



LARGE COMMERCIAL

Split System 20 - 55 Tons 50 Hz



Large Commercial
Split System
20 -55 Tons 50 Hz
RAUP - TTE/V/CLCP Systems

MUL - SLB008 - E4

System Performance Matrix

MODEL		Evaporator Airflow		Total Capacity		Sensible Capacity		Condenser Fan Motor	Indoor Fan Motor	Total Compressor Motor
Outdoor	Indoor	CFM	CMH	MBH	kW	MBH	kW	kW x Qty	kW	kW
RAUP 200	TTE 200	5800	9854	210	61	149	44	0.55 x 2	3	18.7
RAUP 250	TTE 200	5800	9854	265	77	183	53	0.55 x 2	3	21
RAUP 250	TTV 250	7760	13184	278	81	197	58	0.55 x 2	3.7	21
RAUP 300	TTV 250	7760	13184	318	93	213	62	0.55 x 3	3.7	25.2
RAUP 300	TTV 300	9240	15699	333	98	237	69	0.55 x 3	5.5	25.2
RAUP 400	TTV 300	9240	15699	388	114	260	76	0.55 x 3	5.5	33.6
RAUP 400	TTE 200 x2	11600	19709	420	123	294	86	0.55 x 3	3x2	33.6
RAUP 400	TTV 400	12120	20592	421	123	303	89	0.55 x 3	5.5	33.6
RAUP 500	TTE 200 x2	11600	19709	500	146	335	98	0.55 x 4	3x2	42
RAUP 500	TTV 400	12120	20592	504	148	338	99	0.55 x 4	5.5	42
RAUP 500	TTV 500	15130	25706	541	159	395	116	0.55 x 4	7.5	42
RAUP 600	TTV 500	15130	25706	622	182	429	126	0.55 x 6	7.5	50.4
RAUP 600	TTV 600	18080	30718	658	193	493	144	0.55 x 6	11	50.4

Capacities based on ambient temperature of 95 °F [35 °C]. Coil on coil temperature of 80 / 67 °F [26 / 19 °C] EDB/EWB.

Rated at 400V / 3P / 50Hz

Capacities are gross and do not include the evaporator fan motor heat deduction

Custom Matches & configuration are available with the Trane Quantum Climate Changer air handler.

Features Summary

Features

Trane Designed Scroll Compressors



Benefits

- o High compressor EERs., ranging to 11.5+ Btu/Watt hour
- o Less vibration and Quieter Operation
- o Durability / Extended Life
 - Built in dirt separator to prevent dirt reaching the bearings
 - High volume oil sump prevents excessive oil loss.
- o Compressor Protection
 - Internal motor temperature sensor.
 - Current overloads
 - External high and low pressure switches.
- o Low ambient kits and crank case heater options for lower ambient conditions.
- o Tandem Capability
 - Achieves high part load efficiencies and additional part load control.
- o Sight glass & oil charging valves
- o DOL Starter Options, minimizing field installation.

Micro Controller



- o Helps in troubleshooting and reduces service time.
- o Detailed LED troubleshooting diagnostics.
- o Higher Controller reliability than traditional hard wired systems

Robust Casing



- o Stainless Steel and corrosion resistant coated external screws.
- o Corrosion resistant coated coils as an option..
- o High efficiency Trane slit fin coils.
- o Weather resistant baked matt polyester powder painted GI panels.
- o Heavy gauge welded steel base with mounting holes.
- o IP 55 condenser fan motors with built in thermal overloads..
- o Aluminium Blade propeller fans.
- o Fully factory leak and pressure tested.

Factory Packaged

- o DOL Starters, Filter driers, thermostats, controller
- o Crank Case Heaters, low ambient controls, safeties. *

Pre Matched Compact Air Handlers



- o Small foot print
- o Multiple fan arrangements. Vertical or horizontal discharge configurations.
- o Up to 2.5"[625Pa] ESP
- o Ceiling Hung models available [TTEs]
- o Baked Polyester Powder Painted GI panels
- o 25mm Aluminium foil faced fiberglass insulation.
- o Double Inlet Double Width Forward curved fans
- o Standard 25mm washable air filters.
- o Oversized motor options for higher static operation.

