-formed, galvanized steel panels. The cabinet features side intake, top air discharge. A separate compartment protects the internally wired controls. The cabinet base provides a sturdy foundation and simplified installation of the unit on a concrete slab or floor.

COMPRESSOR

A Hermetically Sealed Compressor is used for all models. The compressor motor is equipped with inherent overheat/overload protection in the windings.

CONDENSER COIL

Aluminum fins are bonded to a copper tube to achieve the highest heat transfer efficiency of the condenser coil. Since the number of joints are reduced due to U form condenser coil, (compared to a plate fin coil with return bends), the possibility of refrigerant loss is also reduce. A weather resistant vinyl-coated wrap-around inlet grille protects the condenser coil.

CONDENSER FAN AND MOTOR

An aluminum propeller fan moves condenser air through the coil. The multi-blade fan is directly coupled to the motor drive.

CONTROL

Pre-wired controls include the compressor and fan motor contactor, fan motor capacitor and compressor motor capacitor. The control circuit is designed for 24 volt operation.

REFRIGERANT CIRCUIT

The unit suction and discharge refrigerant lines terminate in compressor fittings. Liquid and suction isolation valves are provided, thereby allowing the refrigerant charge to be stored in the condensing unit and isolating the interconnecting tubing and low side. Schraeder valves are provided for pressure gauge connections.

STANDARD FEATURES

- * Quiet Operating Top Discharge
- * Copper Tube & Aluminum Fin Construction
- * Brass Suction & Liquid Line Shut Off Valves
- * Sweat Connections
- * Totally Enclosed Permanently Lubricated Condenser Motor
- * Isolated Compressor Compartment
- * Hi-Efficiency Performance
- * Designed for PSC Operation
- * Hermetically Sealed Compressor

OPTIONAL

- * Solid State Fan Speed Control (low ambient)
- * Electronic Programmable Thermostat
- * 5 min. Integral Lockout Timer
- * Fully Charged for 25' Tubing Length
- * HP/LP Cut-outs
- * Crankcase Heater
- * Condenser Coil with Copper Fins or Protective Coated
- * Heat Pump Versions

ELECTRICAL DATA. 50 HZ

MODEL	VOLTS*	PH	MAXIMUM VOLT	MINIMUM VOLT	COMPRESSOR		COND. FAN		WIRE AMPACITY	MAXIMUM OVERCURRENT PROTECTION
					RLA	LRA	HP	FLA		
RCD-1.2	198-264	1	264	198	6.0	30	1/4	1.7	14	20
RCD-1.5	198-264	1	264	198	10.0	39	1/4	1.7	14	20
RCD-2.0	198-264	1	264	198	11.9	46	1/3	2.4	18	25
RCD-2.5	198-264	1	264	198	15.0	58	1/3	2.4	21	30
RCD-3.0	198-264	1	264	198	19.1	87	1/2	3.5	28	40
RCD-3.5	198-264	1	264	198	21.9	95.6	1/2	3.5	31	40
RCD-4.0	180-220	1	220	180	30.7	125	3/4	4.1	42	50
RCD-5.0	198-264	3	264	180	21.4	130	3/4	4.1	31	40
RCD-7.5	198-264	3	264	180	16.8x2	84x2	1	4.0	46	60
RCD-10	198-264	3	264	180	21.4x2	130x2	1 %	4.8	59	70

NOTE:

