



# LARGE COMMERCIAL

## Split System 23-55 Tons

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

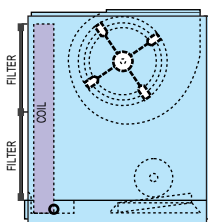


## System Performance Matrix

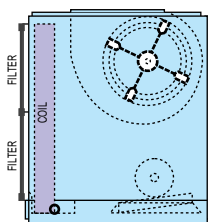
Model		Evaporator cfm	Total Capacity MBH	Sensible Capacity MBH
Outdoor	Indoor			
RAUP 250	TTV250	6600	270	184
		7760	278	197
		8900	285	209
RAUP 300	TTV250	6600	308	199
		7760	318	213
		8900	326	226
RAUP 300	TTV300	7900	323	222
		9240	333	237
		10600	341	251
RAUP 400	TTV300	7900	376	243
		9240	388	260
		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: 1. Matching capacities based on ambient temperature of 95 F and 80/67 F air dry bulb/ wet bulb entering the air handler coil.  
 2. Capacities are gross and do not include the evaporator fan motor heat deduction.

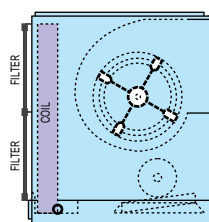
## Fan Arrangement



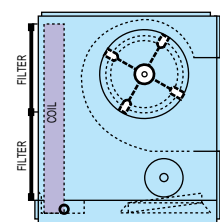
Arrangement 1  
(standard for TTV250-300)



Arrangement 2  
(standard for TTV 400-600)



Arrangement 3  
(optional)



Arrangement 4  
(optional)

## General Data

## Outdoor Unit

UNIT MODELS		RAUP 250	RAUP 300	RAUP 400	RAUP 500	RAUP 600
POWER CONNECTION		V/ph/Hz				
MCA <sup>1</sup>	A	56.5	61.9	380-415/3/50 95.4	107.2	117.7
Unit Capacity Steps (%)		100-50	100-50	100-75-50-25	100-75-50-25	100-75-50-25
SYSTEM DATA						
Refrigerant Type		R22	R22	R22	R22	R22
No. Refrigerant Circuits		1	1	2	2	2
Refrigerant Connectio Type		Sweat	Sweat	Sweat	Sweat	Sweat
Refrigerant Charge approximate per circuit	lb (kg)	44 (20)	60.6 (27.5)	43 (19.5)	44 (20)	60.6 (27.5)
Suction Line OD	in (mm)	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
COMPRESSOR						
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				380-415/3/50		
RLA/LRA (each) <sup>2</sup>	A	22.9/135	24.2/175	20.7/130	22.9/135	24.2/175
Motor RPM	rpm	2900	2900	2900	2900	2900
COIL						
No. Used		1	1	2	2	2
Face Area	sq ft (m <sup>2</sup> )	31.06 (2.88)	35.00 (3.25)	45.36 (4.21)	57.19 (5.31)	66.66 (6.21)
Tube Size OD	in (mm)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
Tube Type		Plain	Plain	Plain	Plain	Plain
Rows		3	3	3	3	3
Fins per inch		12	12	12	12	12
FAN						
Fan Type		Propeller	Propeller	Propeller	Propeller	Propeller
No. used		2	3	3	4	6
Diameter	in (mm)	(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>	cfm (cmh)	11,500 (19,539)	15,000 (25,485)	17,100 (29,053)	22,280 (37,853)	29,400 (49,950)
MOTOR						
Motor Type		PSC	PSC	PSC	PSC	PSC
No. of Motor		2	3	3	4	6
Motor hp (each)	hp (kW)	3/4 (0.56)	3/4 (0.56)	3/4 (0.56)	3/4 (0.56)	3/4 (0.56)
No. of Speed		1	1	1	1	1
Motor Speed	rpm	915	915	915	915	915
V/ph/Hz				380-415/1/50		
RLA/LRA (each)		2.47/7.46	2.47/7.46	2.47/7.46	2.47/7.46	2.47/7.46
DIMENSION (HxWxD)						
Crated (Shipping)	in	65x98x54	65x124x54	63x110x82	75x110x82	67x124x82
	mm	1,642x2,489x1,372	1,642x3,150x1,372	1,591x2,794x2,083	1,895x2,794x2,083	1,692x3,150x2,083
Uncrated (Net)	in	57x90x48	57x117x48	55x100x76	67x100x76	59x118x76
	mm	1,451x2,288x1,222	1,451x2,980x1,222	1,402x2,552x1,921	1,708x2,552x1,921	1,502x2,985x1,921
WEIGHT						
Crated (Shipping)	lb (kg)	1,336 (606)	1,676 (760)	2,284 (1,036)	2,659 (1,206)	2,745 (1,245)
Uncrated (Net)	lb (kg)	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

