



# LARGE COMMERCIAL

## Split System 23-55 Tons

*Large Commercial  
Split System 23-55 Tons  
RAUP/TTV Series 50 Hz*



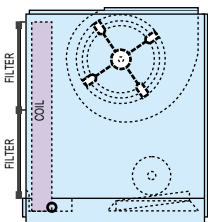


## System Performance Matrix

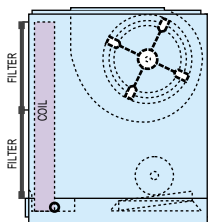
Model		Evaporator cfm	Total Capacity MBH	Sensible Capacity MBH
Outdoor	Indoor			
RAUP 250	TTV250	6600	270	184
		7760	278	197
		8900	285	209
RAUP 300	TTV250	6600	308	199
		7760	318	213
		8900	326	226
RAUP 300	TTV300	7900	323	222
		9240	333	237
		10600	341	251
RAUP 400	TTV300	7900	376	243
		9240	388	260
		10600	398	276
RAUP 400	TTV400	10300	408	283
		12120	421	303
		13900	432	321
RAUP 500	TTV400	10300	489	316
		12120	504	338
		13900	517	358
RAUP 500	TTV500	12900	525	369
		15130	541	395
		17400	555	419
RAUP 600	TTV500	12900	603	401
		15130	622	429
		17400	638	455
RAUP 600	TTV600	15400	638	461
		18080	658	493
		20800	674	523

Notes : Matching capacities based on ambient temperature of 95 F and 80/67 F air dry bulb/ wet bulb entering the air handler coil.

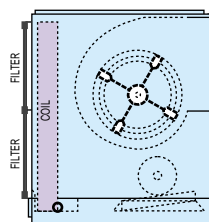
## Fan Arrangement



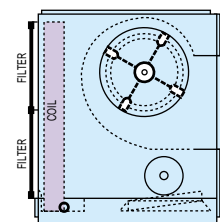
Arrangement 1  
(standard for TTV250-300)



Arrangement 2  
(standard for TTV 400-600)



Arrangement 3  
(optional)



Arrangement 4  
(optional)



## General Data - Condensing Units

UNIT MODELS		RAUP 250	RAUP 300	RAUP 400	RAUP 500	RAUP 600
<b>POWER CONNECTION</b>		V/ph/Hz		380-415/3/50		
MCA <sup>1</sup>	A	53.6	57.5	91.1	101.4	109
Unit Capacity Steps (%)		100-50	100-50	100-75-50-25	100-75-50-25	100-75-50-25
<b>SYSTEM DATA</b>						
Refrigerant Type		R22	R22	R22	R22	R22
No. Refrigerant Circuits		1	1	2	2	2
Refrigerant Connection Type		Sweat	Sweat	Sweat	Sweat	Sweat
Refrigerant Charge approximate per circuit		44 (20)	60.6 (27.5)	43 (19.5)	44 (20)	60.6 (27.5)
Suction Line OD	lb (kg)	2-1/8	2-1/8	1-5/8	2-1/8	2-1/8
Liquid line OD	in (mm)	7/8	7/8	7/8	7/8	7/8
<b>COMPRESSOR</b>						
Compressor Type		Scroll	Scroll	Scroll	Scroll	Scroll
No. Used		2	2	4	4	4
Model		13T-13T	15T+15T	2x(10T+10T)	2x(13T+13T)	2x(15T+15T)
Speed Number		1	1	1	1	1
V/ph/Hz		22.9/135		380-415/3/50		24.2/175
RLA/LRA (each) <sup>2</sup>		A	24.2/175	20.7/130	22.9/135	24.2/175
Motor RPM		2900	2900	2900	2900	2900
<b>COIL</b>						
No. Used		1	1	2	2	2
Face Area		31.06 (2.88)	35.00 (3.25)	45.36 (4.21)	57.19 (5.31)	66.66 (6.21)
Tube Size OD		3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
Rows		3	3	3	3	3
Fins per inch		12	12	12	12	12
<b>FAN</b>						
Fan Type		Propeller	Propeller	Propeller	Propeller	Propeller
No. used		2	3	3	4	6
Diameter		(28) 710	(28) 710	(28) 710	(28) 710	(28) 710
No. of Blade		4	4	4	4	4
Drive Type		Direct	Direct	Direct	Direct	Direct
Nominal Airflow <sup>3</sup>		11,500 (19,539)	15,000 (25,485)	17,100 (29,053)	22,280 (37,853)	29,400 (49,950)
<b>MOTOR</b>						
No. of Motor		2	3	3	4	6
Motor hp (each)		0.4 (0.3)	0.4 (0.3)	0.4 (0.3)	0.4 (0.3)	0.4 (0.3)
No. of Speed		1	1	1	1	1
Motor Speed		875	875	875	875	875
V/ph/Hz		22.9/135		380-415/3/50		24.2/175
RLA/LRA (each)		1.03/2.80	1.03/2.80	1.03/2.80	1.03/2.80	1.03/2.80
<b>DIMENSION (HxWxD)</b>						
Crated (Shipping)		65x98x54	65x124x54	63x110x82	75x110x82	67x124x82
Uncrated (Net)		1,642x2,489x1,372	1,642x3,150x1,372	1,591x2,794x2,083	1,895x2,794x2,083	1,692x3,150x2,083
		58x88x48	58x115x48	56x99x76	68x99x76	60x115x76
		1,465x2,229x1,206	1,465x2,910x1,206	1,414x2,513x1,920	1,718x2,513x1,920	1,515x2,910x1,920
<b>WEIGHT</b>						
Crated (Shipping)		1,336 (606)	1,676 (760)	2,284 (1,036)	2,659 (1,206)	2,745 (1,245)
Uncrated (Net)		1,292 (586)	1,631 (740)	2,207 (1,001)	2,582 (1,171)	2,668 (1,210)