* OTHER OPERATING VOLTAGES ARE ALSO AVAILABLE

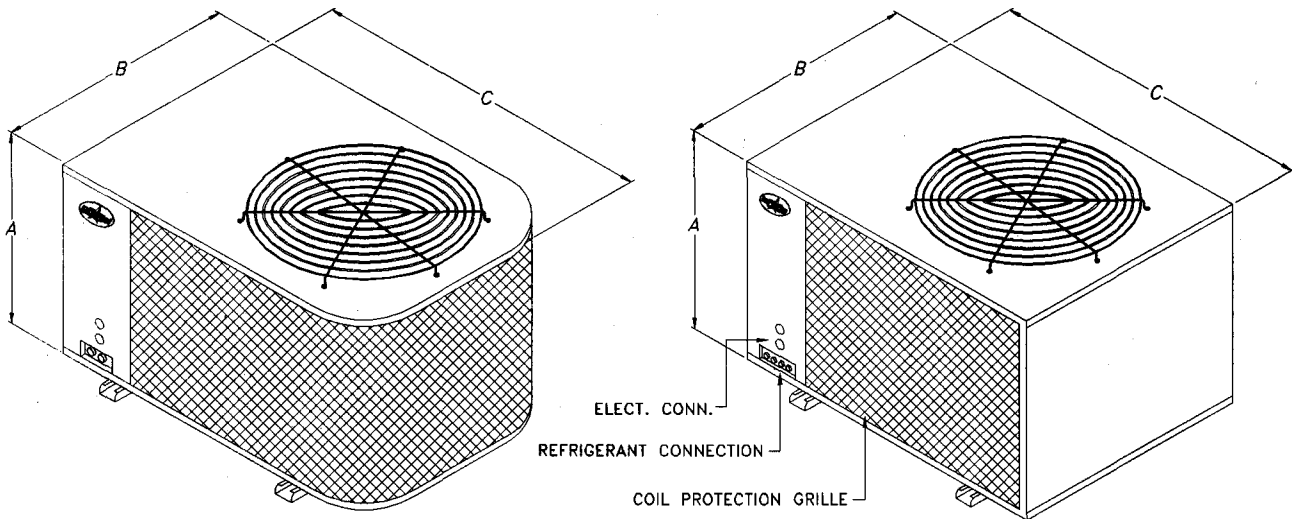
380-3-50. 440-3-50

ELECTRICAL DATA, 60 HZ

MODEL	VOLTS*	PH	MAXIMUM VOLT	MINIMUM VOLT	COMPRESSOR		COND. FAN		WIRE AMPACITY	MAXIMUM OVERCURRENT PROTECTION
					R LA	LRA	HP	FLA		
RCD-1.2	208-230	1	253	197	7.0	34.2	1/4	1.9	14	20
RCD-1.5	208-230	1	253	197	10.8	48	1/4	1.9	14	20
RCD-2.0	208-230	1	253	197	13.4	59	1/3	2.7	18	25
RCD-2.5	208-230	1	253	197	17.3	75.8	1/3	2.7	23	30
RCD-3.0	208-230	1	253	197	22.5	93	1/2	3.9	31	40
RCD-3.5	208-230	1	253	197	26.5	114	1/2	3.9	32	40
RCD-4.0	298-230	1	253	197	30.7	125	3/4	4.6	40	50
RCD-5.0	208-230	3	253	197	21.4	130	3/4	4.6	32	40
RCD-7.5	208-230	3	253	180	16.8x2	84x2	1	4.1	47	60
RCD-10	208-230	3	253	180	21.4x2	130x2	1 1/2	5.4	60	70

NOTE:

* OTHER OPERATING VOLTAGES ARE ALSO AVAILABLE
380-3-60, 440-3-60



RCD 1.2 TO 5.0 MODELS

RCD 7.5 & RCD 10 MODELS

PHYSICAL DATA

MODEL NO.	A	B	C	D	CONDENSER FAN DIA. (Inch)	LIQUID (Inch)	SUCTION (Inch)	TYPE
RCD-1.2	356	610	865	50	18	3/8	5/8	SWEAT
RCD-1.5	445	610	865	50	18	3/8	5/8	SWEAT
RCD-2.0	508	610	865	50	18	3/8	5/8	SWEAT
RCD-2.5	635	610	865	50	18	3/8	3/4	SWEAT
RCD-3.0	762	610	865	50	18	3/8	3/4	SWEAT
RCD-3.5	825	610	865	50	18	3/8	7/8	SWEAT
RCD-4.0	865	815	965	50	22	3/8	7/8	SWEAT
RCD-5.0	865	815	965	50	22	1/2	7/8	SWEAT
RCD-7.5	890	1100	1700	65	26	2x1/2	2x7/8	SWEAT
RCD-10	1118	1100	1700	65	26	2x1/2	2x7/8	SWEAT

CONDENSING UNIT CAPACITIES. 50 HZ.