Custom Matched Quantum Climate Changer



- o Highly flexible double walled 25mm or 50 mm indoor or outdoor Quantum Climate Changer Air Handler (QCC)
- o 100% fresh air selections possible with the QCC.
- o Suitable for back up cooling with chilled water systems.
- o Low off coil requirements with DX systems. 6 C and above.

* Some items are optional and not standard.

General Data 20-25 Ton Condensing Units

		RAUP 200	RAUP 250	RAUP 300	RAUP 400	RAUP 500	RAUP 600
Performances (1)							
Gross Cooling Capacity (1)	(kW)/(MBH)	60.5/207	73.9/253	90.3/308	113.9/389	147.9/505	180.5/617
Unit Capacity Steps (%)		100-50	100-50	100-50	100-75-50-25	100-75-50-25	100-75-50-25
Total Compressor Power Input (1)	(kW)	18.1	25.2	26.8	36.2	50.4	53.6
Main Power Supply		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Utilization Range		400V +/- 10%					
Sound Power Level	(dB(A))	86	87	89	89	90	92
Compressor							
Number		2	2	2	4	4	4
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Model		2 x10T	2x13 T	2 x 15T	2x(10T+10T)	2x(13T+13T)	2x(15T+15T)
Speeds Number		1	1	1	1	1	1
Motors Number		1	1	1	1	1	1
Unit MCA Amps (4)	(A)	50	55	108	93	104	107
RLA / LRA (2)	(A)	20.7/130	22.9/135	24.2/175	20.7/130	22.9/135	24.2/175
Motor RPM	(rpm)	2900	2900	2900	2900	2900	2900
Sump Heater (Optional) per compressor	(W)	100W-240V	2x80W-240V	2x80W-240V	100W-240V	2x80W-240V	2x80W-240V
Liquid and Suction connection							
Suction Connection	brazed	1 5/8"	2 1/8"	2 1/8"	1 5/8"	2 1/8"	2 1/8"
Liquid Connection	brazed	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"
Coil							
Type		Plate Fin	Plate Fin	Plate Fin	Plate Fin	Plate Fin	Plate Fin
Tube Size	(mm)	9.52	9.52	9.52	9.52	9.52	9.52
Tube Type		Smooth	Smooth	Smooth	Smooth	Smooth	Smooth
Height	(mm)	1346	1600	1600	1168	1473	1270
Length	(mm)	1803	1803	2032	1803	1803	2444
Quantity		1	1	1	2	2	2
Face Area	(m2)	2.43	2.88	3.25	4.21	5.31	6.21
Rows		3	3	3	3	3	3
Fins Per Inch (fpf)		144	144	144	144	144	144
Fan							
Type		Propeller	Propeller	Propeller	Propeller	Propeller	Propeller
Number		2	2	3	3	4	6
Diameter	(mm)/(in)	711/28	711/28	711/28	711/28	711/28	711/28
Drive Type		Direct	Direct	Direct	Direct	Direct	Direct
Speeds Number		1	1	1	1	1	1
Air Flow	(m3/h)/(cfm)	18009/10600	19539/11500	25485/15000	29053/17100	37853/22280	49950/29400
Motors Quantity		2	2	3	3	4	6
Motors kW(2)	(kW)/(hp)	0.55/0.75	0.55/0.75	0.55/0.75	0.55/0.75	0.55/0.75	0.55/0.75
FLA/LRA (2)	(A)	1.56/5.7	1.56/5.7	1.56/5.7	1.56/5.7	1.56/5.7	1.56/5.7
Motor RPM	(rpm)	915	915	915	915	915	915
Dimensions							
Height	(mm)	1312	1465	1465	1414	1718	1515
Width	(mm)	1022	1222	1222	1920	1920	1920
Length	(mm)	2229	2294	2952	2557	2557	2957
Weight Uncrated	(kg)	499	624	740	1001	1246	1210
Weight Crated	(kg)	519	644	760	1036	1281	1245
System Data							
Refrigerant Circuit		1	1	1	2	2	2
Refrigerant Charge (3)							
Approximate per circuit	(kg)	10.0	10.0	10.0	19.5	20.0	27.5
RAUP Only							
Minimum Outdoor Air Temperature for Mechanical Cooling							
Standard Ambient Operating Range		(F)	59-133	59-133	59-133	59-113	59-113
		(C)	15-45	15-45	15-45	15-45	15-45
Low Ambient Option		Below 15 °C Ambient					
High Pressure [cut out - cut in]	(psig)	390 +/- 15 psig, 260 +/- 20 psig					
Low Pressure [cut out - cut in]	(psig)	35 +/- 5 psig, 60 +/- 7 psig					
Notes							
[1]		at 7 °C SST and 35 °C Ambient, 400V, Subcooling 8.3K, Supeheat 11.1K					
[2]		Per Motor @400V					
[3]		Per Circuit					