<sup>1</sup> MCA - Minimum Circuit Ampacity is 125% of the largest compressor RLA plus 100% of the other compressor RLA plus the sum of the motor RLA.

<sup>2</sup> At 7 deg C SST and 35 deg C Ambient, Subcooling 8.3 K, Superheat 11.1 K.

<sup>3</sup> Nominal Airflow is rated with standard air-dry coil.

## General Data - Air Handler Unit

UNIT MODELS		TTV 250	TTV 300	TTV 400	TTV 500	TTV 600	
<b>POWER CONNECTION</b>		V/ph/Hz		380-415/3/50			
MCA <sup>1</sup>	A	9.4	14.6	14.6	18.2	26.6	
<b>SYSTEM DATA</b>							
Refrigerant Type		R22	R22	R22	R22	R22	
No. Refrigerant Circuits		2	2	2	2	2	
Refrigerant Connection Type		Brazed	Brazed	Brazed	Brazed	Brazed	
Suction Line OD	in (mm)	2-1/8 (53.98)	1-5/8 (41.28)	2-1/8 (53.98)	2-1/8 (53.98)	2-1/8 (53.98)	
Liquid Line OD	in (mm)	5/8 (15.88)	7/8 (22.23)	1-1/8 (28.58)	1-1/8 (28.58)	1-1/8 (28.58)	
<b>COIL</b>							
Face Area		16.7 (1.55)	19.2 (1.78)	25.6 (2.38)	34.8 (3.24)	38.0 (3.53)	
Tube Size OD		3/8 (9.53)	3/8 (9.53)	3/8 (9.53)	1/2 (12.7)	1/2 (12.7)	
Rows		3	3	3	4	4	
Fins per inch		12	12	12	12	12	
Refrigerant Flow Control		Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	
Drain Connection Size		1-1/4 (31.8)	1-1/4 (31.8)	1-1/4 (31.8)	1-1/4 (31.8)	1-1/4 (31.8)	
<b>FAN</b>							
Fan Type		Centrifugal FC	Centrifugal FC	Centrifugal FC	Centrifugal FC	Centrifugal FC	
No. used		1	1	2	2	2	
Diameter		15.7 (400)	15.7 (400)	15.4 (390)	17.7 (450)	17.7 (450)	
Width		12.6 (320)	12.6 (320)	15.4 (390)	14.2 (360)	14.2 (360)	
Fixed Drive Type		Belt and Pulley	Belt and Pulley	Belt and Pulley	Belt and Pulley	Belt and Pulley	
Fan Speed - Std. (Factory set)		828	870	923	725	780	
Airflow <sup>2</sup>		7,760 (13,180)		12,120 (20,590)		15,130 (25,700)	
- Nominal		9,240 (15,700)		12,120 (20,590)		18,080 (30,720)	
<b>MOTOR</b>							
Motor Type		TEFC		TEFC		TEFC	
No. of Motor		1		1		1	
Motor hp - Std.		5 (3.7)		7.5 (5.5)		10 (7.5)	
Hi Static		7.5 (5.5) / 10 (7.5)		10 (7.5) / 15 (11)		15 (11) / 20 (15)	
No. of Speed		1		1		1	
V/ph/Hz		22.9/135		380-415/3/50		24.2/175	
RLA/LRA		7.5/53.5		11.64/93		14.53/116	
21.25/168							
<b>FILTER</b>							
Type		Washable		Washable		Washable	
No. used		8		9		12	
Size (WxLxD) - Std.		16x20x1		4-5x20x1		2-16x20x1	
				2-16x20x1		6-16x25x1	
				1-16x25x1		1-20x25x1	
				2-15x25x1		3-25x25x1	
<b>DIMENSION (HxWxD)</b>							
Uncrated (Net)		1,219x1,808x1,040		1,372x1,808x1,040		1,520x2,088x1,040	
		1,653x2,596x1,275		1,777x2,596x1,275			
<b>WEIGHT</b>							
Uncrated (Net)		353 (778)		421 (928)		487 (1,073)	
		685 (1,510)		749 (1,651)			

