



Model #: RTAA1104XN01A300  
Serial #: U03F01043

L: 19' 2"  
W: 6' 10"  
H: 7' 4"

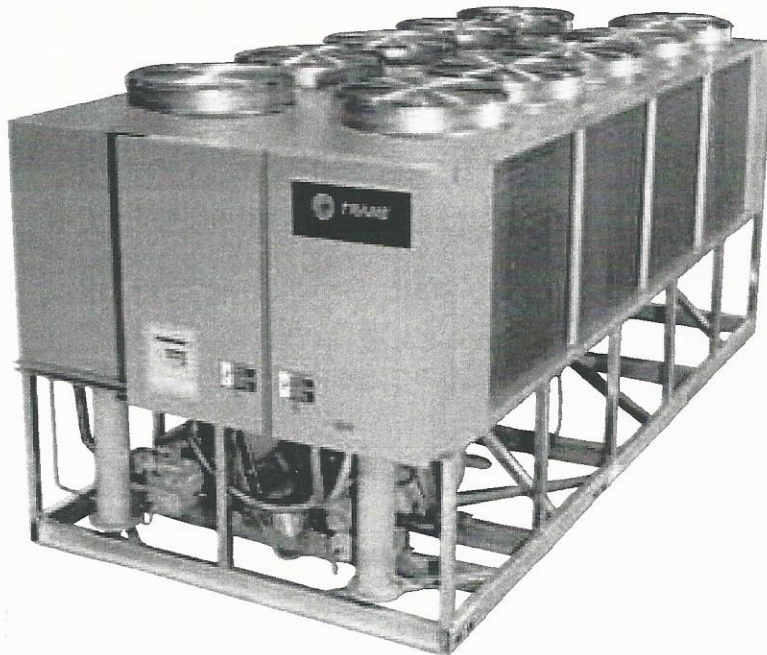
Shipping Weight: 7,706  
Operating Weight: 8,772

# Air-Cooled Series R™ Rotary Liquid Chiller

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Model RTAA  
70 to 125 Tons

*Built for Industrial and Commercial Markets*



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November 2006

RLC-PRC016-EN



# Model Number Description

## 70-125 Tons

### Model Nomenclature Digit Number

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

RTAA1104XN01A3D0

### 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

K = 400/50/3

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 = CompleteCoat

4 = Copper

#### Digit 14 — Agency Listing

0 = No Agency Listing

3 = C/UL Listing

4 = China Pressure Vessel Code

5 = China Pressure Vessel Code  
& C/UL Listing

#### Digit 15 — Control Interface

C = Deluxe without Communication

D = Deluxe with Communication

L = LonTalk (LCI-C)