UNIT MODELS		TTV 250	TTV 300	TTV 400	TTV 500	TTV 600
POWER CONNECTION		V/ph/Hz				
MCA <sup>1</sup>	A	9.4	14.6	380-415/3/50 14.6	18.2	26.6
SYSTEM DATA						
Refrigerant Type		R22	R22	R22	R22	R22
Refrigerant Cinnction 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)
COIL						
Face Area	sq ft (m <sup>2</sup> )	16.7 (1.55)	19.2 (1.78)	25.6 (2.38)	34.8 (3.24)	38.0 (3.53)
Tube Size OD	in (mm)	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	in (mm)	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)
FAN						
Fan Type		Centrifugal FC	Centrifugal FC	Centrifugal FC	Centrifugal FC	Centrifugal FC
No. used		1	1	2	2	2
Diameter	in (mm)	15.7 (400)	15.7 (400)	15.4 (390)	17.7 (450)	17.7 (450)
Width	in (mm)	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 Pulley Pitch Diameter	in	9	10	11	13	13
Fan Speed - Std. (Factory set)	rpm	828	870	923	725	780
Max. Allowable	rpm	1,100	1,100	1,200	1,000	1,000
Airflow <sup>2</sup>	cfm (cmh)					
- Nominal		7,760 (13,180)	9,240 (15,700)	12,120 (20,590)	15,130 (25,700)	18,080 (30,720)
MOTOR						
Motor Type		1	TEFC	1	1	1
No. of Motor		5 (3.7)	7.5 (5.5)	7.5 (5.5)	10 (7.5)	15 (11)
Motor hp - Std.	hp (kW)	7.5 (5.5) / 10 (7.5)	10 (7.5) / 15 (11)	10 (7.5) / 15 (11)	15 (11) / 20 (15)	20 (15)
Hi Static		1	1	1	1	1
No. of Speed						
V/ph/Hz				380-415/3/50		
RLA/LRA		7.5/53.5	11.64/93	11.64/93	14.53/116	21.25/168
FILTER						
Type		Washable	Washable	Washable	Washable	Washable
No. used		8	9	9	12	9
Size (WxLxD) - Std.	in	16x20x1	4-5x20x1 2-16x20x1 1-16x25x1 2-15x25x1	6-16x25x1 3-20x25x1	2-16x20x1 6-16x25x1 1-20x25x1 3-25x25x1	3-20x20x1 6-20x25x1
DIMENSION (HxWxD)						
Uncrated (Net)	mm	1219x1808x1040	1372x1808x1040	1520x2088x1040	1653x2596x1275	1777x2596x1275
WEIGHT						
Uncrated (Net)	kg (lbs)	353 (778)	421 (928)	487 (1073)	685 (1510)	749 (1651)

<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	Benefits
<ul style="list-style-type: none"> <li>• Trane Designed Scroll Compressors</li> </ul> 	<ul style="list-style-type: none"> <li>• High compressor EERs.,</li> <li>• Less vibration and a Quieter Operation</li> <li>• Durability / Extended Life: Built in dirt separator to prevent dirt reaching the bearings. High volume oil sump prevents excessive oil loss.</li> <li>• Compressor Protection: Internal motor temperature sensor. Current overloads. External high and low pressure switches.</li> <li>• Tandem Capability: Achieves high part load efficiencies and additional part load control.</li> <li>• Sight glass &amp; oil charging valves</li> <li>• 3 Wire DOL Starter, minimizing field installation.</li> </ul>
<ul style="list-style-type: none"> <li>• Micro Controller with labled and numbered wiring.</li> </ul>	<ul style="list-style-type: none"> <li>• Helps in Troubleshooting and reduces service time.</li> <li>• Higher Controller reliability than traditional hard wired systems</li> </ul>
<ul style="list-style-type: none"> <li>• Robust Casing</li> </ul>	<ul style="list-style-type: none"> <li>• Corrosion resistant coated coils as an option.</li> <li>• High efficiency Trane fin coils.</li> <li>• Weather resistant baked matt polyester powder painted GI panels.</li> <li>• Heavy gauge welded steel base with mounting holes.</li> <li>• Aluminium Blade propeller fans.</li> <li>• Fully Factory leak and pressure, tested.</li> </ul>

## Product Specification

### Condensing Units - RAUP Model

#### Standard Features

- Hermetic Scroll compressor.
- Microprocessor Controller with trouble shooting.
- Factory leak and pressure tested at 250 and 400 psig.
- Standard ambient operating range of 59 - 113°F.
- 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-retardent, permanent, odorless fiberglass material covered with aluminium foil.
- Factory installed thermal expansion valve(s).
- Evaporator coil proof tested at 375 psig and leak-tested at 250 psig.
- Double inlet, double width, forward cured, centrifugal type evaporator fan(s) with fixed belt drive.
- Thermal overload protection on the evaporator fan motor.
- Washable air filters.
- Oversized motors for high static pressure applications (Optional).



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