



Model #: RTAA1254YL01A3D0BDFQ
Serial #: U00H030347

Year: 2000
Size: 125 Tons

Air-Cooled Series R™ Rotary Liquid Chiller

Model RTAA
70 to 125 Tons

Built for the Industrial and Commercial Markets



Shipping weight: 9,230 lbs
Operating Weight: 9,612 lbs

L: 19' 3"
W: 7' 5"
H: 7' 4"

Model Number Description

RT A A 125 4 Y L0 1 A 3 D 0 B D F Q

Model Nomenclature Digit Number

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

70-125 Tons

Digits 1,2 — Unit Model

RT = Rotary Chiller

Digit 3 — Unit Type

A = Air Cooled

Digit 4 — Development Sequence

A = First Sequence

Digit 5, 6 & 7 — Nominal Capacity

070 = 70 tons
080 = 80 tons
090 = 90 tons
100 = 100 tons
110 = 110 tons
125 = 125 tons

Digit 8 — Unit Voltage

A = 200/60/3
C = 230/60/3
D = 380/60/3
4 = 460/60/3
5 = 575/60/3
S = Special

Digit 9 — Compressor Starter Type

Y = Y-Delta Closed Transition
X = X-Line (Across the Line)
S = Special

Digit 10, 11 — Design Sequence

** = Factory Input

Digit 12 — Evaporator Leaving Temperature

1 = Standard 40 to 65°F
2 = Low 0 to 39°F
3 = Ice-Making 20 to 65°F
S = Special

Digit 13 — Condenser Coil Fin Material

A = Aluminum
S = Special
2 = Copper Fins
4 = CompleteCoat

Digit 14 — Agency Listing

0 = No Agency Listing
3 = C/UL Listing

Digit 15 — Control Interface

C = Deluxe without Communication
D = Deluxe with Communication

Digit 16 — Chilled Water Reset

0 = No Chilled Water Reset
1 = Based on Return Water Temperature
2 = Based on Outside Air Temperature

Digit 17 — Miscellaneous Factory Installed Options

A = Architectural Louvered Panels
B = Control Power Transformer
C = Convenience Outlet
D = Low Ambient Lockout Sensor
F = Mech. Disconnect Switch
G = Low Ambient Operation
K = Coil Protection
M = Access Guard
P = Circuit Breaker (Single Point Power)
Z = Circuit Breaker (Dual Point Power)

Field Installed Options

Q = Spring Isolators
N = Neoprene Isolators
R = Remote Display Panel
3 = 5 Year Compressor Warranty
8 = Architectural Louvered Panels
9 = Coil Protection
0 = Access Guard
J = Remote Evaporator
H = Sound Attenuator



General Data

Table G-1 — General Data RTAA — 70-125 Ton

Size	70	80	90	100	110	125
Compressor						
Quantity	2	2	2	2	2	2
Nominal Size (1)	(Tons) 35/35	40/40	50/40	50/50	60/50	60/60
Evaporator						
Water Storage	(Gallons) 39.8	37.3	34.4	32.1	53.4	45.8
	(Liters) 150.6	143.1	130.2	121.5	202.11	173.4
Min. Flow	(GPM) 84	96	108	120	132	150
	(L/Sec) 5.3	6.1	6.8	7.6	8.3	9.5
Max. Flow	(GPM) 252	288	324	360	396	450
	(L/Sec) 15.9	18.2	20.4	22.7	25.0	28.4
Condenser						
Qty of Coils	4	4	4	4	4	4
Coil Length	(In) 156/156	156/156	168/156	168/168	204/168	204/204
Coil Height	(In) 42	42	42	42	42	42
Fins/Ft.	192	192	192	192	192	192
Number of Rows	2	2	2	2	2	2
Condenser Fans						
Quantity (1)	4/4	4/4	5/4	5/5	5/5	5/5
Diameter	(In) 30	30	30	30	30	30
Total Airflow	(CFM) 71750	71750	77640	83530	87505	91480
Nominal RPM	850	850	850	850	850	850
Tip Speed	(Ft/Min) 6675	6675	6675	6675	6675	6675
Motor HP (Ea)	1.0	1.0	1.0	1.0	1.0	1.0
Min Starting/Oper Ambient (2)						
Std Unit	(Deg F) 25	25	25	25	25	25
Low Ambient	(Deg F) -10	-10	-10	-10	-10	-10
General Unit						
Refrigerant	HCFC-22	HCFC-22	HCFC-22	HCFC-22	HCFC-22	HCFC-22
No. of Independent Refrigerant Circuits	2	2	2	2	2	2
% Min. Load (3)	15	15	15	15	15	15
Refrigerant Charge (1)	(Lb) 58/58	61/61	73/61	73/73	98/73	98/98
	(Kg) 26/26	28/28	34/28	34/34	44/34	44/44
Oil Charge (1)	(Gallons) 2.5/2.5	2.5/2.5	3/2.5	3/3	3/3	3/3
	(Liters) 10.6/10.6	10.6/10.6	12.7/10.6	12.7/12.7	12.7/12.7	12.7/12.7