#### 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)

0 = Size C2 HP Pump Package

1 = Size D3 HP Pump Package

2 = Size D5 HP Pump Package

3 = Size E2 HP Pump Package

4 = Size E3 HP Pump Package

5 = Size F5 HP Pump Package

6 = Size F7 HP Pump Package

7 = Size G3 HP Pump Package

8 = Size G5 HP Pump Package

#### Field Installed Options

N = Elastomeric Isolators

R = Remote Display Panel

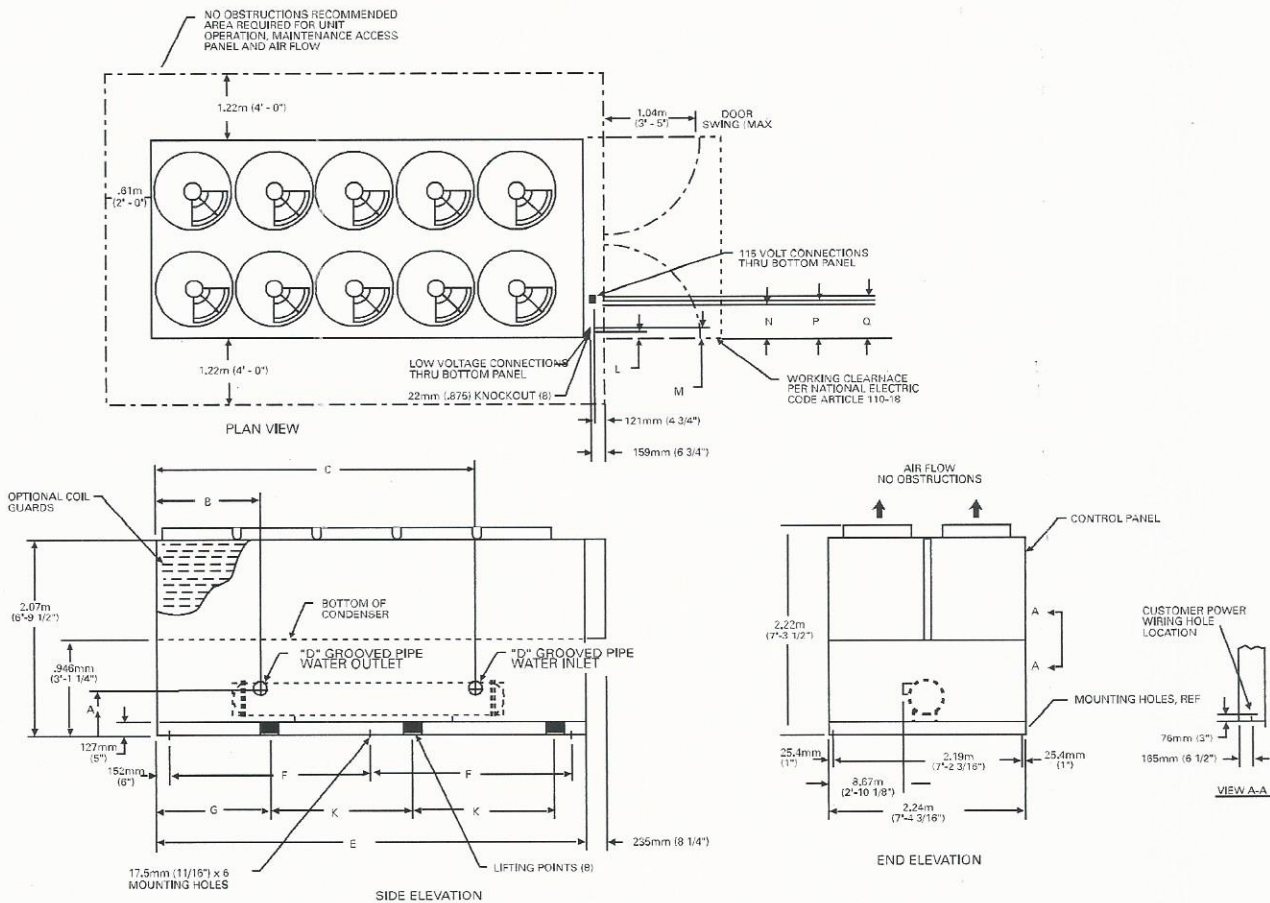
J = Remote Evaporator

H = Sound Attenuator

# Dimensional Data

# Packaged Unit

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
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

# Packaged Unit

**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.	1622	1636	1215	1229	808	822	7332	6507
	kg	737	744	552	559	367	374	3333	2952
RTAA 80	lbs.	1624	1638	1220	1235	817	831	7364	6556
	kg	738	745	555	561	371	378	3347	2974
RTAA 90	lbs.	1667	1623	1275	1232	884	840	7521	6741
	kg	758	738	580	560	402	382	3419	3058
RTAA 100	lbs.	1672	1687	1284	1299	897	912	7751	6990
	kg	760	767	584	591	408	414	3523	3171
RTAA 110	lbs.	2033	1755	1622	1344	1211	933	8772	7706
	kg	924	798	737	611	550	424	3987	3495
RTAA 125	lbs.	2043	1759	1635	1351	1227	943	8742	7740
	kg	929	800	743	614	558	429	3974	3511

Notes:

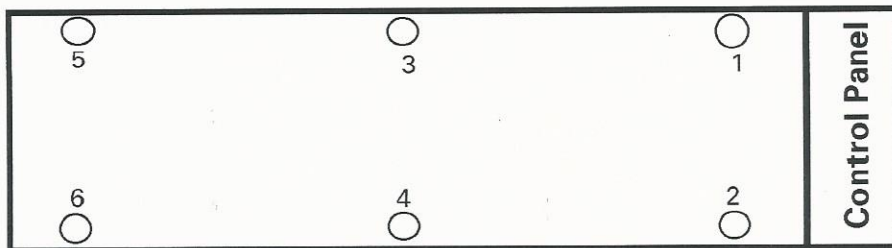
1. Operating weight includes the weight of accessory panels and water.
2. Shipping weight does not include the weight of accessory panels or water.

