



Model Number Description

Unit Model Number

4 8 12 16 20 24 28 32 36 40 43
RTAF 200E UADH XUA2 N21X 2NXN CCV1 CAXS XXXA XXXX XX0

Digit 1, 2 – Unit Model

RT = Rotary Chiller

Digit 3 – Unit Type

A = Air-cooled

Digit 4 – Development Sequence

F = Development Sequence

Digit 5, 6, 7 – Nominal Capacity

115 = 115 Nominal Tons
130 = 130 Nominal Tons
150 = 150 Nominal Tons
170 = 170 Nominal Tons
180 = 180 Nominal Tons
200 = 200 Nominal Tons
215 = 215 Nominal Tons
230 = 230 Nominal Tons
250 = 250 Nominal Tons
270 = 270 Nominal Tons
280 = 280 Nominal Tons
310 = 310 Nominal Tons
350 = 350 Nominal Tons
390 = 390 Nominal Tons
410 = 410 Nominal Tons
450 = 450 Nominal Tons
500 = 500 Nominal Tons
520 = 520 Nominal Tons

Digit 8 – Voltage Selection

C = 380/60/3
D = 400/50/3
E = 460/60/3

Digit 9 – Manufacturing Location

U = Trane Commercial Systems, Pueblo, CO USA

Digits 10, 11 – Design Sequence

** = Factory assigned

Digit 12 – Unit Efficiency

H = High Efficiency
N = Standard Efficiency

Digit 13 – Unit Sound Package

X = Standard Noise

Digit 14 – Agency Listing

U = UL/cUL Listing

Digit 15 – Pressure Vessel Code

A = ASME Pressure Vessel Code
C = CRN or Canadian Equivalent Pressure Vessel Code
D = Australia Pressure Vessel Code

Digit 16 – Factory Charge

1 = Refrigerant Charge R-513A
2 = Refrigerant Charge R-134a
3 = Nitrogen Charge (R-513A Field Supplied)
4 = Nitrogen Charge (R-134a Field Supplied)

Digit 17 – Evaporator Application

N = Standard Cooling (above 40°F/5.5°C)
P = Low Temp Process Cooling (below 40°F/5.5°C)
C = Ice Making

Digit 18 – Evaporator Configuration

1 = 1-pass Evaporator
2 = 2-pass Evaporator
R = 1-pass Evaporator with Turbulators
T = 2-pass Evaporator with Turbulators

Digit 19 – Evaporator Fluid Type

1 = Water
2 = Calcium Chloride
3 = Ethylene Glycol
4 = Propylene Glycol
5 = Methanol

Digit 20 – Water Connection

X = Grooved Pipe Connection
W = Grooved Pipe + Flange

Digit 21 – Flow Switch

1 = Factory Installed - Other Fluid (15 cm/s)
2 = Factory Installed - Water (35 cm/s)
3 = Factory Installed - Water (45 cm/s)

Digit 22 – Insulation

N = Factory Insulation – All Cold Parts 0.75"
H = Evaporator-only Insulation for High Humidity/Low Evap Temp
Note: Digit 22 selection H is special order only.

Digit 23 – Unit Application

X = Standard Ambient (14 to 115°F/-10 to 46°C)
L = Low Ambient (-4 to 115°F/-20 to 46°C)
H = High Ambient (14 to 130°F/-10 to 54.4°C)
W = Wide Ambient (-4 to 130°F/-20 to 54.4°C)

Digit 24 – Condenser Fin Options

N = Aluminum Microchannel
C = CompleteCoat™ Microchannel

Digit 25 – Fan Type

C = Variable Speed Fans

Digit 26 – Auxiliary Items

C = Oil Cooler

Digit 27 – Compressor Starter

V = Adaptive Frequency™ Drive

Digit 28 – Incoming Power Line Connection

1 = Single Point Unit Power Connection
2 = Dual Point Unit Power Connection

Digit 29 – Power Line Connection Type

Units with model number digit 28 = 2 OR Units with 2 compressors and model number digit 28 = 1:

X = Terminal Block
C = Circuit Breaker
H = Circuit Breaker with High Fault Rated Control Panel

Unit with 3 or 4 compressors and model number digit 28 = 1:

X = Terminal Block with Individual System Circuit Breaker
C = Circuit Breaker with Individual System Circuit Breaker
H = High Fault Circuit Breaker with Individual System Circuit Breaker in High Fault Rated Control Panel