1. Data containing information on two circuits shown as follows: ckt 1/ckt2.

2. Minimum start-up/operating ambient based on a 5 mph wind across the condenser.

3. Percent minimum load is for total machine at 50°F ambient and 44°F LWT, not each individual circuit.

Electrical Data

Table E-1 — Electrical Data (50 & 60 Hz, 3 Phase)

Unit Size	Unit Wiring						Motor Data					
	Rated Voltage (9)	# of Power Connections (1)	MCA (3)	Max. Fuse, HACR Breaker or MOP (2,11)	Rec. Time Delay or RDE (4)	Qty	Compressor (Each)		Qty.	Fans (Each)		Control kW (7, 10)
							RLA (5)	LRA (8)		kW	FLA	
RTAA 70	200/60	1	300	400	350	2	115 - 115	800 - 800	8	1.0	5.1	0.75
	230/60	1	265	350	300	2	100 - 100	690 - 690	8	1.0	5.0	0.75
	380/60	1	163	200	200	2	61 - 61	400 - 400	8	1.0	3.2	0.75
	460/60	1	133	175	150	2	50 - 50	330 - 330	8	1.0	2.5	0.75
	575/60	1	108	125	125	2	40 - 40	270 - 270	8	1.0	2.2	0.75
	380/50	1	140	175	150	2	53 - 53	308 - 308	8	0.7	2.5	0.75
	400/50	1	133	175	150	2	50 - 50	325 - 325	8	0.7	2.5	0.75
415/50	1	128	175	150	2	48 - 48	337 - 337	8	0.7	2.5	0.75	
RTAA 80	200/60	1	361	500	400	2	142 - 142	800 - 800	8	1.0	5.1	0.75
	230/60	1	319	400	350	2	124 - 124	760 - 760	8	1.0	5.0	0.75
	380/60	1	194	250	225	2	75 - 75	465 - 465	8	1.0	3.2	0.75
	460/60	1	160	200	175	2	62 - 62	380 - 380	8	1.0	2.5	0.75
	575/60	1	131	175	150	2	50 - 50	304 - 304	8	1.0	2.2	0.75
	380/50	1	167	200	175	2	65 - 65	356 - 356	8	0.7	2.5	0.75
	400/50	1	160	200	175	2	62 - 62	375 - 375	8	0.7	2.5	0.75
415/50	1	155	200	175	2	60 - 60	389 - 389	8	0.7	2.5	0.75	
RTAA 90	200/60	1	428	600	500	2	192 - 142	990 - 800	9	1.0	5.1	0.75
	230/60	1	378	500	450	2	167 - 124	820 - 760	9	1.0	5.0	0.75
	380/60	1	230	300	300	2	101 - 75	497 - 465	9	1.0	3.2	0.75