**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.	1769	1784	1325	1341	881	897	7997	7172
	kg	804	811	602	609	401	408	3335	3253
RTAA 80	lbs.	1770	1786	1331	1346	891	906	8029	7221
	kg	805	832	605	612	405	412	3650	3275
RTAA 90	lbs.	1819	1772	1392	1345	965	917	8210	7430
	kg	827	805	633	611	438	417	3732	3370
RTAA 100	lbs.	1826	1842	1403	1419	979	996	8465	7704
	kg	830	837	638	645	445	453	3848	3495
RTAA 110	lbs.	2161	2106	1622	1566	1082	1027	9564	8498
	kg	982	957	737	712	492	467	4347	3855
RTAA 125	lbs.	2109	2127	1593	1611	1077	1095	9612	8610
	kg	959	967	724	732	489	498	4369	3905

Notes:

1. Operating weight includes the weight of accessory panels and water.
2. Shipping weight does not include the weight of accessory panels or water.



# General Data

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

Size		70	80	90	100	110	125
<b>Compressor</b>							
Quantity		2	2	2	2	2	2
Nominal Size (1)	(Tons)	35/35	40/40	50/40	50/50	60/50	60/60
<b>Evaporator</b>							
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
<b>Condenser</b>							
Qty of Coils		4	4	4	4	4	4
Coil Length	(In)	156/156	156/156	168/156	168/168	204/168	204/204
	(mm)	3962/3962	3962/3962	4267/3962	4267/4267	5182/4267	5182/5182
Coil Height	(In)	42	42	42	42	42	42
	(mm)	1067	1067	1067	1067	1067	1067
Fins/Ft.		192	192	192	192	192	192
Number of Rows		2	2	2	2	2	2
<b>Condenser Fans (60 Hz)</b>							
Quantity (1)		4/4	4/4	5/4	5/5	5/5	5/5
Diameter	(In)	30	30	30	30	30	30
	(mm)	762	762	762	762	762	762
Total Airflow	(CFM)	71750	71750	77640	83530	87505	91480
Nominal RPM	60 Hz	1140	1140	1140	1140	1140	1140
Tip Speed	(Ft/Min)	8954	8954	8954	8954	8954	8954
Motor HP (Ea)		1.25	1.25	1.25	1.25	1.25	1.25
<b>Condenser Fans (50 Hz)</b>							
Quantity (1)		4/4	4/4	5/4	5/5	5/5	5/5
Diameter	(In)	30	30	30	30	30	30
	(mm)	762	762	762	762	762	762
Total Airflow	(CFM)	59172	59200	63963	68724	72104	75492
Nominal RPM	50 Hz	970	970	970	970	970	970
Tip Speed	(Ft/Min)	7618	7618	7618	7618	7618	7618
Motor HP (Ea)		1.25	1.25	1.25	1.25	1.25	1.25
<b>Min Starting/Oper Ambient (2)</b>							
Std Unit	(Deg F)	25	25	25	25	25	25
	(Deg C)	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9
Low Ambient	(Deg F)	-10	-10	-10	-10	-10	-10
	(Deg C)	-23.3	-23.3	-23.3	-23.3	-23.3	-23.3
<b>General Unit</b>							
Refrigerant		HCFC-22	HCFC-22	HCFC-22	HCFC-22	HCFC-22	HCFC-22
No. of Independent Refrigerant Circuits		2	2	2	2	2	2
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: dkt 1/dkt2.

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

**Table G-2 — General Data Pump Package**

Pump Package Size		C2	D3	D5	E2	E3	F5	F7	G3	G5
<b>Pump</b>										
Quantity		2	2	2	2	2	2	2	2	2
Motor HP	(each)	2	3	5	2	3	5	7.5	3	5
<b>Water Storage</b>										
4" connection	(Gallons)	13.64	13.54	16.18	16.25	16.25	23.54	23.54	23.62	23.62
	(Liters)	51.63	51.25	61.25	61.51	61.51	89.11	89.11	89.41	89.41
6" connection	(Gallons)	--	16.8	19.41	--	19.59	26.09	26.09	26.56	26.56
	(Liters)	--	64.28	73.47	--	74.16	98.76	98.76	100.54	100.54

1. Information given for 460/60/3 units only.