Digit 30 – Short Circuit Current Rating

A = Default Short Circuit Rating
B = High Fault Short Circuit Rating

Digit 31 – Electrical Accessories

X = No Convenience Outlet
P = 15A 115V Convenience Outlet



Model Number Description

Digit 32 — Remote Communication Option

X = None

B = BACnet® Interface
M = Modbus™ Interface
L = LonTalk® Interface

Digit 33 — Hard Wire Communication

X = None

A = Hard Wired Bundle - All
B = Remote Leaving Water Temp Setpoint
C = Remote Leaving Temp and Demand Limit Setpoints
D = Programmable Relay
E = Programmable Relay and Leaving Water and Demand Limit Setpoint
F = Percent Capacity
G = Percent Capacity and Leaving Water and Demand Limit Setpoint
H = Percent Capacity and Programmable Relay

Digit 34 — Energy Meter

X = None

Digit 35 — Smart Flow Control

X = None

Digit 36 — Structural Options

A = Standard Unit Structure
D = Wind Load for Florida Hurricane

Digit 37 — Appearance Options

X = No Appearance Options
A = Architectural Louvered Panels

Digit 38 — Unit Isolation

X = None

1 = Elastomeric Isolators

Digit 39 — Shipping Package

X = No Shipping Package

A = Containerization Package
T = Shipped with Tarp Covering Full Unit

Digit 40, 41

XX = Reserved for future use

Digit 42 — Free-Cooling

X = None

F = Total Free-Cooling — Glycol

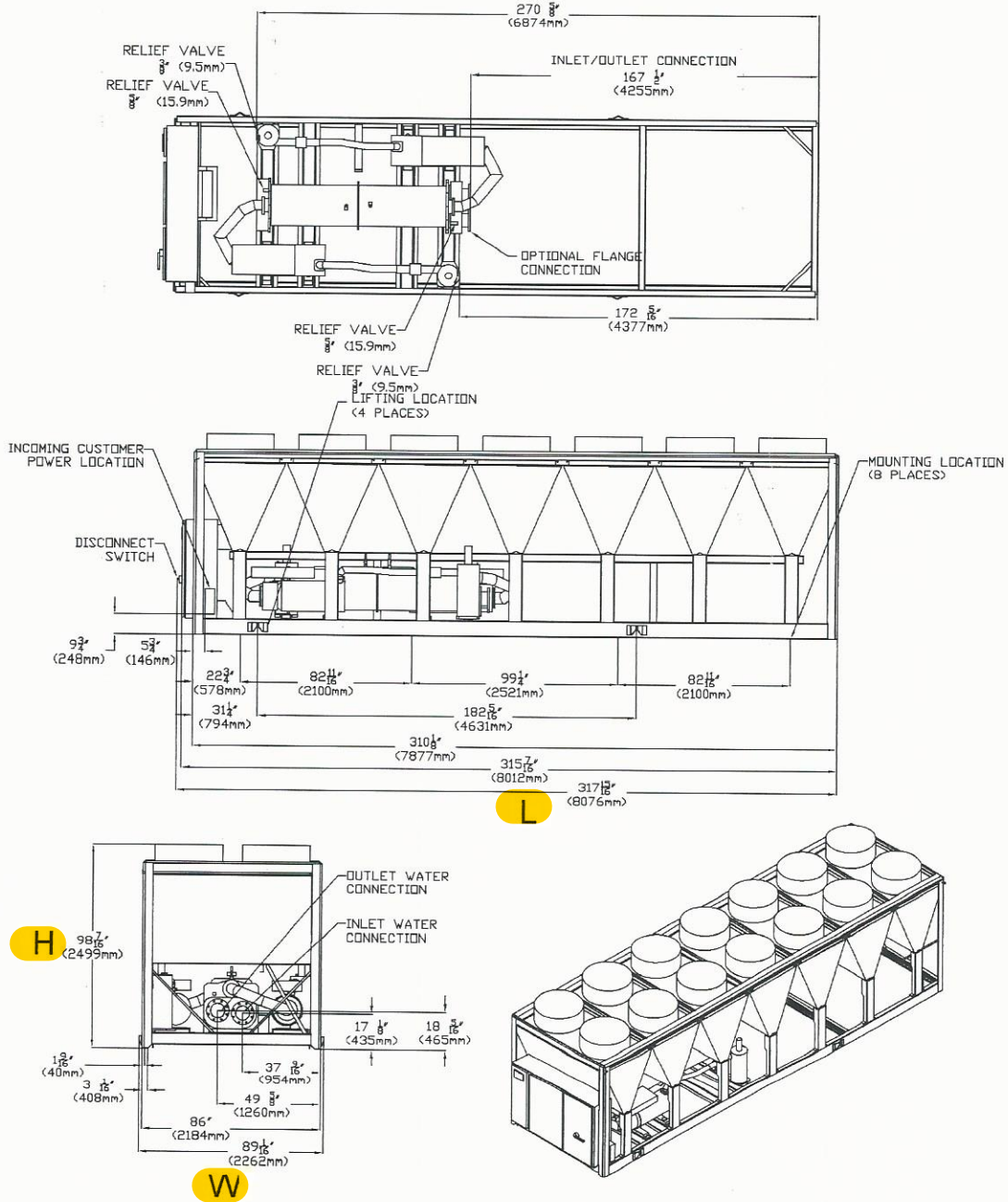
Digit 43 — Special Requirement

0 = None

F = Ship to Final Finisher
S = Special Requirement

Figure 16. RTAF unit dimensions – 200, 215 ton

Inlet/Outlet Water Connection: 6" (150mm)/6" (150mm)





Weights

Base Weights