	460/60	1	190	250	225	2	84 - 62	410 - 380	9	1.0	2.5	0.75
	575/60	1	154	200	175	2	67 - 50	328 - 304	9	1.0	2.2	0.75
	380/50	1	195	250	225	2	88 - 65	386 - 356	9	0.7	2.5	0.75
	400/50	1	190	250	225	2	84 - 62	402 - 375	9	0.7	2.5	0.75
415/50	1	182	250	225	2	81 - 60	417 - 389	9	0.7	2.5	0.75	
RTAA 100	200/60	1	483	600	600	2	192 - 192	990 - 990	10	1.0	5.1	0.75
	230/60	1	426	500	500	2	167 - 167	820 - 820	10	1.0	5.0	0.75
	380/60	1	259	350	300	2	101 - 101	497 - 497	10	1.0	3.2	0.75
	460/60	1	214	250	250	2	84 - 84	410 - 410	10	1.0	2.5	0.75
	575/60	1	173	225	200	2	67 - 67	328 - 328	10	1.0	2.2	0.75
	380/50	1	223	250	250	2	88 - 88	382 - 382	10	0.7	2.5	0.75
	400/50	1	214	250	250	2	84 - 84	402 - 402	10	0.7	2.5	0.75
415/50	1	208	250	250	2	81 - 81	417 - 417	10	0.7	2.5	0.75	
RTAA 110	200/60	1	535	700	600	2	233 - 192	1190 - 990	10	1.0	5.1	0.75
	230/60	1	471	600	600	2	203 - 167	1044 - 820	10	1.0	5.0	0.75
	380/60	1	287	400	350	2	123 - 101	632 - 497	10	1.0	3.2	0.75
	460/60	1	235	300	300	2	101 - 84	522 - 410	10	1.0	2.5	0.75
	575/60	1	191	250	225	2	81 - 67	420 - 328	10	1.0	2.2	0.75
	380/50	1	245	300	300	2	106 - 88	487 - 382	10	0.7	2.5	0.75
	400/50	1	236	300	300	2	101 - 84	512 - 402	10	0.7	2.5	0.75
415/50	1	228	300	300	2	97 - 81	531 - 417	10	0.7	2.5	0.75	
RTAA 125	200/60	1	576	800	700	2	233 - 233	1190 - 1190	10	1.0	5.1	0.75
	230/60	1	507	700	600	2	203 - 203	1044 - 1044	10	1.0	5.0	0.75
	380/60	1	309	400	350	2	123 - 123	632 - 632	10	1.0	3.2	0.75
	460/60	1	253	350	300	2	101 - 101	522 - 522	10	1.0	2.5	0.75
	575/60	1	205	250	225	2	81 - 81	420 - 420	10	1.0	2.2	0.75
	380/50	1	264	350	300	2	106 - 106	487 - 487	10	0.7	2.5	0.75
	400/50	1	253	350	300	2	101 - 101	512 - 512	10	0.7	2.5	0.75
415/50	1	244	350	300	2	97 - 97	531 - 531	10	0.7	2.5	0.75	

