AIR CONDITIONERS

TS

T-CLASS™ SPLIT SYSTEM UNITS
R-410A - 50 HZ

ENGINEERING DATA

Bulletin No. 490131
March 2009
Supersedes February 2009



072-090 Models



120-150 Models



180-240 Models

Nominal Capacity – 21 to 70 kW
Cooling Capacity – 18.3 to 61.5 kW

MODEL NUMBER IDENTIFICATION

T S A 120 S 4 S N 1 M

Brand/Family
T = T-Class™ Product Line

Unit Type
S = Split System Air Conditioner

Major Design Sequence
A = 1st Generation
B = 2nd Generation

Nominal Cooling Capacity – Tons
072 = 6 Tons
090 = 7.5 Tons
120 = 10 Tons
150 = 12.5 Tons
180 = 15 Tons
240 = 20 Tons

Cooling Efficiency
S = Standard Efficiency

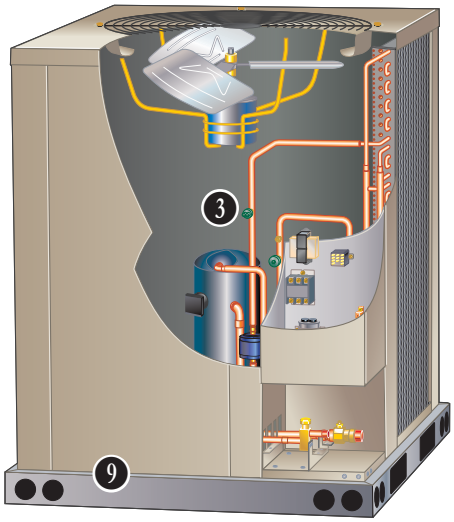
Refrigerant Type
4 = R–410A

Refrigerant Circuits
S = Single Circuit
D = Dual Circuits

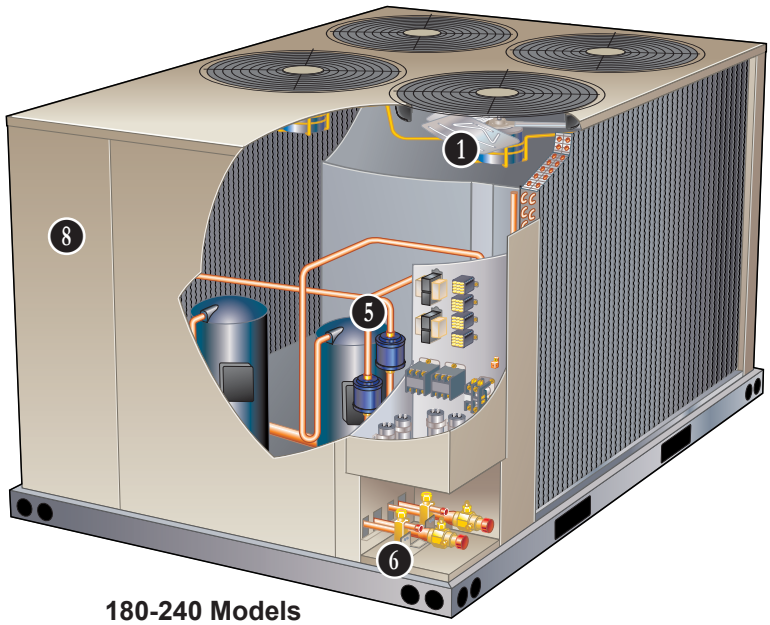
Part Load Capability
N = Single Stage Compressor

Minor Design Sequence
1 = 1st Revision
2 = 2nd Revision
3 = 3rd Revision

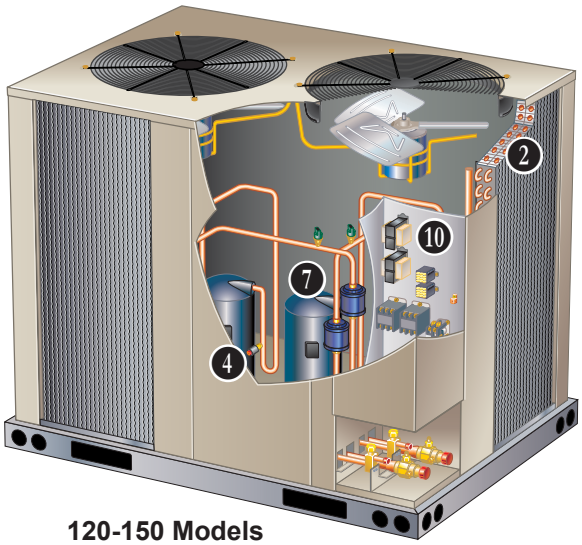
Voltage
M = 380/420V-3 phase-50hz



072-090 Models



180-240 Models



120-150 Models

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APPLICATIONS

Air conditioners are available in 21, 26.4, 35.2 kW (one compressor) and 35.2, 44, 53 and 70 kW (two compressors) nominal sizes.

Matching air handlers provide a wide range of cooling capacities and applications. See Ratings tables. See Air Handlers sections for data.

Units shipped completely factory assembled, piped, and wired. Each unit is test operated at the factory insuring proper operation.

Installer must set air conditioner, connect refrigerant lines, add refrigerant charge and make electrical connections to complete job.

APPROVALS

All units tested in Lennox' Research Laboratory environmental test room or certified environmental testing facility.

Cooling performance is rated at test conditions included in Air-Conditioning and Refrigeration Institute (ARI) Standard 340/360−2007 while operating at rated voltage and air volumes.

Sound tested in Lennox reverberant sound test room in accordance with test conditions included in Air-Conditioning and Refrigeration Institute (ARI) Standard 270-2008.

Components bonded for grounding to meet safety standards for servicing required by Underwriters Laboratories (UL) and the International Electrotechnical Commission (IEC).

International Organization for Standardization (ISO) 9001 Registered Manufacturing Quality System.

FEATURES AND BENEFITS

REFRIGERATION SYSTEM

Refrigerant

Units operate with chlorine-free, ozone friendly, R-410A (field furnished).



1 Outdoor Coil Fan(s)

TSA072 and TSA090 units have one outdoor fan. TSA120 and TSA150 units have two outdoor fans. TSA180 and TSA240 units have four outdoor fans.

Direct drive fan(s) moves large volumes of air uniformly through entire condenser coil(s) for high refrigerant cooling capacity.

Upward discharge of air reduces operating sound levels and prevents damage to lawns, shrubs, and walkways.

Fan motors are totally enclosed, overload protected and equipped with a rain shield.

Fan service access is accomplished by removal of fan guard(s) or removal of access panel.

2 Copper Tube/Enhanced Fin Coil(s)

Units are equipped with a wrap-around “U” shaped coil (072-090-120 models) or two “L” shaped coils (150-180-240 models).

Lennox designed and fabricated coils constructed of precisely spaced ripple-edge aluminum fins machine fitted to seamless copper tubes.

Lanced fins provide maximum exposure of fin surface to air stream resulting in excellent heat transfer.

Fins equipped with collars that grip tubing for maximum contact area.

Flared shoulder tubing connections and machine brazed silver soldering provide tight, leakproof joints.

Long life copper tubing is corrosion-resistant and easy to field service.

Thoroughly factory tested under high pressure to ensure leakproof construction.

Completely accessible for cleaning.

3 High Pressure Switch

Shuts off unit if abnormal operating conditions cause discharge pressure to rise above setting.

Protects the compressor from excessive condensing pressure.

Manual reset.

4 Loss of Charge Switch

Shuts off unit if liquid line pressure falls below setting.