MODEL	TEMPERATURE AIR ENTERING CONDENSER (°F)															
	SST °F-	85			95			105			115			120		
		CAP.	SCT	KW	CAP.	SCT	KW	CAP.	SCT	KW	CAP.	SCT	KW	CAP.	SCT	KW
RCD-1.2	30	8.91	110	0.98	8.02	120	1.02	7.06	130	1.05	6.04	140	1.07	5.52	145	1.08
	36	10.17	111	1.02	9.21	121	1.07	8.18	131	1.11	7.21	141	1.14	7.23	146	1.15
	40	11.41	112	1.06	10.39	122	1.12	9.29	132	1.17	8.40	142	1.21	8.18	147	1.22
	45	12.79	113	1.10	11.68	123	1.16	10.49	133	1.23	9.73	143	1.28	9.33	148	1.30
	50	14.25	114	1.14	13.06	124	1.22	11.79	134	1.29	10.76	144	1.35	10.47	149	1.39
RCD-1.5	30	12.29	110	1.28	11.07	120	1.35	9.79	130	1.41	8.45	140	1.47	7.78	145	1.49
	35	13.99	111	1.32	12.65	121	1.40	11.23	131	1.47	9.74	141	1.54	8.99	146	1.57
	40	15.68	112	1.37	14.20	122	1.46	12.63	132	1.54	11.00	142	1.62	10.19	147	1.65
	45	17.55	113	1.41	15.93	123	1.51	14.21	133	1.60	12.42	143	1.69	11.53	148	1.73
	50	19.55	114	1.45	17.77	124	1.56	15.89	134	1.66	13.94	144	1.76	12.96	149	1.81
RCD-2.0	30	15.85	110	1.66	14.38	120	1.76	12.87	130	1.86	11.28	140	1.93	10.49	145	1.97
	35	18.06	111	1.72	16.45	121	1.83	14.77	131	1.94	13.01	141	2.03	12.13	146	2.08
	40	20.24	112	1.78	18.48	122	1.90	16.63	132	2.02	14.70	142	2.14	13.74	147	2.19
	45	22.67	113	1.83	20.75	123	1.97	18.72	133	2.11	16.61	143	2.23	15.55	148	2.28
	50	25.26	114	1.89	23.16	124	2.04	20.94	134	2.19	18.63	144	2.33	17.47	149	2.41
RCD-2.5	30	19.20	110	1.99	17.62	120	2.12	16.03	130	2.23	14.42	140	2.33	13.61	145	2.38
	35	21.90	111	2.07	20.18	121	2.20	18.43	131	2.33	16.65	141	2.45	15.78	146	2.50
	40	24.58	112	2.14	22.71	122	2.29	20.79	132	2.44	18.85	142	2.57	17.88	147	2.64
	45	27.58	113	2.21	25.55	123	2.38	23.46	133	2.54	21.33	143	2.69	20.27	148	2.77
	50	30.79	114	2.28	28.59	124	2.46	26.33	134	2.64	24.02	144	2.81	22.86	149	2.91
RCD-3.0	30	26.25	110	2.48	23.30	120	2.60	20.35	130	2.72	17.90	140	2.79	16.55	145	2.84
	35	30.20	111	2.61	26.99	121	2.74	23.95	131	2.86	20.89	141	2.97	19.37	146	3.03
	40	34.10	112	2.75	30.62	122	2.88	27.22	132	3.02	23.82	142	3.16	22.12	147	3.23
	45	38.56	113	2.84	34.79	123	3.02	31.09	133	3.17	27.39	143	3.33	25.54	148	3.40
