



*Large Commercial*  
*Split System 23-55 Tons*  
*RAUP/TTV R407C Series 50 Hz*

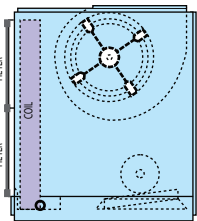


## System Performance Matrix

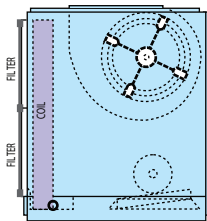
| Model    |         | Evaporator<br>cfm | Total Capacity<br>MBH | Sensible Capacity<br>MBH |
|----------|---------|-------------------|-----------------------|--------------------------|
| Outdoor  | Indoor  |                   |                       |                          |
| RAUP 250 | TTV25 0 | 6600              | 270                   | 184                      |
|          |         | 7760              | 278                   | 197                      |
|          |         | 9050              | 286                   | 211                      |
| RAUP 300 | TTV25 0 | 6600              | 308                   | 199                      |
|          |         | 7760              | 318                   | 213                      |
|          |         | 8900              | 326                   | 226                      |
| RAUP 300 | TTV30 0 | 7900              | 323                   | 222                      |
|          |         | 9240              | 333                   | 237                      |
|          |         | 10600             | 341                   | 251                      |
| RAUP 400 | TTV30 0 | 7900              | 376                   | 243                      |
|          |         | 9240              | 388                   | 260                      |
|          |         | 10600             | 398                   | 276                      |
| RAUP 400 | TTV40 0 | 10300             | 408                   | 283                      |
|          |         | 12120             | 421                   | 303                      |
|          |         | 13900             | 432                   | 321                      |
| RAUP 500 | TTV40 0 | 10300             | 489                   | 316                      |
|          |         | 12120             | 504                   | 338                      |
|          |         | 13900             | 517                   | 358                      |
| RAUP 500 | TTV50 0 | 12900             | 525                   | 369                      |
|          |         | 15130             | 541                   | 395                      |
|          |         | 17400             | 555                   | 419                      |
| RAUP 600 | TTV50 0 | 12900             | 603                   | 401                      |
|          |         | 15130             | 622                   | 429                      |
|          |         | 17400             | 638                   | 455                      |
| RAUP 600 | TTV60 0 | 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. Product design and specification are subject to change without notice.

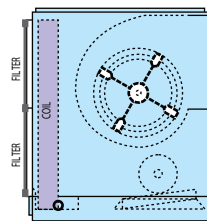
## Fan Arrangement



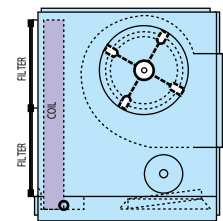
Arrangement 1  
(Standard arrangement  
for TTV250-600)