Provides loss of charge and freeze-up protection.

Automatic reset.

5 Hi-Capacity Drier(s)

Drier traps moisture or dirt that could contaminate the refrigerant system.

6 Refrigerant Lines and Service Valves

Suction and liquid lines are located on corner of unit cabinet and are made with sweat connections. See dimension drawings.

Fully serviceable suction and liquid line service valves provide complete service access to refrigerant system.

Suction valve can be fully shut off, while liquid valve can be front seated to manage refrigerant charge while servicing system. Accessible outside of unit cabinet.

7 COMPRESSORS

TSA072, TSA090 and TSA120S4S models feature a single scroll compressor. TSA120S4D, TSA150, TSA180 and TSA240 models have two scroll compressors.

Compressor features high efficiency with uniform suction flow, constant discharge flow and high volumetric efficiency and quiet operation.

Compressor consists of two involute spiral scrolls matched together to generate a series of crescent shaped gas pockets between them.

During compression, one scroll remains stationary while the other scroll orbits around it.

Gas is drawn into the outer pocket, the pocket is sealed as the scroll rotates.

As the spiral movement continues, gas pockets are pushed to the center of the scrolls. Volume between the pockets is simultaneously reduced.

When pocket reaches the center, gas is now high pressure and is forced out of a port located in the center of the fixed scrolls.

During compression, several pockets are compressed simultaneously resulting in a smooth continuous compression cycle.

Continuous flank contact, maintained by centrifugal force, minimizes gas leakage and maximizes efficiency.

Scroll compressor is tolerant to the effects of slugging and contaminants. If this occurs, scrolls separate, allowing liquid or contaminants to be worked toward the center and discharged.

Low gas pulses during compression reduces operational sound levels.

Compressor motor is internally protected from excessive current and temperature.

Compressor is installed in the unit on resilient rubber mounts for vibration free operation.

Crankcase Heater(s) (All Models)

Crankcase heater(s) prevents migration of liquid refrigerant into compressor(s) and ensures proper compressor lubrication.

FEATURES AND BENEFITS

CABINET

8 Heavy-gauge, pre-painted steel cabinet provides superior rust and corrosion protection.

Removable panels allow access for unit servicing.

9 Heavy duty steel base channels raise the unit off of mounting surface away from damaging moisture.

Unit lifting holes and forklift slots furnished in base rails.

See dimension drawings.

10 **Control Box**

Control box located in separate compartment in unit cabinet .

All controls are pre-wired at the factory.

Control box is large enough for field installed DDC or other field supplied control modules.

OPTIONS

Factory Installed

Corrosion Protection

Polymeric epoxy coating that is deposited by electrical transport (electrophoresis), using a process known as electrocoat (e-coat). Available for enhanced coil corrosion protection. Factory installed on the condenser coil. Painted base pan is provided with this option.

Field Installed

Coil Guards

Heavy duty sheet metal and metal mesh enclosures protect coils from damage. Field installed.

Hail Guards

Heavy duty sheet metal and metal mesh enclosures protect coils from damage. Field installed.

CONTROLS

OPTIONS

Field Installed

Low Ambient Control

Air conditioning units operate satisfactorily down to 30ºF outdoor air temperature without any additional controls.

Low Ambient Control Kit can be field installed, allowing unit operation down to 0ºF.

Thermostat

Thermostat is not furnished with unit and must be ordered extra.

See 5, individual Thermostat bulletins and Lennox Price Book.

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS - FIELD INSTALLED

COMMERCIAL TOUCHSCREEN THERMOSTAT



Intuitive Touchscreen Interface - **Two Stage Heating / Two Stage Cooling Conventional or Heat Pump** - Seven Day Programmable - Four Time Periods/ Day - Economizer Output - Title 24 Compliant - ENERGY STAR® Qualified - Backlit Display - Automatic Changeover	C0STAT02AE1L **(14W81)**
Sensors For Touchscreen Thermostat	
[1] Remote non-adjustable wall mount 20k temperature sensor	C0SNZN01AE2- **(47W36)**
[1] Remote non-adjustable wall mount 10k averaging temperature sensor	C0SNZN73AE1- **(47W37)**
[1] Remote non-adjustable duct mount temperature sensor	C0SNDC00AE1- **(19L22)**
Outdoor temperature sensor	C0SNSR03AE1- **(X4148)**
Accessories For Touchscreen Thermostat	
Locking cover (clear)	C0MISC15AE1- **(39P21)**

[1] Remote sensors for C0STAT02AE1L can be applied in the following combinations: (1) C0SNZN01AE1-, (2) C0SNZN73AE1-, (2) C0SNZN01AE1- and (1) C0SNZN73AE1-, (4) C0SNZN01AE1-, (3) C0SNZN01AE1- and (2) C0SNZN73AE1.

DIGITAL NON-PROGRAMMABLE THERMOSTATS



Intuitive Interface - Automatic Changeover - Simple Up and Down Temperature Control	
Two-stage heating / cooling conventional systems	C0STAT10AE1L **(13K98)**
Sensor For Digital Non-Programmable Thermostats Above	
Remote wall mounted temperature sensor	C0SNZN00AE1- **(26K57)**



Intuitive Interface - Automatic Changeover - Backlit Display - Simple Up and Down Temperature Control	
One-stage heating / cooling conventional systems	C0STAT12AE1L **(51M32)**
Sensor For Digital Non-Programmable Thermostats Above	
Outdoor temperature sensor	C0SNSR04AE1- **(X2658)**
Accessories For Digital Non-Programmable Thermostats Above	
Optional wall mounting plate	C0MISC17AE1- **(X2659)**

SOUND DATA

[1] Unit Model No.	Octave Band Sound Power Levels dBA, re 10^{-12} Watts Center Frequency - HZ								[1] Sound Rating Number (dB)
	63	125	250	500	1000	2000	4000	8000	
TSA072S4S	60	65	68	73	76	72	68	63	81
TSA090S4S	56	64	69	73	77	74	70	63	81
TSA120S4S	61	70	77	82	81	77	75	71	86
TSA120S4D	65	71	77	80	80	77	72	67	85
TSA150S4D	62	68	77	80	82	78	73	65	86
TSA180S4D	66	73	80	83	83	79	74	66	88
TSA240S4D	66	73	80	85	84	80	78	74	89

NOTE - the octave sound power data does not include tonal correction.
[1] Tested according to AHRI Standard 270-2008 test conditions.