	50	43.46	114	2.96	39.36	124	3.15	35.26	134	3.33	31.16	144	3.51	29.11	149	3.60
RCD-3.5	30	31.90	110	3.09	28.40	120	3.21	24.90	130	3.25	21.40	140	3.28	19.65	145	3.30
	35	36.68	111	3.26	32.91	121	3.41	29.01	131	3.47	25.11	141	3.53	23.16	146	3.56
	40	41.40	112	3.45	37.34	122	3.62	33.04	132	3.70	28.74	142	3.79	26.59	147	3.83
	45	46.44	113	3.62	42.12	123	3.82	37.52	133	3.94	32.92	143	4.07	30.62	148	4.13
	50	51.74	114	3.77	47.14	124	4.00	42.24	134	4.18	37.34	144	4.36	34.89	149	4.45
RCD-4.0	30	37.05	110	3.55	33.70	120	3.71	29.85	130	3.76	26.00	140	3.80	24.08	145	3.82
	35	41.77	111	3.71	38.20	121	3.90	34.20	131	3.99	30.14	141	4.08	27.84	146	4.12
	40	46.46	112	3.88	42.67	122	4.09	38.52	132	4.23	34.37	142	4.37	32.29	147	4.43
	45	51.53	113	4.03	47.38	123	4.27	42.98	133	4.44	38.58	143	4.61	36.38	148	4.69
	50	56.98	114	4.17	52.50	124	4.44	47.75	134	4.65	43.00	144	4.85	40.62	149	4.95
RCD-5.0	30	44.05	110	3.91	40.60	120	4.16	37.00	130	4.31	33.40	140	4.47	31.60	145	4.55
	35	49.22	111	4.08	45.41	121	4.36	41.56	131	4.56	37.71	141	4.77	35.79	146	4.87
	40	54.32	112	4.26	50.18	122	4.58	46.08	132	4.82	41.98	142	5.07	39.93	147	5.19
	45	59.98	113	4.41	55.48	123	4.77	51.08	133	5.06	46.68	143	5.36	44.48	148	5.50
	50	66.13	114	4.55	61.18	124	4.94	56.38	134	5.28	51.58	144	5.63	49.18	149	5.80
RCD-7.5	30	64.30	110	6.02	57.40	120	6.30	50.70	130	6.45	44.00	140	6.60	40.65	145	6.68
	35	73.90	111	6.35	66.48	121	6.68	59.28	131	6.90	52.08	141	7.11	48.48	146	7.22
	40	83.40	112	6.68	75.46	122	7.08	67.76	132	7.36	60.06	142	7.64	56.21	147	7.77
	45	93.82	113	6.98	85.31	123	7.42	77.01	133	7.78	68.71	143	8.13	64.56	148	8.30
	50	104.52	114	7.22	95.48	124	7.73	86.68	134	8.16	77.88	144	8.59	73.48	149	8.80
RCD-10	30	88.10	110	7.83	81.20	120	8.32	74.00	130	8.63	66.80	140	8.94	63.20	145	9.09
	35	98.44	111	8.17	90.83	121	8.73	83.13	131	9.13	75.43	141	9.53	71.58	146	9.73
	40	108.64	112	8.52	100.36	122	9.16	92.16	132	9.65	83.96	142	10.14	79.86	147	10.38
	45	119.97	113	8.83	110.96	123	9.54	102.16	133	10.13	93.36	143	10.72	88.96	148	11.01
	50	132.26	114	9.10	122.36	124	9.88	112.76	134	10.57	103.16	144	11.26	98.36	149	11.60