General Data Blower Coil Units

		TTE 200	TTV 250	TTV 300	TTV 400	TTV 500	TTV 600
Evaporator Coil							
Evaporator Rated Air Flow	Rows/FPF	3/144	3/144	3/144	3/144	4/144	4/144
	Cfm	5800	7760	9240	12120	15130	18080
	Cmh	9864	13180	15700	20590	25700	30720
Configuration		Convertible Vertical with horizontal and fan discharge configurations					
Face Area	Sq.ft/m2	15.9/1.48	16.7/1.55	19.2/1.78	26.2/2.44	34.8/3.24	37.98/3.35
Tube Material		Copper					
Tube Type		Internally Enhanced				Smooth	
Tube Size (OD)	in/mm	3 / 8 / 9.5	3 / 8 / 9.5	3 / 8 / 9.5	3 / 8 / 9.5	0.5 / 12.7	0.5 / 12.7
No. Of Circuits		2	2	2	2	2	2
Refrigerant Flow Control		TXV					
Drain Connection Size	in	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Evaporator Fan / Motor							
Drive Type		Belt					
FLA/LRA (each) (2)		7/44	8/42	12/82	16/104	16/104	23/153
No of Motors	Std. HP(kw)	1-4(3kw)	1-5(3.7kw)	1-7.5(5.5kW)	1-7.5(5.5kW)	1-10(7.5kW)	1-15(11kW)
	Hi Static	5(3.7)	7.5(5.5)/10(7.5)	10(7.5)/15(11)	10(7.5)/15(11)	15(11)/20(15)	20(15)
Diameter of Fan	in/mm	15/380	15.7/400	15.7/400	15.4/390	17.7/450	17.7/450
Width of Fan	in/mm	15/380	12.6/320	12.6/320	15.4/390	14.2/360	14.2/360
No of Fans		1	1	1	2	2	2
Indoor Fan Type		Centrifugal FC					
Fan Pulley Pitch Diameter	in	6	7	10	11	13	13
Air Qty. - Max	cfm	5000	8900	10600	13800	16700	21800
- Min	cfm	7500	5900	7000	9100	11000	14400
Fan Motor Type		TEFC 400V/3P/ 50Hz					
Std. Fan Speed (Std. Factory Set)		800	828	870	923	725	780
@ ESP including filters in/Pa		1/250	1/250	1/250	1.2/300	1.2/300	1.2/300
Max. Allowable Fan RPM		1000	1100	1100	1200	1000	1000
Motor Pilley Pitch Diameter	in	4	4	6	7	6.5	7.0
Filters							
Size	(Qty)in	(2)16x25	(8)16x20	(4)15x20,(2)16x20	(6)16x25	(2)16x20,(1)20x25	(3)20x20
Std.1"Washable		(2)20x25		(1)16x25,(2)15x25	(3)20x25	(6)16x25,(3)25x25	(6)20x25
Suction Line OD	in	1 1/8	2 1/8	15/8	2 1/8	2 1/8	2 1/8
Liquid Line OD	in	1/2	5/8	7/8	1 1/8	1 1/8	1 1/8
Approx. Operating Weight	lbs/kg	579/263	778/353	928/421	1073/487	1510/685	1651/749
Unit Dimensions	HxWxD mm	1540x1840x770	1219x1808x1040	1372x1808x1040	1520x2088x1040	1653x2596x1275	1777x2596x1275