SPECIFICATIONS

General Data	Model No.	TSA 072S4S	TSA 090S4S	TSA 120S4S	TSA 120S4D	TSA 150S4D	TSA 180S4D	TSA 240S4D
	Nominal Size - Tons	**21.0**	**26.4**	**35.2**	**35.2**	**44.0**	**53**	**70**
Connections (sweat)	Liquid line - mm (in.) (o.d)	(1) 15.8 (5/8)	(1) 15.8 (5/8)	(1) 15.8 (5/8)	(2) 15.8 (5/8)	(2) 15.8 (5/8)	(2) 15.8 (5/8)	(2) 15.8 (5/8)
	Suction line - mm (in.) (o.d)	(1) 28.6 (1-1/8)	(1) 28.6 (1-1/8)	(1) 28.6 (1-1/8)	(2) 28.6 (1-1/8)	(2) 28.6 (1-1/8)	(2) 28.6 (1-1/8)	(2) 34.9 1-3/8
Refrigerant (R-410A)		Factory installed holding charge						
[1] Field provided charge with 7.6 m (25 ft.) line set		5.0 kg (11 lbs.)	7.3 kg (16 lbs.)	7.7 kg (17 lbs.)	9.1 kg (20 lbs.)	9.5 kg (21 lbs.)	13.2 kg (29 lbs.)	15.9 kg (35 lbs.)
Condenser Coil	Net face area - m2 (sq. ft.) Outer coil	2.72 (29.3)	2.72 (29.3)	2.72 (29.3)	2.72 (29.3)	3.18 (34.2)	5.45 (58.7)	5.45 (58.7)
	Inner coil	- - -	2.64 (28.4)	2.64 (28.4)	2.64 (28.4)	3.09 (33.3)	5.36 (57.7)	5.36 (57.7)
	Tube diameter - in. & no. of rows	3/8 - 1	3/8 - 2	3/8 - 2	3/8 - 2	3/8 - 2	3/8 - 2	3/8 - 2
	Fins per meter (Fins per inch)	787 (20)	787 (20)	787 (20)	787 (20)	787 (20)	787 (20)	787 (20)
Condenser Fan(s)	Diameter - in. & no. of blades	(1) 610 (24) - 3	(1) 610 (24) - 4	(2) 610 (24) - 3	(2) 610 (24) - 3	(2) 610 (24) - 4	(4) 610 (24) - 3	(4) 24 (610) - 3
	Nominal Motor W (hp)	(1) 249 (1/3)	(1) 373 (1/2)	(2) 249 (1/3)	(2) 249 (1/3)	(2) 373 (1/2)	(4) 249 (1/3)	(4) 249 (1/3)
	Total air volume - L/s (cfm)	2010 (4260)	2195 (4650)	3270 (6930)	3270 (6930)	4060 (8600)	6515 (13 800)	6515 (13 800)
	Rev/min	900	900	900	900	900	900	900
	Watts	330	440	630	630	860	1270	1270

ELECTRICAL DATA

	Line voltage data - 50 hz - 3 phase	**380/420V**	**380/420V**	**380/420V**	**380/420V**	**380/420V**	**380/420V**	**380/420V**
	[2] Maximum Overcurrent Protection (amps)	20	25	40	25	30	40	50
	[3] Minimum circuit ampacity	14	17	24	21	25	33	43
Compressor	No. of Compressors	1	1	1	2	2	2	2
	Rated load amps (total)	9.7	12.2	16.7	7.8 (15.6)	9.7 (19.4)	12.2 (24.4)	16.7 (33.4)
	Locked rotor amps (total)	62.0	100.0	114.0	52.0 (104)	62.0 (124.0)	100.0 (200.0)	114.0 (228.0)
Condenser Fan Motor (1 phase)	No. of motors	1	1	2	2	2	4	4
	Full load amps (total)	1.3	1.5	1.3 (2.6)	1.3 (2.6)	1.5 (3)	1.3 (5.2)	1.3 (5.2)
	Locked rotor amps (total)	2.4	3.0	2.4 (4.8)	2.4 (4.8)	3.0 (6.0)	2.4 (9.6)	2.4 (9.6)

NOTE - Extremes of operating range are plus and minus 10% of line voltage.

[1] Refer to the Lennox Refrigerant Piping Manual to determine charge at various line set lengths.

[2] Heating Air-Conditioning Refrigeration type breaker or fuse.

[3] Refer to local codes to determine wire, fuse and disconnect size requirements.

OPTIONS / ACCESSORIES

Item		Catalog No.	072S4S	090S4S	120S4S	120S4D	150S4D	180S4D	240S4D
CABINET									
Coil Guards	T2GARD20L-1	**47W12**	X	X					
	T2GARD20M-1	**47W13**			X	X			
	T2GARD21M-1	**47W14**					X		
	T2GARD20N-1-	**47W15**						X	X
Hail Guards	T2GARD10L-1	**47W16**	X	X					
	T2GARD10M-1	**47W17**			X	X			
	T2GARD11M-1	**47W18**					X		
	T2GARD10N-1	**47W19**						X	X
Corrosion Protection		Factory	O	O	O	O	O	O	O
CONTROLS									
Low Ambient Control (0ºF)	T2CWKT01LM1-	**44W17**	X	X	X				
	T2CWKT02M-1-	**44W18**				X	X		
	T2CWKT03N-1-	**44W19**						X	X
Network Thermostat Controller	C0CTRL07AE1L	**17M10**	X	X	X	X	X	X	X

NOTE - The catalog and model numbers that appear here are for ordering field installed accessories only.
O - Factory Installed with extended lead time.
X - Field Installed

WEIGHT DATA

Model No.	Net		Shipping	
	kg	lbs.	kg	lbs.
072	138	305	147	325
090	161	355	170	375
120S	211	465	222	490
120D	218	480	229	505
150	243	535	254	560
180	352	775	363	800
240	392	865	404	890

OPTIONS / ACCESSORIES

COIL GUARDS					
	T2GARD20L-1	18	40	20	45
	T2GARD20M-1	20	45	23	50
	T2GARD21M-1	20	45	23	50
	T2GARD20N-1-	41	90	45	100
HAIL GUARDS					
	T2GARD10L-1	32	70	34	75
	T2GARD10M-1	34	75	36	80
	T2GARD11M-1	34	75	36	80
	T2GARD10N-1	54	120	59	130