CAP - Capacity(1000 Btuh)
 KW - Compressor Motor Power Input
 SCT - Saturated Condensing Temperature
 SST - Saturated suction temperature shown
 corresponding to the Pressure at the compressor.
 Actual suction temperature is higher due to superheat.

Note: 1. Interpolation is permissible. Do not extrapolate.

CONDENSING UNIT CAPACITIES. 60 HZ.																
MODEL	SST °F	TEMPERATURE AIR ENTERING CONDENSER °F)														
		85			95			105			115			120		
		CAP	SCT	KW	CAP	SCT	KW	CAP	SCT	KW	CAP	SCT	KW	CAP	SCT	KW
RCD-1.2	30	11.00	110	1.17	9.80	120	1.22	8.70	130	1.25	7.40	140	1.27	6.90	145	1.29
	35	12.60	111	1.22	11.40	121	1.27	10.10	131	1.32	8.70	141	1.36	8.20	146	1.38
	40	14.10	112	1.27	12.80	122	1.33	11.50	132	1.39	10.00	142	1.45	9.30	147	1.47
	45	15.80	113	1.31	14.40	123	1.39	12.90	133	1.46	11.40	143	1.53	10.60	148	1.57
	50	17.60	114	1.36	16.10	124	1.45	14.50	134	1.53	12.80	144	1.62	11.90	149	1.67
RCD-1.5	30	14.90	110	1.50	13.40	120	1.58	12.10	130	1.64	10.90	140	1.70	9.90	145	1.74
	35	16.90	111	1.55	15.40	121	1.65	13.90	131	1.73	12.60	141	1.80	11.50	146	1.84
	40	19.10	112	1.61	17.40	122	1.72	15.70	132	1.82	14.30	142	1.91	13.20	147	1.94
	45	21.30	113	1.66	19.50	123	1.78	17.80	133	1.90	16.30	143	2.00	14.90	148	2.04
	50	23.80	114	1.70	21.80	124	1.84	19.90	134	1.97	18.40	144	2.12	16.60	149	2.12
RCD-2.0	30	19.60	110	1.95	17.90	120	2.06	16.30	130	2.15	14.00	140	2.23	13.00	145	2.29
	35	22.30	111	2.03	20.40	121	2.15	18.60	131	2.27	16.50	141	2.36	15.40	146	2.41
	40	24.90	112	2.11	22.90	122	2.25	21.00	132	2.39	18.90	142	2.49	17.70	147	2.53
	45	27.70	113	2.17	25.50	123	2.34	23.50	133	2.49	21.20	143	2.61	19.80	148	2.65
	50	30.50	114	2.22	27.80	124	2.40	25.40	134	2.57	23.40	144	2.70	21.80	149	2.72
RCD-2.5	30	24.50	110	2.41	22.50	120	2.57	20.40	130	2.70	18.20	140	2.81	17.10	145	2.85
	35	27.80	111	2.50	25.50	121	2.68	23.20	131	2.83	20.70	141	2.97	19.30	146	3.02
	40	31.00	112	2.61	28.50	122	2.80	25.90	132	2.97	23.10	142	3.13	21.70	147	3.20
	45	34.60	113	2.70	31.80	123	2.91	28.90	133	3.10	25.80	143	3.28	24.20	148	3.36
	50	38.40	114	2.79	35.40	124	3.01	32.10	134	3.23	28.70	144	3.44	27.00	149	3.53
RCD-3.0	30	30.80	110	2.97	27.40	120	3.11	24.10	130	3.22	21.00	140	3.32	19.50	145	3.35
	35	35.50	111	3.11	31.80	121	3.27	28.10	131	3.41	24.60	141	3.53	22.90	146	3.58