Trane double walled Quantum Climate Changer Air Handlers are available for semi custom configurations and specialized indoor conditions.



Quantum™ Climate Changer™ Quick Select

Quick Selection Procedure

Step 1: Determine what is the design airflow (m^3/s) or total cooling capacity (kW).

Step 2: Use the table below to determine the unit size by picking the closest airflow or total cooling capacity.

Step 3: The unit width and height are the same for all sections. Unit length in Table A is based on basic fan+coil+flat filter sections only. For other combinations, use Table B: Standard Section Length to determine the overall unit length.

Step 4: Determine the nominal system details (by matching the evaporator with the available RAUP models) using TOPSS.

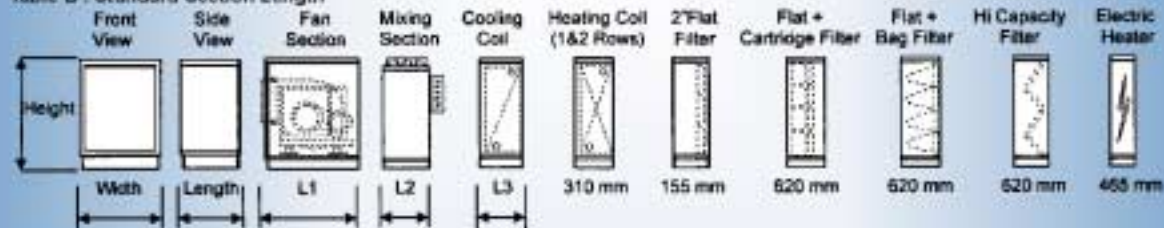
Table A: Quick Select

Model Size	Coil Face Area	Airflow At 2.5m/s Face Velocity	Cooling Capacity		External Static Pressure	Unit Dimensions (Fan + Coil + Flat Filter)			Unit Weight (Approximate)	Motor Installed Power
			Total	Sensible		Width	Height	Length		
	m ²	m ³ / s	kW	kW	Pa	mm	mm	mm	kg	kW
003	0.2	0.6	12	10	300	748	868	1368	160	1.5
004	0.4	1.0	22	16	300	1058	868	1368	200	1.5
006	0.6	1.4	34	25	300	1368	868	1523	260	2.2
008	0.7	1.9	48	33	300	1678	868	1523	300	3
010	0.9	2.3	56	40	300	1368	1178	1523	330	4
012	1.2	3.0	77	54	300	1678	1178	1833	420	4
014	1.4	3.6	95	66	300	1988	1178	1833	470	5.5
016	1.6	4.1	106	74	300	1678	1488	1833	530	5.5
020	1.9	5.0	131	91	500	1988	1488	1988	700	11
025	2.4	6.2	163	113	500	1988	1798	2143	750	11
030	2.9	7.4	194	135	500	1988	2108	2453	850	11
035	3.4	8.7	225	157	500	2298	2108	2608	990	15
040	4.0	10.1	254	179	500	2608	2108	2763	1150	15
045	4.5	11.5	277	199	500	2918	2108	2763	1250	18.5
050	5.0	12.9	294	217	500	3228	2108	2918	1460	22
060	6.0	15.2	352	258	500	3228	2418	2918	1870	30
065	6.6	16.8	370	278	750	3538	2418	2918	2110	37
070	7.2	18.4	385	296	750	3848	2418	2918	2210	37
080	7.8	20.0	397	314	750	4158	2418	2918	2450	45
085	8.5	21.6	406	330	750	4468	2418	2918	2570	45
090	9.1	23.2	413	346	750	4778	2418	2918	2840	55
095	9.8	24.9	415	361	750	5088	2418	2918	2940	55