Arrangement 2



Arrangement 3



Arrangement 4



## 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         | 53.9              | 58.1              | 91.6              | 102.1             | 110.1             |
| 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                           |           | R407C             | R407C             | R407C             | R407C             | R407C             |
| No. Refrigerant Circuits                   |           | 1                 | 1                 | 2                 | 2                 | 2                 |
| Refrigerant Connection Type                |           | Brazed            | Brazed            | Brazed            | Brazed            | Brazed            |
| 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 (53.98)     | 2-1/8 (53.98)     | 1-5/8 (41.28)     | 2-1/8 (53.98)     | 2-1/8 (53.98)     |
| Liquid Line OD                             | in (mm)   | 7/8 (22.23)       | 7/8 (22.23)       | 7/8 (22.23)       | 7/8 (22.23)       | 7/8 (22.23)       |
| <b>COMPRESSOR</b>                          |           |                   |                   |                   |                   |                   |
| Compressor Type                            |           | Scroll            | Scroll            | Scroll            | Scroll            | Scroll            |
| Qty  |           | 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         | 22.9/145.0        | 24.2/175.0        | 20.7/130.0        | 22.9/145.0        | 24.2/175.0        |
| Motor RPM                                  | rpm       | 2900              | 2900              | 2900              | 2900              | 2900              |
| <b>COIL</b>                                |           |                   |                   |                   |                   |                   |
| Qty  |           | 1                 | 1                 | 2                 | 2                 | 2                 |
| 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)         |
| Rows                                       |           | 3                 | 3                 | 3                 | 3                 | 3                 |
| Fins per inch                              |           | 12                | 12                | 12                | 12                | 12                |
| <b>FAN</b>                                 |           |                   |                   |                   |                   |                   |
| Fan Type                                   |           | Propeller         | Propeller         | Propeller         | Propeller         | Propeller         |
| Qty  |           | 2                 | 3                 | 3                 | 4                 | 6                 |
| 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)   |
| <b>MOTOR</b>                               |           |                   |                   |                   |                   |                   |
| Qty  |           | 2                 | 3                 | 3                 | 4                 | 6                 |
| Motor hp (each)                            | hp (kW)   | 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                                | rpm       | 875               | 875               | 875               | 875               | 875               |
| V/ph/Hz                                    |           |                   |                   | 380-415/3/50      |                   |                   |
| RLA/LRA (each)                             |           | 1.32/2.80         | 1.32/2.80         | 1.32/2.80         | 1.32/2.80         | 1.32/2.80         |
| <b>DIMENSION (HxWxD)</b>                   |           |                   |                   |                   |                   |                   |
| Crated (Shipping)                          | mm        | 1,700x2,620x1,420 | 1,700x3,200x1,420 | 1,650x2,880x2,160 | 1,960x2,880x2,160 | 1,850x3,240x2,160 |
| Unit (Net)                                 | mm        | 1,465x2,294x1,222 | 1,465x2,952x1,222 | 1,414x2,583x1,920 | 1,718x2,583x1,920 | 1,515x2,980x1,920 |
| <b>WEIGHT</b>                              |           |                   |                   |                   |                   |                   |
| Crated (Shipping)                          | lb (kg)   | 1,420 (644)       | 1,676 (760)       | 2,284 (1,036)     | 2,824 (1,281)     | 2,745 (1,245)     |
| Unit (Net)                                 | lb (kg)   | 1,356 (624)       | 1,631 (740)       | 2,207 (1,001)     | 2,747 (1,246)     | 2,668 (1,210)     |

<sup>1</sup> MCA - Minimum Circuit Ampacity.

<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.

Note: Product design and specification are subject to change without notice.