	40	40.20	112	3.25	36.10	122	3.43	32.00	132	3.60	28.10	142	3.75	26.20	147	3.82
	45	45.60	113	3.39	41.00	123	3.60	36.60	133	3.79	32.30	143	3.97	30.10	148	4.05
	50	51.30	114	3.53	46.50	124	3.76	41.60	134	3.98	36.80	144	4.19	34.40	149	4.29
RCD-3.5	30	39.10	110	3.70	34.70	120	3.81	30.10	130	3.86	25.70	140	3.85	23.80	145	3.85
	35	44.70	111	3.90	40.10	121	4.05	35.10	131	4.13	30.30	141	4.15	28.10	146	4.14
	40	50.40	112	4.11	45.40	122	4.29	40.10	132	4.40	34.70	142	4.43	32.00	147	4.43
	45	56.40	113	4.29	51.00	123	4.50	45.40	133	4.65	39.10	143	4.73	36.80	148	4.73
	50	62.50	114	4.45	56.90	124	4.71	51.10	134	4.89	45.10	144	5.01	42.00	149	5.04
RCD-4.0	30	44.40	110	4.27	40.30	120	4.43	35.90	130	4.53	31.10	140	4.54	28.60	145	4.50
	35	50.00	111	4.46	45.60	121	4.66	41.00	131	4.80	36.00	141	4.86	33.40	146	4.85
	40	55.60	112	4.66	50.90	122	4.90	46.00	132	5.08	40.90	142	5.19	38.10	147	5.20
	45	61.60	113	4.84	56.70	123	5.11	51.50	133	5.33	45.80	143	5.47	43.00	148	5.51
	50	68.10	114	5.00	62.70	124	5.32	57.10	134	5.57	51.10	144	5.75	48.10	149	5.82
RCD-5.0	30	52.80	110	5.05	48.50	120	5.31	44.10	130	5.52	39.60	140	5.66	37.30	145	5.70
	35	59.00	111	5.24	54.30	121	5.55	49.60	131	5.80	44.80	141	6.00	42.40	146	6.07
	40	65.10	112	5.44	60.00	122	5.79	55.00	132	6.10	50.00	142	6.35	47.40	147	6.46
	45	72.20	113	5.62	66.60	123	6.02	61.00	133	6.36	55.40	143	6.66	52.70	148	6.79
	50	80.20	114	5.80	74.10	124	6.25	67.90	134	6.64	61.50	144	6.98	58.40	149	7.12
RCD-7.5	30	77.40	110	7.26	69.70	120	7.56	60.60	130	7.76	52.00	140	7.84	47.80	146	7.84
	35	88.30	111	7.61	79.70	121	7.99	70.90	131	8.31	62.20	141	8.48	67.90	146	8.63
	40	99.20	112	7.98	90.20	122	8.44	81.20	132	8.84	72.40	142	9.14	76.00	147	9.26
	45	110.60	113	8.28	100.90	123	8.82	91.60	133	9.29	82.40	143	9.68	87.80	148	9.83
	50	123.50	114	8.59	112.70	124	9.18	102.30	134	9.69	92.30	144	10.16	97.30	149	10.36
RCD-10	30	106.40	110	9.86	98.00	120	10.44	89.40	130	10.90	80.40	140	11.22	76.60	146	11.29
	35	118.80	111	10.87	109.60	121	10.96	100.40	131	11.63	90.90	141	11.96	86.80	146	12.10
	40	131.00	112	10.72	121.20	122	11.50	111.40	132	12.18	101.30	142	12.72	96.10	147	12.93
	46	144.80	113	11.10	134.00	123	11.97	123.40	133	12.75	112.70	143	13.41	107.20	148	13.69
	50	159.40	114	11.45	147.70	124	12.42	136.20	134	13.30	124.60	144	14.06	118.80	149	14.39