Note:

1. Cooling capacities are based on EDB 26.7 °C / EWB 19.4 °C and 7 °C SST, 51.7 °C Condensing Temp.
2. Unit dimension and weight includes forward curve fan section, 6R 144fpf [½" copper tube] section and flat filter section with media.
3. All dimensions and weight are based on a 50mm casing design.
4. For actual custom system capacity with Trane condensing units, please refer to your local Trane representative.

Table B : Standard Section Length



Fan Section, L1

Model Size	003	004	006	008	010	012	014	016	020	025	030
Length, mm	775	775	930	930	930	1240	1240	1240	1395	1550	1550
Model Size	035	040	045	050	060	065	070	080	085	090	095
Length, mm	1705	1860	1860	2015	2015	2015	2015	2015	2015	2015	2015

Mixing Section, L2

Model Size	003	004	006	008	010	012	014	016	020	025	030
Length, mm	310	310	310	310	465	465	465	465	465	465	620
Model Size	035	040	045	050	060	065	070	080	085	090	095
Length, mm	620	620	620	620	930	930	1085	1085	1240	1240	1240

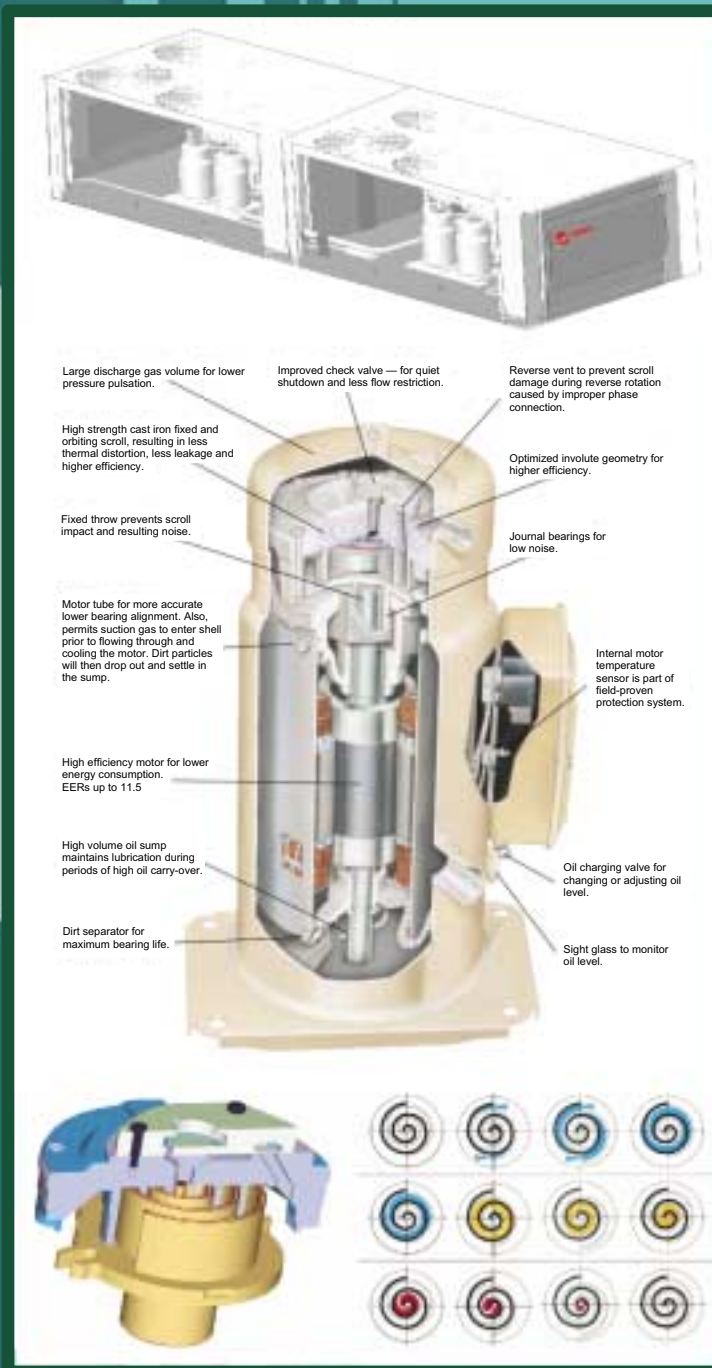
Coil Section, L3

Model Size	003 - 025		030 - 095	
1 and 2 row coil	310mm	310mm	465mm	465mm
4 row coil	310mm	465mm	620mm	620mm

Note:

1. Total unit length shall be calculated based on total sum of all the individual section lengths added together.
2. Add 128mm to overall unit length for end frame for all models.
3. Fan section lengths are indicative only as the length varies according to the fan arrangement and motor kW range.
4. All dimension are for 50mm casing

INTEGRATED AIR