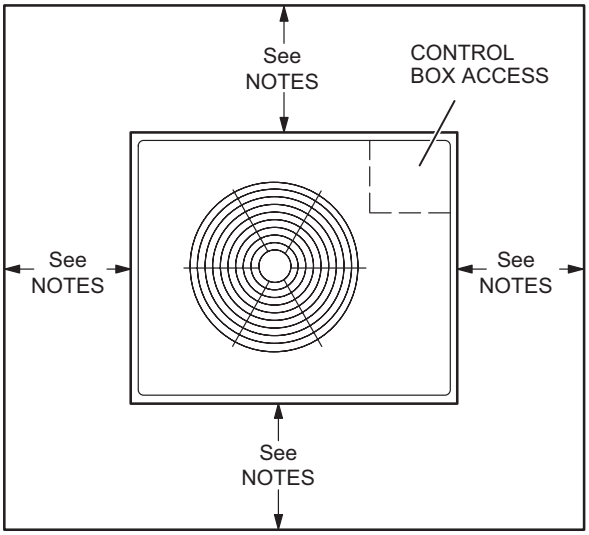
RATINGS

Gross Cooling Capacity		Net Cooling Capacity		Coefficient of Performance	Energy Efficiency Ratio	Indoor Coil or Air Handler	Expansion Device
kW	Btuh	kW	Btuh	(Output/Input)	(Btuh/Watt)		
TSA072S4S							
Air Handlers							
19.5	66 700	19.0	65 000	3.40	11.6	TAA072S4D (Upflow / Horizontal)	Factory Installed
Upflow Indoor Coils							
19.3	65 800	18.4	63 000	3.14	10.7	CX34-62D-6F	Factory Installed
20.0	68 300	19.2	66 000	3.25	11.1	(2) CX34-43B/C-6F	Factory Installed
Horizontal Indoor Coils							
18.8	64 300	18.0	61 500	3.1	10.6	CH33-62-2F	**91M02** (order 1)
TSA090S4S							
Air Handlers							
24.3	83 100	23.4	80 000	3.34	11.4	TAA090S4D (Upflow / Horizontal)	Factory Installed
25.0	85 400	24.0	82 000	3.34	11.4	TAA120 (Upflow / Horizontal)	Factory Installed
Upflow Indoor Coils							
24.4	83 300	23.4	80 000	3.17	10.8	(2) CX34-49C-6F	Factory Installed
Downflow Indoor Coils							
24.0	82 000	22.8	78 000	3.14	10.7	(2) CR33-50/60C-F	**91M02** (order 2)
Horizontal Indoor Coils							
24.5	83 600	23.4	80 000	3.19	10.9	(2) CH33-49C-2F	**91M02** (order 2)
TSA120S4S							
Air Handlers							
31.1	106 200	29.9	102 000	3.34	11.4	TAA120S4D (Upflow / Horizontal)	Factory Installed
Upflow Indoor Coils							
30.7	104 900	29.3	100 000	3.22	11.0	(2) CX34-62D-6F	Factory Installed
Downflow Indoor Coils							
29.7	101 600	28.4	97 000	3.17	10.8	(2) CR33-50/60-F	**91M02** (order 2)
Horizontal Indoor Coils							
30.8	105 300	29.6	101 000	3.19	10.9	(2) CH33-62D-2F	**91M02** (order 2)
TSA120S4D							
Air Handlers							
31.6	107 800	30.2	103 000	3.34	11.4	TAA120S4D (Upflow / Horizontal)	Factory Installed
Upflow Indoor Coils							
30.8	105 100	29.3	100 000	3.22	11.0	(2) CX34-60D-6F	Factory Installed
31.0	106 000	29.6	101 000	3.25	11.1	(2) CX34-62D-6F	Factory Installed
Downflow Indoor Coils							
29.7	101 600	28.4	97 000	3.19	10.9	(2) CR33-60D-F	**91M02** (order 2)
Horizontal Indoor Coils							
30.8	105 200	29.6	101 000	3.22	11.0	(2) CH33-62D-2F	**91M02** (order 2)
TSA150S4D							
Air Handlers							
37.7	128 800	36.6	125 000	3.34	11.4	TAA120 (Upflow / Horizontal)	Factory Installed
37.5	127 900	36.3	124 000	3.31	11.3	TAA150S4D (Upflow / Horizontal)	Factory Installed
TSA180S4D							
Air Handlers							
49.2	167 700	47.5	162 000	3.31	11.3	TAA180S4D (Upflow / Horizontal)	Factory Installed
51.7	176 400	49.8	170 000	3.37	11.5	(2) TAA090S4D (Upflow / Horizontal)	Factory Installed
TSA240S4D							
Air Handlers							
64.0	218 400	61.5	210 000	3.28	11.2	TAA240S4D (Upflow / Horizontal)	Factory Installed
65.2	222 600	62.7	214 000	3.37	11.5	(2) TAA120S4D (Upflow / Horizontal)	Factory Installed

NOTES - Net capacity includes indoor blower motor heat deduction. Gross capacity does not include indoor blower motor heat deduction.
Rating test conditions are those included in Air-Conditioning and Refrigeration Institute (ARI) Standard 340/360;35°C (95°F) outdoor air temperature and 27°C (80°F) db/19°C (67°F) wb entering evaporator air; minimum external duct static pressure while operating at rated voltage and air volumes.

UNIT CLEARANCES - MM (INCHES)

TSA072 and TSA090



NOTES:

Service clearance of 762 mm (30 in.) must be maintained on one of the sides adjacent to the control box.

Clearance to one of the other three sides must be 914 mm (36 in.).

Clearance to one of the remaining two sides may be 305 mm (12 in.) and the final side may be 152 mm (6 in.).

A clearance of 610 mm (24 in.) must be maintained between two units.

1219 mm (48 in.) clearance required on top of unit.

TSA120 and TSA150

NOTES:

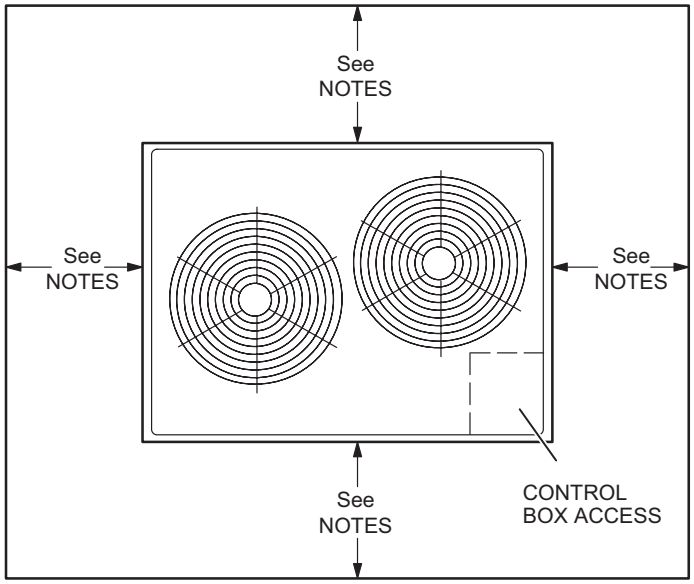
Service clearance of 762 mm (30 in.) must be maintained on one of the sides adjacent to the control box.

Clearance to one of the other three sides must be 914 mm (36 in.).

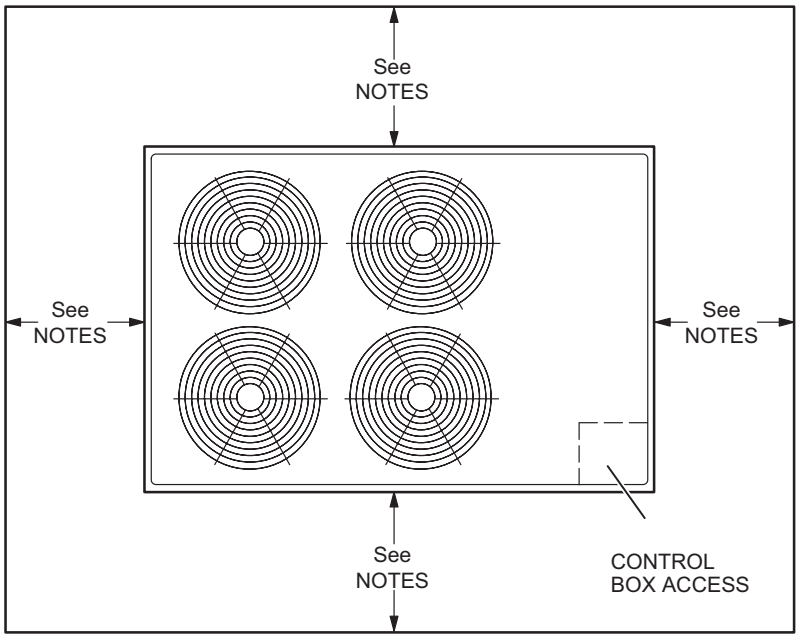
Clearance to one of the remaining two sides may be 305 mm (12 in.) and the final side may be 152 mm (6 in.).

A clearance of 610 mm (24 in.) must be maintained between two units.

1219 mm (48 in.) clearance required on top of unit.



TSA180 and TSA240



NOTES:

Service clearance of 762 mm (30 in.) must be maintained on one of the sides adjacent to the control box.

Clearance to one of the other three sides must be 914 mm (36 in.).

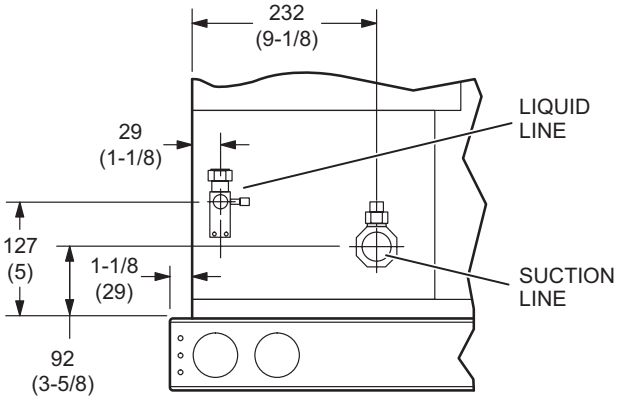
Clearance to one of the remaining two sides may be 305 mm (12 in.) and the final side may be 152 mm (6 in.).