Note: See Option Weights table for additional weight added by optional features.

Table 9. Weights – base units

Unit Size (tons)	Without Free-Cooling Option ^(a)				With Free-Cooling Option ^(b)			
	Shipping Weights		Operating Weights		Shipping Weights		Operating Weights	
	lb	kg	lb	kg	lb	kg	lb	kg
115	7974	3617	8091	3670	9284	4211	9893	4487
130	8071	3661	8203	3721	9381	4255	10005	4538
150	9467	4294	9628	4367	11074	5023	11861	5380
170	9497	4308	9669	4386	11105	5037	11902	5399
180	9821	4455	10002	4537	11429	5184	12235	5550
200	10829	4912	11012	4995	12713	5767	13642	6188
215	11155	5060	11355	5151	13039	5915	13986	6344
230	12549	5692	12829	5819	14457	6558	15483	7023
250	12962	5880	13242	6007	14870	6745	15897	7211
270	12962	5880	13242	6007	n/a			
280	16705	7578	16838	7638	19509	8849	21313	9668
310	17228	7815	17367	7878	20294	9205	22192	10066
350	18177	8245	18375	8335	21243	9636	23201	10524
390	18177	8245	18375	8335	n/a			
410	21199	9616	21411	9712	24496	11111	26758	12137
450	23569	10691	23794	10793	27283	12375	29850	13540
500	23669	10736	23907	10844	27382	12420	29963	13591
520	23669	10736	23907	10844	n/a			

^(a) Model number digit 42 = X.

^(b) Model number digit 42 = F.

Option Weights

Note: Weights below for each listed option are in addition to base weights shown in table above.

Table 10. Weights – options

Unit Size (tons)	Wind Load Option ^(a)		Louver Option ^(b)		Single Point Power Option ^(c)	
	lb	kg	lb	kg	lb	kg
115	394	179	428	194	—	—
130	394	179	428	194	—	—
150	394	179	489	222	—	—
170	410	186	489	222	—	—
180	410	186	489	222	—	—
200	410	186	550	249	—	—
215	426	193	550	249	—	—