The Trane RAUPs, robust outdoor condensing units, with state of the art controls, are built with total Trane system integration in mind. Matched with our blower coils or Quantum Climate Changers, the system delivers unparalleled flexibility to suite diverse market needs. From public buildings, light commercial and industrial to specialized applications, Trane is the one stop system solution provider.

SYSTEM SOLUTIONS

Quantum™ Climate Changer™ & Trane RAUPs

- Intelligence
- Efficiency
- Flexibility



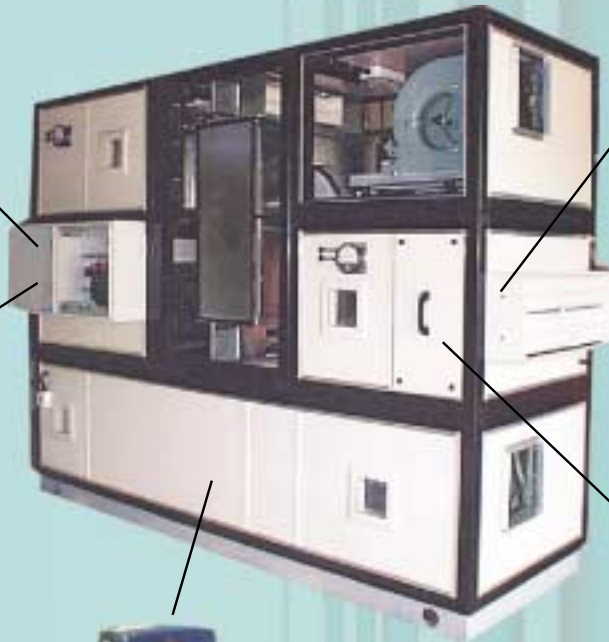
Trane Controllers
...offering Integrated
interoperable control
solutions.



Unit Mounted Sensors



Variable Frequency Drive



Control Valves



**LonMark and BACnet
interoperable DDC
solution**

The Trane Co. can offer a total integrated design concept with unit mounted controls and finely tuned energy saving devices
Providing....

***Accurate real time information plus adaptive control =
Optimum environmental efficiency and improved financial
operating performance....Packaged into a system.***

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Climate Changer and Tracer from Trane.



TRANE®

Trane Malaysia
TM Air Conditioning Sdn. Bhd. (166421-A)
(An ISO 9002 Certified Company)
2047 Lorong Perusahaan Perai 10,
Kawasan Perusahaan Perai 2,
13600 Perai, Malaysia.
Tel: 04-390 7073 Fax: 04-390 8619
An American Standard Company

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Supersedes

UNT-SLB-RAUP/TTV-EN 0700

Stocking Location

Malaysia

Since The Trane Company has a policy of continuous product improvement, it reserves the right to change design and specifications without notice.