## 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        | 10.0                 | 15.0                  | 15.0                   | 19.0                                | 27.5                   |
| <b>SYSTEM DATA</b>             |          |                      |                       |                        |                                     |                        |
| Refrigerant Type               |          | R407C                | R407C                 | R407C                  | R407C                               | R407C                  |
| 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)        | 2-1/8 (53.98)         | 1-5/8 (41.28)          | 2-1/8 (53.98)                       | 2-1/8 (53.98)          |
| Liquid Line OD                 | in (mm)  | 7/8 (22.23)          | 7/8 (22.23)           | 7/8 (22.23)            | 7/8 (22.23)                         | 7/8 (22.23)            |
| <b>COIL</b>                    |          |                      |                       |                        |                                     |                        |
| 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)  | 1.0 (25.4)           | 1.0 (25.4)            | 1.0 (25.4)             | 1.0 (25.4)                          | 1.0 (25.4)             |
| <b>FAN</b>                     |          |                      |                       |                        |                                     |                        |
| Fan Type                       |          | Centrifugal FC       | Centrifugal FC        | Centrifugal FC         | Centrifugal FC                      | Centrifugal FC         |
| Qty                            |          | 1                    | 1                     | 2                      | 2                                   | 2                      |
| Fixed Drive Type               |          | Belt and Pulley      | Belt and Pulley       | Belt and Pulley        | Belt and Pulley                     | Belt and Pulley        |
| Fan Speed - Std. (Factory set) | rpm      | 828                  | 870                   | 923                    | 725                                 | 780                    |
| Nominal Airflow <sup>2</sup>   |          | 7,760 (13,180)       | 9,240 (15,700)        | 12,120 (20,590)        | 15,130 (25,700)                     | 18,080 (30,720)        |
| <b>MOTOR</b>                   |          |                      |                       |                        |                                     |                        |
| Motor Type                     |          |                      |                       | TEFC                   |                                     |                        |
| Qty                            |          | 1                    | 1                     | 1                      | 1                                   | 1                      |
| Motor hp - Std.                | hp (kW)  | 5 (3.7)              | 7.5 (5.5)             | 7.5 (5.5)              | 10 (7.5)                            | 15 (11)                |
| Hi Static                      |          | 7.5 (5.5) / 10 (7.5) | 10 (7.5) / 15 (11)    | 10 (7.5) / 15 (11)     | 15 (11) / 20 (15)                   | 20 (15)                |
| No. of Speed                   |          | 1                    | 1                     | 1                      | 1                                   | 1                      |
| V/ph/Hz                        |          |                      |                       | 380-415/3/50           |                                     |                        |
| RLA/LRA                        |          | 8.0/63.0             | 12.0/79.0             | 12.0/79.0              | 15.2/111.0                          | 22.0/153.0             |
| <b>FILTER</b>                  |          |                      |                       |                        |                                     |                        |
| Type                           |          | Washable             | Washable              | Washable               | Washable                            | Washable               |
| Qty                            |          | 8                    | 9                     | 9                      | 12                                  | 9                      |
| Size (WxLxD) - Std.            | in       | 16x20x1              | 4-5x20x1<br>2-16x20x1 | 6-16x25x1<br>3-20x25x1 | 2-16x20x1<br>6-16x25x1<br>1-20x25x1 | 3-20x20x1<br>6-20x25x1 |
| <b>DIMENSION (HxWxD)</b>       |          |                      |                       |                        |                                     |                        |
| Crated (Shipping)              | mm       | 1,500x2,100x1,290    | 1,650x2,100x1,290     | 1,780x2,390x1,290      | 1,900x2,900x1,520                   | 1,980x2,900x1,520      |
| Unit (Net)                     | mm       | 1,219x1,808x1,040    | 1,372x1,808x1,040     | 1,520x2,088x1,040      | 1,653x2,596x1,275                   | 1,777x2,596x1,275      |
| <b>WEIGHT</b>                  |          |                      |                       |                        |                                     |                        |
| Crated (Shipping)              | kg (lbs) | 402 (886)            | 470 (1,036)           | 543 (1,197)            | 768 (1,693)                         | 832 (1,834)            |
| Unit (Net)                     | kg (lbs) | 353 (778)            | 421 (928)             | 487 (1,073)            | 685 (1,510)                         | 749 (1,651)            |

<sup>1</sup> MCA - Minimum Circuit Ampacity.

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

Note: Product design and specification are subject to change without notice.

# 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.
- Come with build-in under/over voltage and phase protection to prevent compressor damage from unstable electrical source

## 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).

## Features Summary



Micro processor controller (Option)



1, 2, 4 Stage Thermostat Digital Display (Option)



1 or 2 Stage Thermostat - Without Display (Option)



AHU Starter Panel (Option)

- 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: External Overload Protector. 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.

**Trane Multi-Stage Thermostat** controlled by micro processor is available for 1, 2 and 4 stage monitor, 7-segment display, 15°C–30°C temperature setting, connectable with the external sensor & auto-restart function with ON/OFF switch.

### Robust Casing

- 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.

### Micro Controller with labeled and numbered wiring.

- 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.

### Option

**Trane 1,2,4 Stage Thermostat** provides with & without display, operation control of chilled water fan coil and AHU, 16°C - 30°C temperature setting, 4-level compressor monitor & display of compressor status.

**Trane AHU Starter Panel** particularly controls the HVAC system. Integrated with motor and compressor protection system, reliable according to UL/IEC/NEMA standard and easy to install.



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