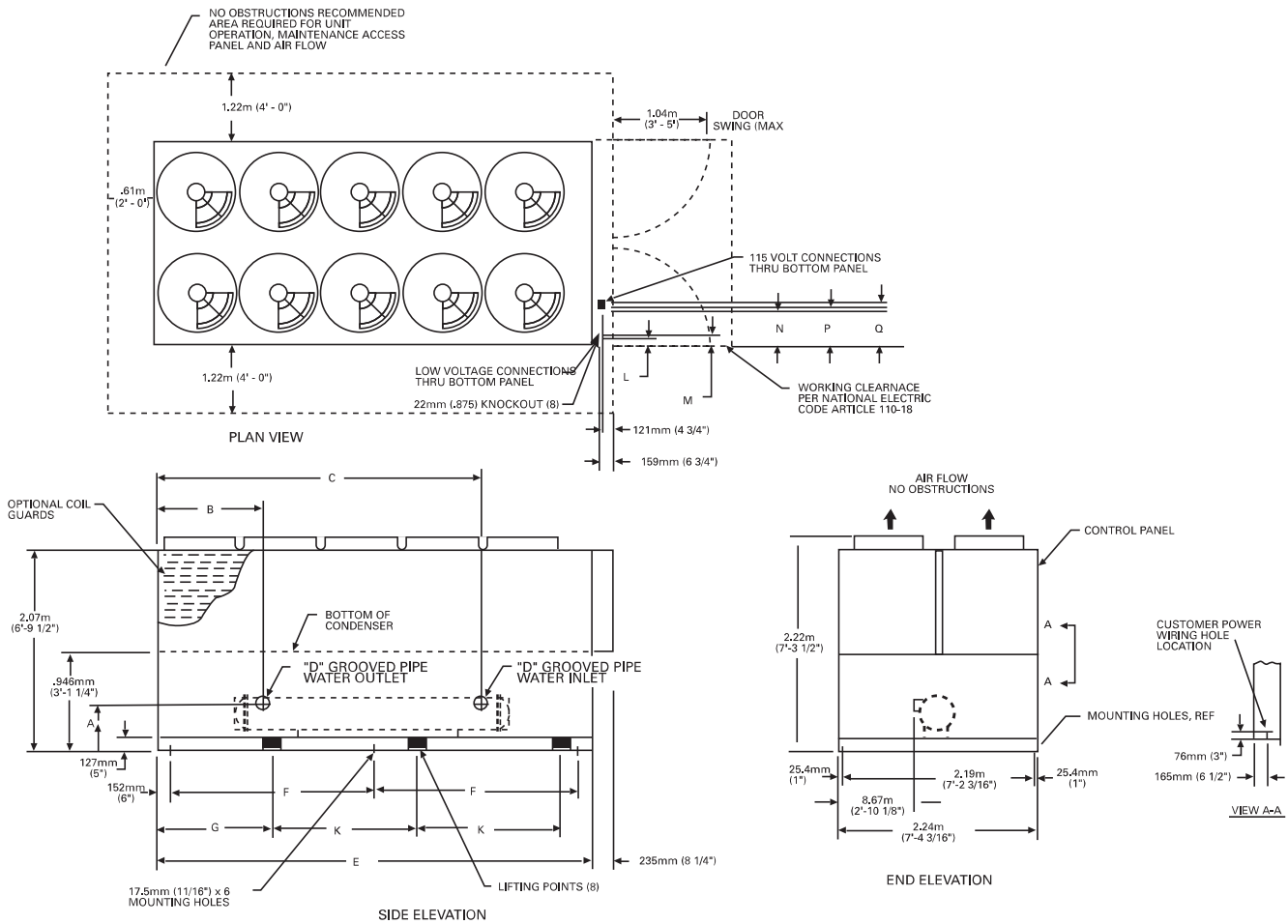
Notes:

- As standard, all 70-215 ton units require a single point power connection.
- Max Fuse or HACR type breaker = 225 percent of the largest compressor RLA plus 100 percent of the second compressor RLA, plus the sum of the condenser fan FLA per NEC 440-22. Use FLA per circuit, NOT FLA for the entire unit).
- MCA - Minimum Circuit Ampacity - 125 percent of largest compressor RLA plus 100 percent of the second compressor RLA plus the sum of the condenser fans FLAs per NEC 440-33.
- RECOMMENDED TIME DELAY OR DUAL ELEMENT (RDE) FUSE SIZE: 150 percent of the largest compressor RLA plus 100 percent of the second compressor RLA and the sum of the condenser fan FLAs.
- RLA - Rated Load Amps - rated in accordance with UL Standard 1995.
- Local codes may take precedence.
- Control kW includes operational controls only. Does not include evaporator heat tape.
- LRA - Locked Rotor Amps - based on full winding (x-line) start units. LRA for wye-delta starters is 1/3 of LRA of x-line units.
- VOLTAGE UTILIZATION RANGE:

Rated Voltage	Utilization Range
200	180-220
230	208-254
380	342-418
460	414-506
575	516-633
- A 115/60/1, 15 amp customer provided power connection is required to operate the unit controls. A separate 115/60/1, 15 amp customer provided power connection is also needed to power the evaporator heat tape (420 watts @ 120 volts). If the optional control power transformer is used, the customer needs only to provide a power connection for the evaporator heat tape.
- If factory circuit breakers are supplied with the chiller, then these values represent Maximum Overcurrent Protection (MOP).