CAP= Capacity (1000 Btuh)
 KW = Compressor Motor Power Input
 SCT = Saturated Condensing Temperature
 SST - Saturated suction temperature shown
 corresponding to the Pressure at the compressor.
 actual suction temperetur is higher due to superheat

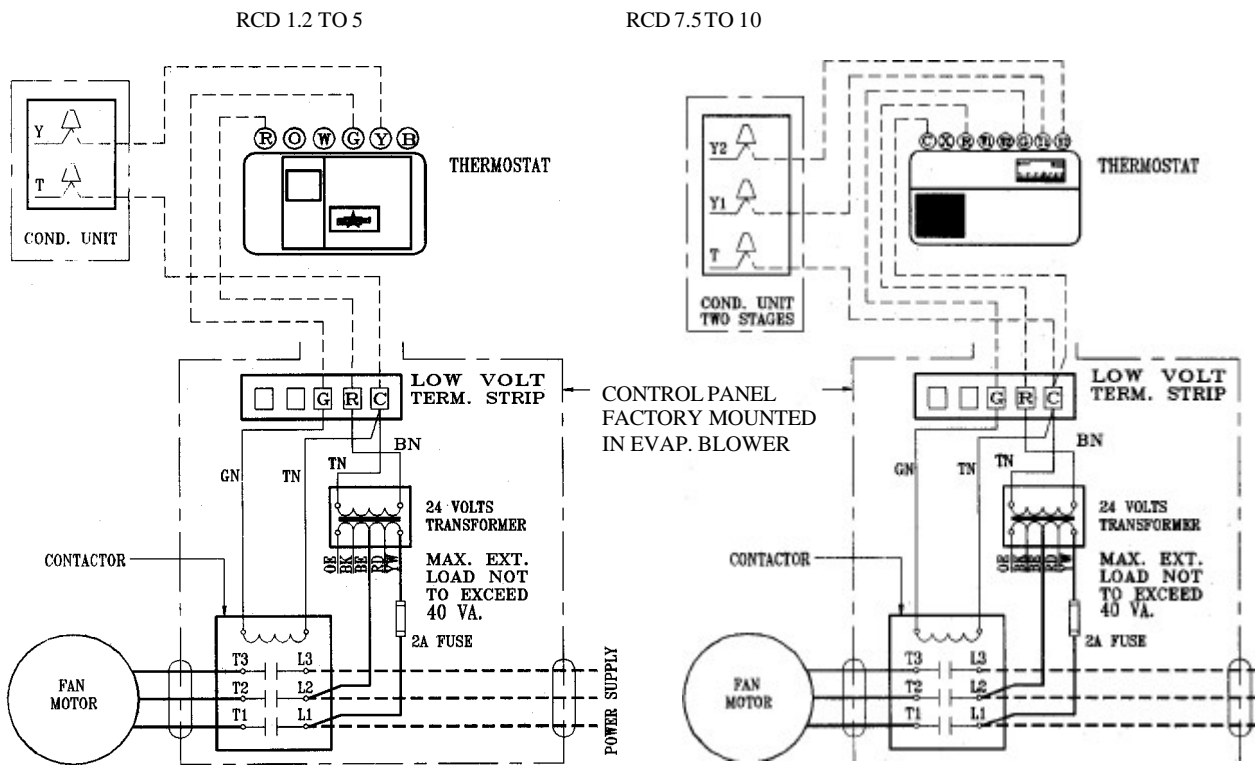
Note; 1. Interpolation is permissible, Do not extrapolate.