General Data

Table 1. General data table – 115 to 215 ton units

Unit Size (tons)		115	130	150	170	180	200	215
Compressor Model (ckt1/ckt 2) ^(a)		55/55	65/65	70/70	85/70	85/85	100/85	100/100
Quantity	#	2	2	2	2	2	2	2
Evaporator								
Water Connection Size	in	4	4	5	5	5	6	6
Passes	#	2	2	2	2	2	2	2
Water Storage	gal	14.0	15.8	19.3	20.6	21.6	21.9	23.9
	L	53.1	59.9	73.2	78.0	81.9	82.8	90.5
Minimum Flow	gpm	128	150	171	187	199	202	228
	l/s	8.1	9.5	10.8	11.8	12.6	12.8	14.4
Maximum Flow	gpm	470	551	626	684	731	742	835
	l/s	29.7	34.8	39.5	43.2	46.1	46.8	52.7
Condenser								
Qty of Coils (ckt 1/ckt 2)		5/5	5/5	6/6	6/6	6/6	7/7	7/7
Coil Length	in	77.4	77.4	77.4	77.4	77.4	77.4	77.4
	mm	1967	1967	1967	1967	1967	1967	1967
Coil Height	in	47.8	47.8	47.8	47.8	47.8	47.8	47.8
	mm	1214	1214	1214	1214	1214	1214	1214
Free-Cooling Coils								
Qty of Coils (ckt 1/ckt 2)		5/4	5/4	6/5	6/5	6/5	7/6	7/6
Coil Length	in	75.8	75.8	75.8	75.8	75.8	75.8	75.8
	mm	1925	1925	1925	1925	1925	1925	1925
Coil Height	in	37.0	37.0	37.0	37.0	37.0	37.0	37.0
	mm	941	941	941	941	941	941	941
Condenser Fans								
Quantity (ckt 1/ckt 2)		#	5/5	5/5	6/6	6/6	6/6	7/7
Diameter	in	31.5	31.5	31.5	31.5	31.5	31.5	31.5
	mm	800	800	800	800	800	800	800
Nominal speed	rpm	810	810	810	810	810	909	909
Airflow	cfm	9760	9760	9760	9760	9760	11,000	11,000
Airflow with Free-Cooling Coil	cfm	8338	8338	8338	8338	8338	9567	9567
	m ³ /s	4.6	4.6	4.6	4.6	4.6	5.2	5.2
Tip Speed	ft/min	6673	6673	6673	6673	6673	7500	7500
	m/s	33.9	33.9	33.9	33.9	33.9	38.1	38.1
Ambient Temperature Range								
Standard Ambient	°F (°C)	14 to 115 (-10 to 46)						
Low Ambient	°F (°C)	-4 to 115 (-20 to 46)						
High Ambient	°F (°C)	14 to 130 (-10 to 54.4)						

Table 1. General data table – 115 to 215 ton units (continued)

Unit Size (tons)		115	130	150	170	180	200	215
Wide Ambient	°F (°C)	-4 to 130 (-20 to 54.4)						
General Unit								
Refrigerant		R-134a or R-513A						
Refrigerant Ckts	#	2	2	2	2	2	2	2
Minimum Load	%	15	15	15	15	15	15	15
Refrigerant Charge (ckt 1/ckt 2)	lb	86.4/84.9	86.6/84.9	101.4/99.0	111.1/99.0	109.0/96.3	134.3/129.4	134.7/129.8
	kg	39.2/38.5	39.3/38.5	46.0/44.9	50.4/44.9	49.5/43.7	60.9/58.7	61.1/59.0
Oil		Trane OIL00315 (1 gal)/OIL00317 (5 gal)						
Oil Charge/ckt	gal	1.53	1.56	1.56	1.56	1.64	1.96	2.01
	L	5.8	5.9	5.9	5.9	6.2	7.4	7.6

(a) Nominal tonnage at 60 Hz.

Table 2. General data table – 230 to 520 ton units

Unit Size (tons)		230	250/270	280	310	350/390	410	450	500/520
Compressor Model (ckt 1/ckt 2)^(a)		120/100	120/120	100-100/70	100-100/100	100-120/120	100-100/100-100	100-120/100-120	120-120/120-120
Quantity	#	2	2	3	3	3	4	4	4
Evaporator									
Water Connection Size	in	6	6	8	8	8	8	8	8
Passes	#	2	2	1	1	1	1	1	1
Water Storage	gal	28.5	30.6	31.2	32.6	35.8	41.8	44.8	46.1
	L	107.7	115.9	118.1	123.3	135.4	158.1	169.5	174.7
Minimum Flow	gpm	261	288	304	323	367	446	487	506
	l/s	16.5	18.2	19.2	20.4	23.1	28.1	30.7	31.9
Maximum Flow	gpm	957	1055	1113	1183	1345	1635	1786	1855
	l/s	60.4	66.6	70.2	74.6	84.9	103.2	112.7	117.1
Condenser									
Qty of Coils (ckt 1/ckt 2)		7/7	7/7	12/6	14/6	14/6	12/12	14/14	14/14
Coil Length	in	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4
	mm	1967	1967	1967	1967	1967	1967	1967	1967
Coil Height	in	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8
	mm	1214	1214	1214	1214	1214	1214	1214	1214
Free-Cooling Coils^(b)									
Qty of Coils (ckt 1/ckt 2)		7/6	7/6	11/5	13/5	13/5	11/11	13/13	13/13
Coil Length	in	75.8	75.8	75.8	75.8	75.8	75.8	75.8	75.8
	mm	1925	1925	1925	1925	1925	1925	1925	1925
Coil Height	in	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0
	mm	941	941	941	941	941	941	941	941