A clearance of 610 mm (24 in.) must be maintained between two units.

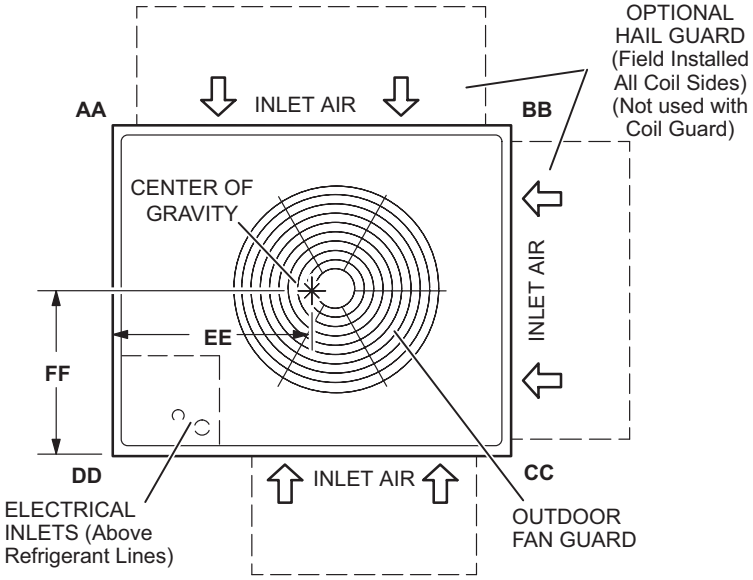
1219 mm (48 in.) clearance required on top of unit.

DIMENSIONS - MM (INCHES) - TSA072 AND TSA090

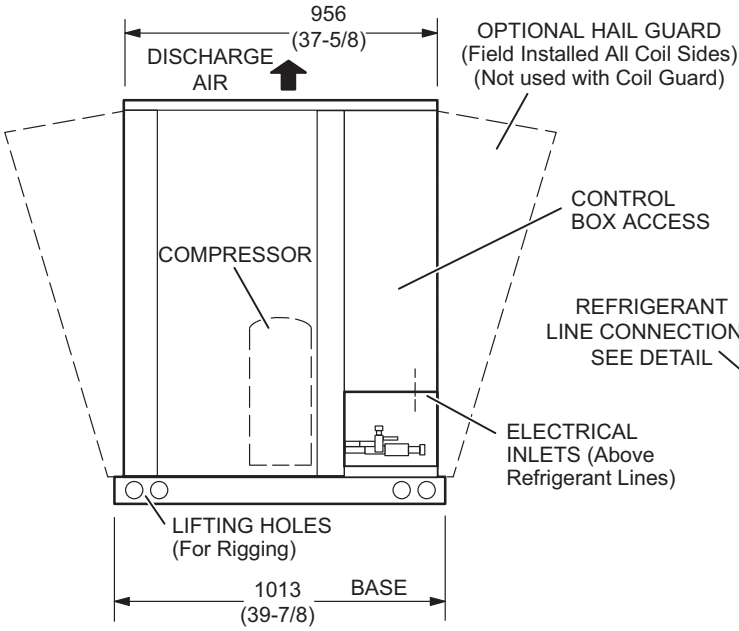
Model No.	CORNER WEIGHTS								CENTER OF GRAVITY			
	A		B		C		D		EE		FF	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	mm	in.	mm	in.
TSA072S4S	33	73	30	67	35	78	39	85	584	33	470	18-1/2
TSA090S4S	39	86	42	93	42	92	39	85	635	25	514	20-1/4