<sup>1</sup> MCA - Minimum Circuit Ampacity ; calculated as follow : 125% of heater R.L Amps plus the fan motor R.L Amps.

<sup>2</sup> CFM is rated with standard air-dry coil.

# Features Summary

## Features



- Micro Controller with labeled and numbered wiring.



- Robust Casing

## Benefits

- High compressor EERs.,
- Less vibration and a quieter operation
- Durability / Extended Life: Built in dirt separator to prevent dirt reaching the bearings. High volume oil sump prevents excessive oil loss.
- Compressor Protection: Internal motor temperature sensor. Current overloads. External high and low pressure switches.
- Tandem Capability: Achieves high part load efficiencies and additional part load control.
- Sight glass & oil charging valves
- 3 Wire DOL Starter, minimizing field installation.

- New PCB with 7-segment display is more user friendly and helpful to easily understand the code.
- Troubleshooting status display helps reduce service time.
- Higher reliability than traditional hard wired systems.

- Corrosion resistant coated coils as an option.
- Weather resistant baked matt polyester powder painted GI panels.
- Heavy gauge welded steel base with mounting holes.
- Aluminium Blade propeller fans.
- Fully Factory leak and pressure tested.

## Product Specification

### Condensing Units - RAUP Model

#### Standard Features

- Hermetic Scroll compressor.
- Microprocessor Controller with trouble shooting.
- Factory leak and pressure tested at 400 psig.
- Unit panels constructed of 0.9 mm. galvanized steel.
- Exterior panels are cleaned and then chemically treated and finished with a weather-resistant baked polyester powder paint.
- Heavy gauge steel mounting/lifting rails under base.
- Direct-drive, vertical discharge.
- 3-phase motors with permanently lubricated ball bearings.
- Utilization range of plus or minus 10 percent of the nameplate voltage.
- Condenser fan motor(s) built-in thermal overload protection.
- Colored and numbered wiring.



### Air Handling Units - TTV Model

#### Standard Features

- Vertical or Horizontal discharge configuration.
- Zinc coated, heavy gauge, galvanized steel cabinet finished with a baked polyester powder paint.
- Completely insulated with fire retardant polyethylene foam.
- Factory installed thermal expansion valve(s).
- Evaporator coil leak-tested
- Double inlet, double width, forward curved centrifugal type evaporator fan(s) with fixed belt drive.
- Thermal overload protection for the evaporator fan motor.
- Washable air filters.
- Oversized motors for high static pressure applications (Optional).



#### ทราน (ประเทศไทย)

เลขที่ 1126/2 ชั้น 30-31 อาคารวานิช 2 ถ.เพชรบุรีตัดใหม่  
แขวงมีโกะสิน เขตราชเทวี กรุงเทพฯ 10400  
โทร. 0-2704-9999  
<http://www.tranethailand.com>

#### บริษัท แอมแอร์ จำกัด

999/1 หมู่ที่ 9 ถ.บางนา-ตราด กม.19 ต.บางโหลง  
อ.บางพลี จ.สมุทรปราการ 10540  
โทร. 0-2769-2222 โทรสาร 0-2769-2254

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Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.