COMBINATION RATING INDEX

CONDENSER MODEL	NOM.CAP. (TONS)	EVAPORATOR			
		MODEL	COIL ROWS DEEP(Inch)	TOTAL BTUH	SENSIBLE BTUH
RCD-1.2	1.2	CB-04/DA-024	See Note 1	See Note 1	See Note 1
RCD-1.5	1.5	CB-06/DA-024	See Note 1	See Note 1	See Note 1
RCD-2.0	2.0	DA-024	4	20,450	14,250
RCD-2.5	2.5	DA-024	6	27,300	18,350
RCD-3.0	3.0	DA-036	4	31,300	21,700
RCD-3.5	3.5	DA-036	6	41,800	27,900
RCD-4.0	4.0	DA-048	4	43,500	29,900
RCD-5.0	5.0	DA-048	6	52,200	36,100
RCD-7.5	7.5	DA-090	4	78,200	54,100
RCD-10	10	DA-090	6	104,500	69,700
	10	DA-120	4	104,500	72,200

NOTE:
 DX COIL SIZES CAN BE SELECTED TO MATCH WITH
 ANY SPECIFIC AIR CONDITIONING REQUIREMENTS

FIELD WIRING DIAGRAM

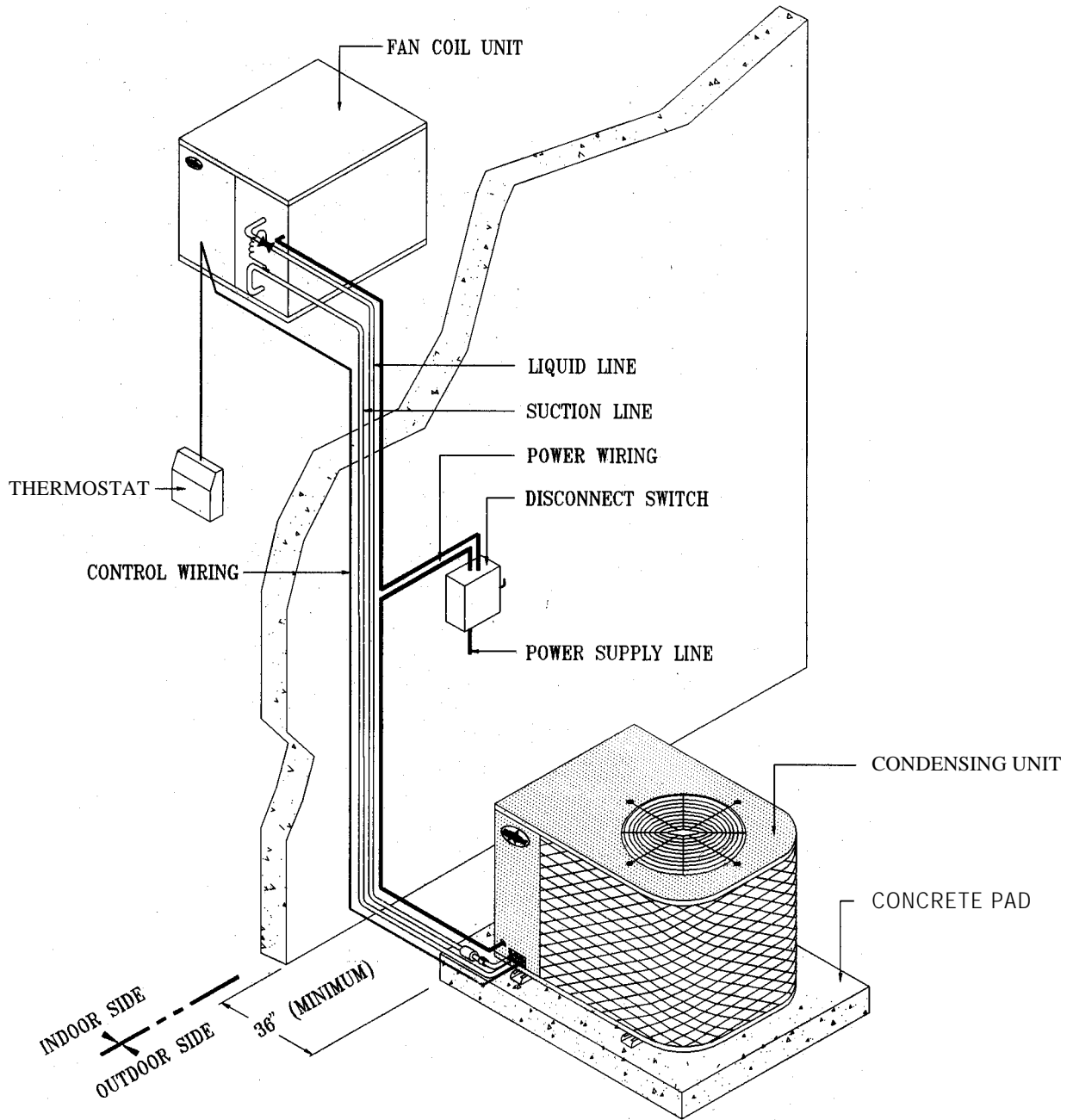


FIELD WIRING
 NEC CLASS 2 _____
 NEC CLASS 1 _____

FACTORY WIRING
 LOW VOLTAGE _____
 LINE VOLTAGE _____

NOTE:
 1. IF EVAPORATOR UNITS SUPPLIED WITH INTEGRAL ELECTRIC HEATER, REFER TO WIRING DIAGRAM ATTACHED TO THE EVAPORATOR UNITS.

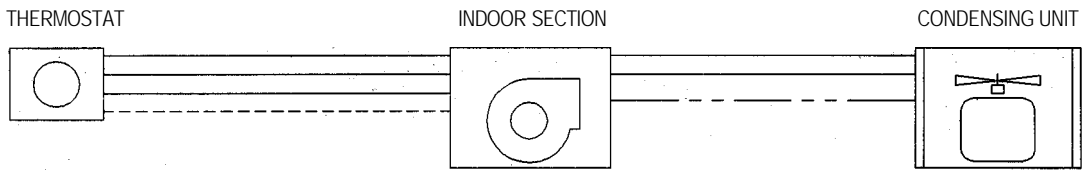
TYPICAL PIPING AND WIRING



NOTES:

1. Unit placement depend on space requirement for service and airflow.
2. Illustration shown is a general guide only and is not intended for or include all details for any ; specific installation.

3. Control relay which starts and stops condensing unit must be powered externally. Typical system control wiring shown uses indoor section 40 VA control circuit (24 V) transformer as power source.



- Wiring necessary for cooling without heating.
- - - - - Add to cooling wiring for cooling with one stage heating. (2 Add wire for two stage heating)
- For two stage cooling.