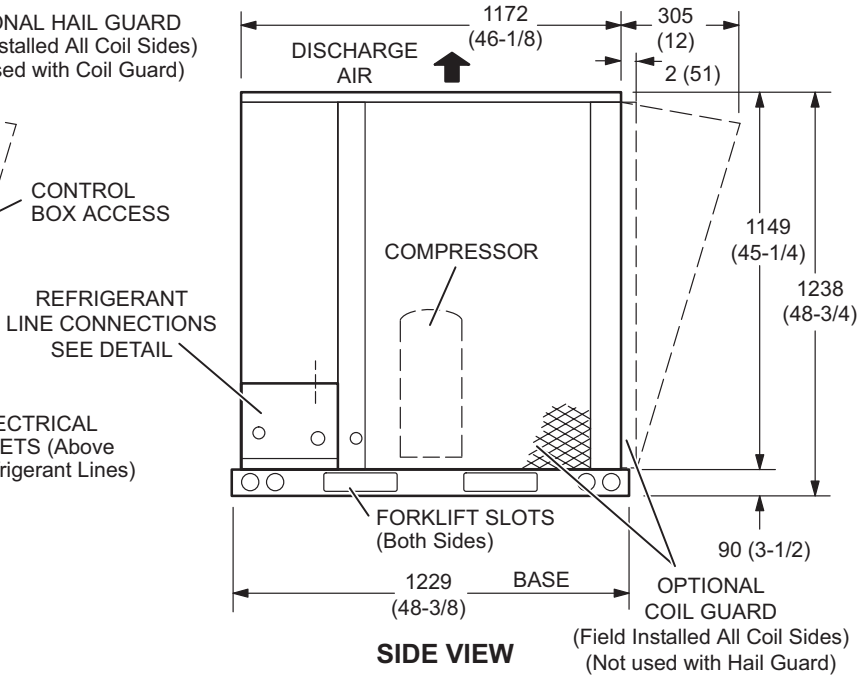
REFRIGERANT LINE CONNECTIONS DETAIL



TOP VIEW



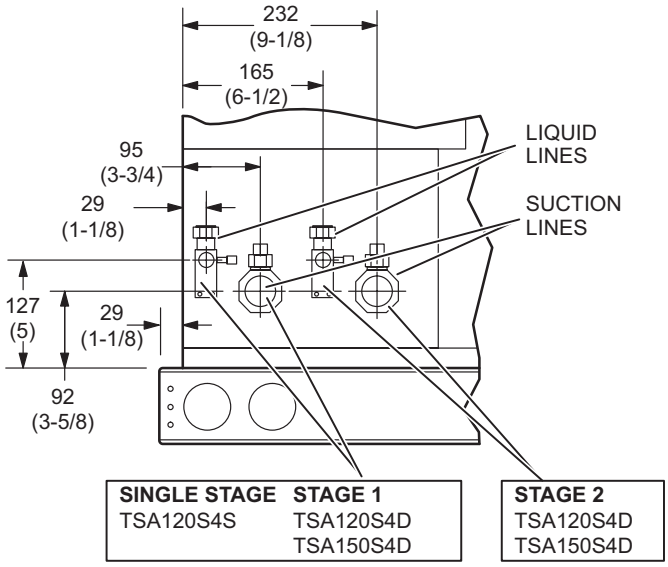
FRONT VIEW



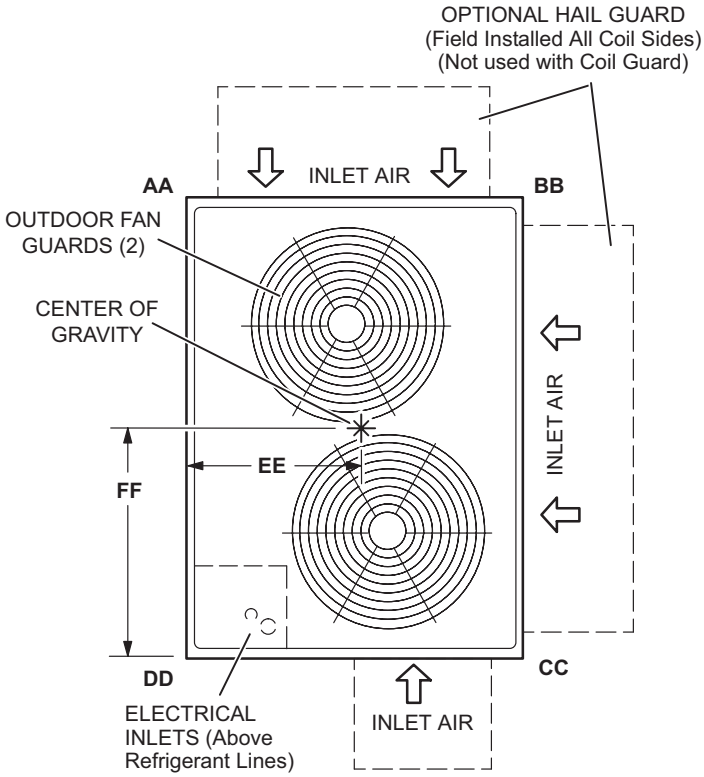
SIDE VIEW

DIMENSIONS - MM (INCHES) - TSA120 AND TSA150

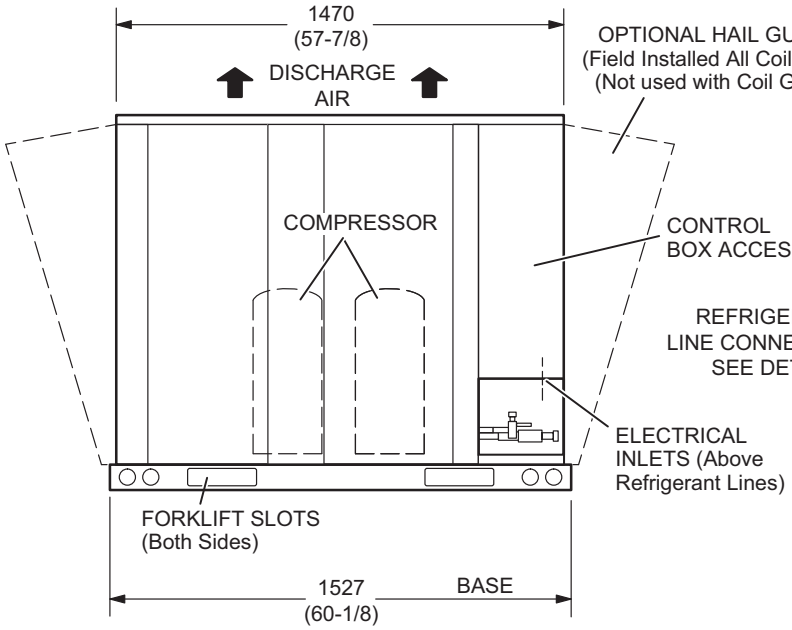
Model No.	CORNER WEIGHTS								CENTER OF GRAVITY			
	A		B		C		D		EE		FF	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	mm	in.	mm	in.
TSA120S4S	62	136	55	121	44	96	49	108	521	20-1/2	851	33-1/2
TSA120S4D	54	120	51	112	56	124	60	133	533	21	724	28-1/2
TSA150S4D	69	152	53	117	53	117	69	152	483	19	762	30