Dimensional Data

Figure D-1 — RTAA 70-125 Unit Dimensions



UNIT SIZE	A	B	C	D	E	F	G	K
70-100	.492m (1'-7 3/8")	1.213m (3'-11 3/4")	2.851m (9'-4 1/4")	102mm (4")	4.940m (16'-2 1/2")	2.317m (7'-7 1/4")	1.549m (5'-1")	1.626m (5'-4")
110-125	.479m (1'-6 7/8")	1.032m (3'-4 5/8")	3.499m (11'-5 3/4")	152mm (6")	5.626m (18'-5 1/2")	2.661m (8'-8 3/4")	1.511m (4'-11 1/2")	1.930m (6'-4")

UNIT SIZE	NO. OF FANS PER UNIT					
	70	80	90	100	110	125
NO. FANS						
STD UNIT	8	8	9	10	10	10

PANEL TYPE	115 VOLT & LOW VOLTAGE CONNECTIONS				
	L	M	N	P	Q
X-LINE CONTROL PANEL	.889m (2'-11")	.927m (3'-0 1/2")	1.206m (3'-11 1/2")	1.245m (4'-1")	1.283m (4'-2 1/2")
WYE DELTA CONTROL PANEL	76mm (3")	114mm (4 1/2")	.39m (1'-3 1/2")	.43m (1'-5")	.47m (1'-8 1/2")

Weights

Table W-1 — Packaged Unit Weights (Aluminum)

Unit Size	Units	Isolator Location						Operating Weight	Shipping Weight
		1	2	3	4	5	6		
RTAA 70	lbs.	1582	1608	1212	1232	842	856	7332	7000
	kg	718	729	550	559	382	388	3326	3175
RTAA 80	lbs.	1587	1613	1218	1237	848	862	7365	7049
	kg	720	732	552	561	385	391	3341	3197
RTAA 90	lbs.	1639	1596	1271	1237	903	879	7525	7234
	kg	743	724	577	561	410	399	3413	3281
RTAA 100	lbs.	1640	1668	1281	1303	922	937	7751	7483
	kg	744	757	581	591	418	425	3516	3394
RTAA 110	lbs.	1933	1885	1480	1443	1027	1001	8769	8326
	kg	877	855	671	655	466	454	3978	3777
RTAA 125	lbs.	1871	1902	1445	1469	1019	1036	8742	8360
	kg	849	863	655	666	462	470	3965	3792

Table W-2 — Packaged Unit Weights (Copper)

Unit Size	Units	Isolator Location						Operating Weight	Shipping Weight
		1	2	3	4	5	6		
RTAA 70	lbs.	1693	1719	1323	1343	953	966	7997	7665
	kg	768	780	600	609	432	438	3627	3477
RTAA 80	lbs.	1698	1724	1329	1348	959	972	8030	7714
	kg	770	782	603	611	435	441	3642	3499
RTAA 90	lbs.	1754	1711	1386	1352	1018	993	8214	7923
	kg	796	776	629	613	462	450	3726	3594
RTAA 100	lbs.	1759	1787	1400	1422	1041	1056	8465	8197
	kg	798	811	635	645	472	479	3840	3718
RTAA 110	lbs.	2065	2017	1612	1575	1159	1133	9561	9118
	kg	937	915	731	714	526	514	4337	4136
RTAA 125	lbs.	2016	2047	1590	1614	1164	1181	9612	9230
	kg	914	928	721	732	528	536	4360	4187