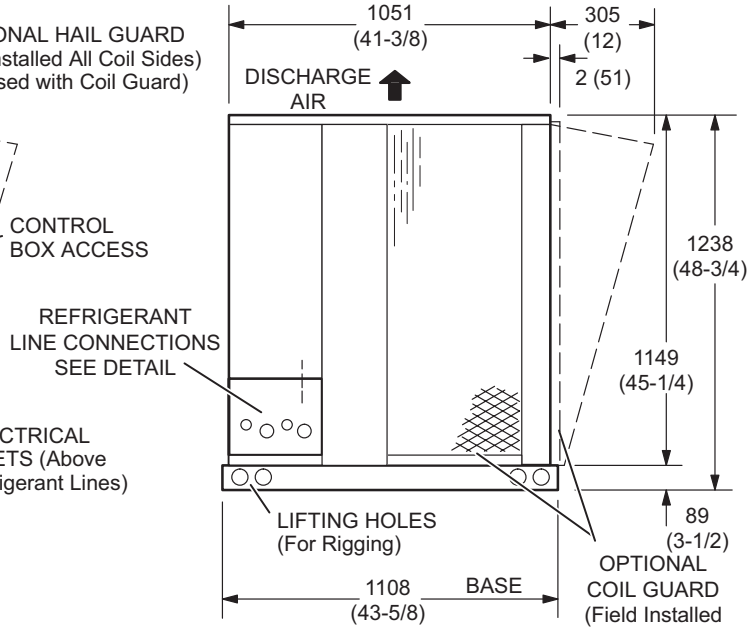
REFRIGERANT LINE CONNECTIONS DETAIL



TOP VIEW



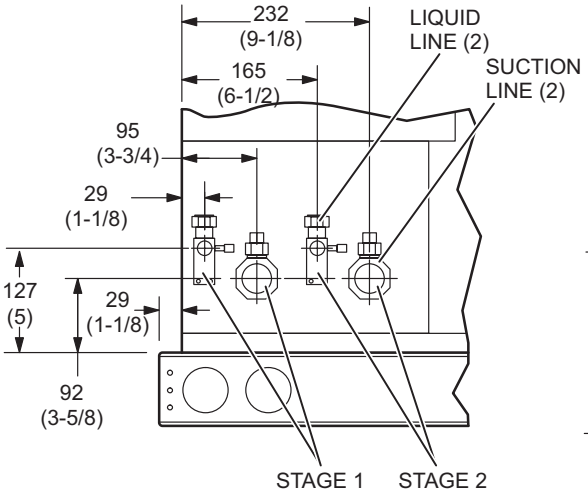
FRONT VIEW



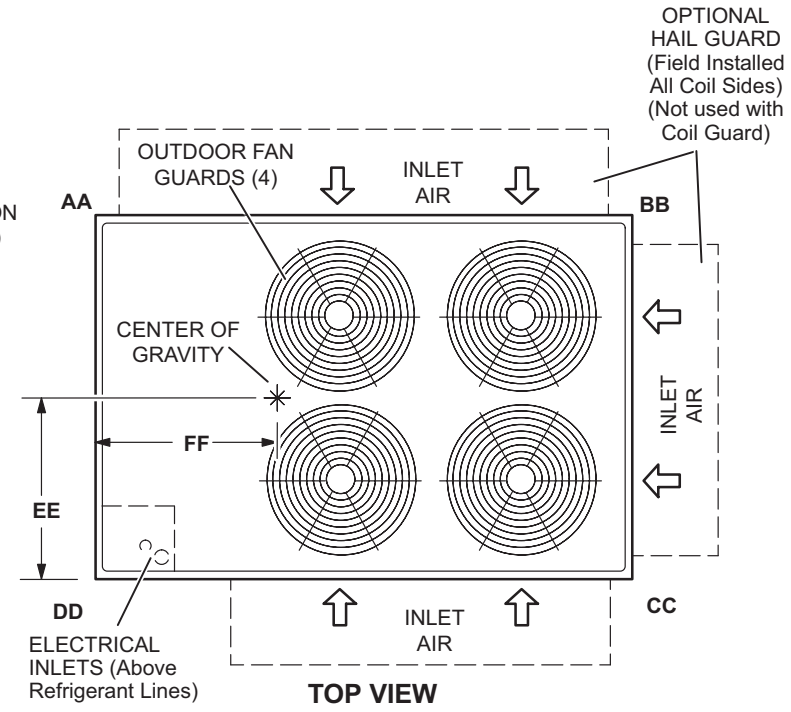
SIDE VIEW

DIMENSIONS - MM (INCHES) - TSA180 AND TSA240

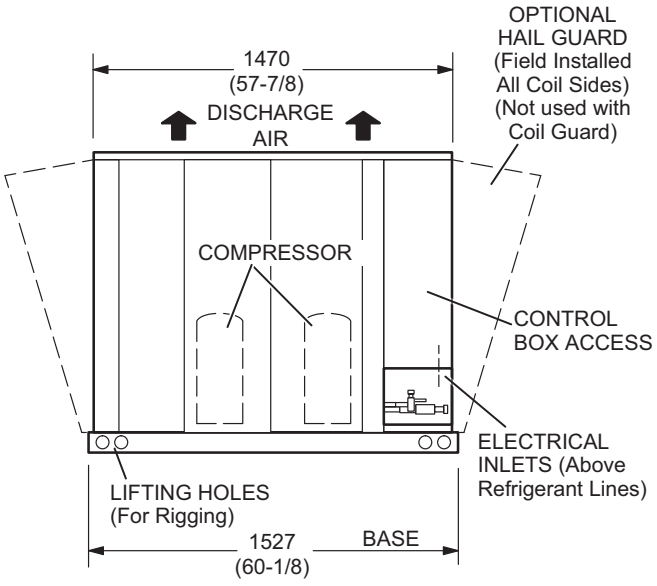
Model No.	CORNER WEIGHTS								CENTER OF GRAVITY			
	A		B		C		D		EE		FF	
	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	mm	in.	mm	in.
TSA180S4D	101	223	75	166	81	178	108	238	737	29	965	38
TSA240S4D	120	265	89	197	89	197	120	265	762	30	965	38



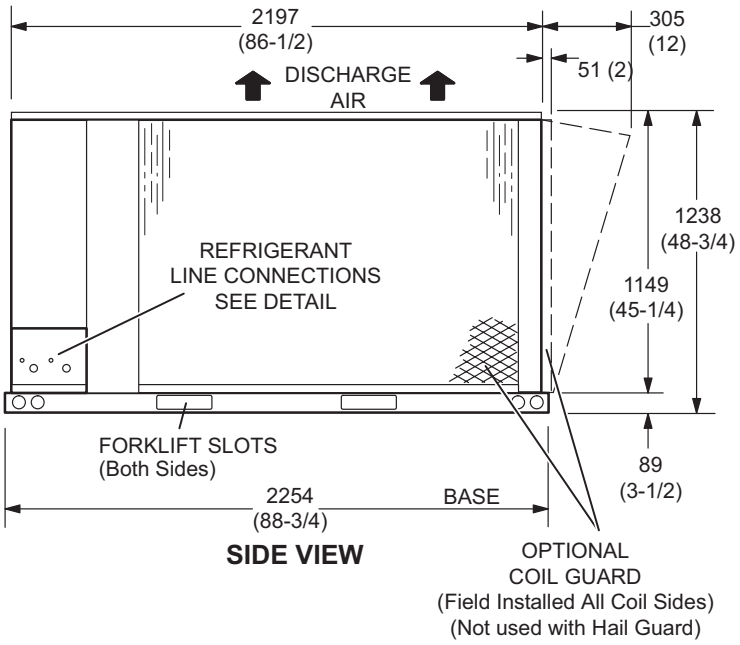
REFRIGERANT LINE CONNECTIONS DETAIL



TOP VIEW



FRONT VIEW



SIDE VIEW

NOTES: For Temperatures and Capacities not shown in tables, see bulletin − Cooling UnitRating Table Correction Factor Data in Miscellaneous Engineering Data section.
Expanded rating tables are sorted by smallest to largest indoor unit model no.

AIR HANDLERS

COOLING CAPACITY − TSA072S4S with [TAA072S4S]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.90	1920	19.3	65.9	4.04	.70	.86	1.00	18.0	61.5	4.73	.72	.90	1.00	16.6	56.7	5.56	.75	.96	1.00	14.9	50.8	6.57	.80	1.00	1.00
	1.13	2400	20.3	69.1	4.05	.74	.95	1.00	18.9	64.5	4.75	.78	.99	1.00	17.4	59.5	5.58	.82	1.00	1.00	15.9	54.1	6.61	.90	1.00	1.00
	1.36	2880	20.9	71.4	4.07	.81	1.00	1.00	19.7	67.2	4.77	.85	1.00	1.00	18.3	62.3	5.61	.90	1.00	1.00	16.5	56.3	6.63	.98	1.00	1.00
19°C (67°F)	.90	1920	20.3	69.2	4.06	.55	.68	.81	19.0	64.8	4.75	.56	.70	.85	17.5	59.6	5.58	.58	.72	.91	15.7	53.5	6.59	.60	.77	.98
	1.13	2400	21.2	72.5	4.07	.58	.72	.91	19.8	67.7	4.77	.60	.75	.96	18.2	62.2	5.60	.62	.79	1.00	16.3	55.6	6.63	.64	.86	1.00
	1.36	2880	21.9	74.8	4.09	.61	.78	.99	20.4	69.7	4.78	.63	.82	1.00	18.8	64.1	5.62	.65	.87	1.00	16.8	57.3	6.65	.68	.95	1.00
22°C (71°F)	.90	1920	21.4	73.0	4.08	.42	.54	.65	20.0	68.2	4.77	.42	.55	.67	18.4	62.7	5.61	.43	.57	.70	16.5	56.3	6.63	.44	.59	.74
	1.13	2400	22.3	76.0	4.10	.43	.57	.70	20.8	71.0	4.79	.44	.58	.73	19.1	65.3	5.63	.45	.61	.76	17.1	58.5	6.66	.46	.64	.83
	1.36	2880	22.9	78.3	4.11	.44	.60	.75	21.4	73.1	4.80	.45	.62	.79	19.6	67.0	5.64	.46	.64	.84	17.6	60.1	6.67	.47	.67	.92

UP−FLOW INDOOR COIL

COOLING CAPACITY − TSA072S4S with [(2) CX34−43B/C−6F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.90	1920	19.7	67.3	4.05	.69	.84	1.00	18.4	62.9	4.74	.71	.89	1.00	16.9	57.7	5.57	.74	.94	1.00	15.1	51.5	6.58	.79	1.00	1.00
	1.13	2400	20.7	70.7	4.07	.73	.93	1.00	19.3	65.7	4.76	.76	.98	1.00	17.8	60.6	5.60	.81	1.00	1.00	16.1	54.8	6.60	.88	1.00	1.00
	1.36	2880	21.4	73.1	4.09	.79	1.00	1.00	20.1	68.6	4.78	.82	1.00	1.00	18.6	63.3	5.61	.88	1.00	1.00	16.9	57.5	6.64	.96	1.00	1.00
19°C (67°F)	.90	1920	20.7	70.8	4.07	.54	.66	.80	19.5	66.4	4.77	.56	.69	.84	17.9	61.0	5.60	.57	.71	.89	16.0	54.7	6.61	.60	.76	.96
	1.13	2400	21.8	74.5	4.10	.57	.71	.89	20.3	69.3	4.78	.58	.73	.93	18.6	63.6	5.62	.60	.78	.99	16.7	57.0	6.63	.63	.84	1.00
	1.36	2880	22.5	76.9	4.11	.59	.76	.97	21.0	71.5	4.80	.61	.80	1.00	19.2	65.6	5.63	.64	.85	1.00	17.1	58.5	6.66	.67	.93	1.00
22°C (71°F)	.90	1920	21.9	74.7	4.10	.41	.53	.64	20.4	69.7	4.79	.42	.54	.66	18.8	64.0	5.62	.43	.56	.69	16.9	57.5	6.64	.44	.58	.73
	1.13	2400	22.8	77.8	4.12	.42	.56	.69	21.3	72.6	4.81	.43	.57	.71	19.5	66.6	5.64	.44	.59	.75	17.6	60.0	6.68	.46	.62	.81
	1.36	2880	23.6	80.4	4.13	.43	.58	.73	21.9	74.8	4.82	.45	.60	.77	20.2	68.9	5.67	.46	.63	.82	18.1	61.6	6.69	.47	.66	.89

UP−FLOW INDOOR COIL

COOLING CAPACITY − TSA072S4S with [CX34−62D−6F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.90	1920	19.1	65.3	4.04	.68	.84	1.00	17.8	60.9	4.73	.71	.88	1.00	16.4	56.0	5.56	.73	.93	1.00	14.7	50.0	6.55	.78	1.00	1.00
	1.13	2400	20.0	68.4	4.06	.73	.92	1.00	18.7	63.9	4.75	.76	.97	1.00	17.1	58.5	5.57	.80	1.00	1.00	15.6	53.2	6.60	.86	1.00	1.00
	1.36	2880	20.7	70.8	4.07	.78	.99	1.00	19.4	66.1	4.76	.81	1.00	1.00	18.0	61.4	5.60	.87	1.00	1.00	16.3	55.5	6.62	.94	1.00	1.00
19°C (67°F)	.90	1920	20.1	68.7	4.06	.55	.66	.79	18.8	64.3	4.76	.56	.68	.83	17.3	59.2	5.59	.57	.71	.88	15.6	53.2	6.60	.59	.75	.96
	1.13	2400	21.2	72.2	4.08	.57	.71	.88	19.7	67.3	4.77	.58	.73	.92	18.1	61.7	5.60	.60	.77	.98	16.2	55.3	6.62	.63	.83	1.00
	1.36	2880	21.8	74.5	4.10	.59	.75	.96	20.3	69.3	4.78	.61	.79	1.00	18.6	63.6	5.62	.63	.84	1.00	16.7	56.9	6.63	.66	.91	1.00
22°C (71°F)	.90	1920	21.3	72.6	4.08	.42	.53	.64	19.9	67.8	4.78	.42	.54	.66	18.2	62.2	5.61	.43	.56	.69	16.4	56.0	6.62	.44	.58	.72
	1.13	2400	22.2	75.6	4.10	.43	.56	.68	20.7	70.6	4.80	.43	.57	.71	19.0	64.9	5.62	.44	.59	.74	17.1	58.3	6.65	.45	.62	.80
	1.36	2880	22.9	78.2	4.12	.44	.58	.73	21.4	72.9	4.81	.44	.60	.76	19.6	66.9	5.65	.46	.62	.81	17.6	60.0	6.68	.47	.65	.88

NOTES: For Temperatures and Capacities not shown in tables, see bulletin − Cooling UnitRating Table Correction Factor Data in Miscellaneous Engineering Data section.
Expanded rating tables are sorted by smallest to largest indoor unit model no.

HORIZONTAL INDOOR COILS

COOLING CAPACITY − TSA072S4S with [CH33−62D−2F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	.90	1920	18.9	64.6	4.04	.68	.83	.98	17.7	60.4	4.73	.70	.86	1.00	16.2	55.4	5.56	.72	.91	1.00	14.5	49.5	6.55	.77	.98	1.00
	1.13	2400	19.8	67.7	4.06	.72	.90	1.00	18.5	63.2	4.75	.75	.95	1.00	16.9	57.8	5.57	.79	1.00	1.00	15.3	52.3	6.59	.85	1.00	1.00
	1.36	2880	20.5	69.9	4.07	.77	.98	1.00	19.0	65.0	4.75	.80	1.00	1.00	17.7	60.3	5.59	.85	1.00	1.00	16.1	54.8	6.62	.92	1.00	1.00
19°C (67°F)	.90	1920	20.0	68.1	4.06	.54	.66	.78	18.7	63.8	4.75	.55	.68	.82	17.2	58.7	5.58	.57	.70	.87	15.4	52.7	6.58	.59	.74	.94
	1.13	2400	21.0	71.5	4.08	.57	.70	.86	19.5	66.7	4.77	.58	.72	.90	17.9	61.2	5.60	.60	.76	.96	16.1	54.8	6.61	.62	.82	1.00
	1.36	2880	21.7	73.9	4.09	.59	.74	.93	20.2	68.9	4.79	.60	.77	.98	18.5	63.1	5.62	.62	.82	1.00	16.5	56.4	6.62	.65	.89	1.00
22°C (71°F)	.90	1920	21.1	71.9	4.08	.42	.53	.64	19.7	67.3	4.77	.42	.54	.65	18.2	62.0	5.61	.43	.56	.68	16.3	55.6	6.62	.44	.58	.71
	1.13	2400	22.0	75.1	4.10	.43	.55	.67	20.5	70.1	4.79	.43	.57	.70	18.9	64.5	5.63	.44	.59	.73	17.0	57.9	6.65	.45	.61	.78
	1.36	2880	22.7	77.6	4.12	.44	.58	.71	21.2	72.3	4.81	.44	.59	.75	19.4	66.3	5.64	.45	.61	.79	17.5	59.6	6.67	.46	.64	.85

NOTES: For Temperatures and Capacities not shown in tables, see bulletin − Cooling UnitRating Table Correction Factor Data in Miscellaneous Engineering Data section. Expanded rating tables are sorted by smallest to largest indoor unit model no.

AIR HANDLERS

COOLING CAPACITY − TSA090S4S with [TAA090S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.13	2400	24.1	82.3	4.89	.71	.86	1.00	22.6	77.0	5.70	.73	.89	1.00	20.9	71.3	6.68	.76	.94	1.00	18.8	64.3	7.89	.80	.99	1.00
	1.41	3000	25.2	86.0	4.96	.76	.95	1.00	23.5	80.3	5.77	.79	.98	1.00	21.8	74.5	6.76	.82	1.00	1.00	20.0	68.3	7.98	.88	1.00	1.00
	1.70	3600	25.9	88.5	5.01	.82	1.00	1.00	24.5	83.6	5.84	.86	1.00	1.00	22.8	77.7	6.82	.90	1.00	1.00	20.8	71.1	8.05	.96	1.00	1.00
19°C (67°F)	1.13	2400	25.5	87.0	4.98	.56	.69	.82	23.9	81.4	5.79	.57	.71	.86	22.0	75.1	6.76	.59	.74	.90	19.9	67.8	7.97	.60	.76	.95
	1.41	3000	26.5	90.4	5.05	.59	.74	.91	24.7	84.2	5.85	.60	.76	.95	22.8	77.7	6.82	.63	.80	.99	20.6	70.3	8.01	.65	.86	1.00
	1.70	3600	27.4	93.7	5.13	.62	.82	.98	25.4	86.6	5.89	.65	.83	1.00	23.4	79.7	6.86	.66	.88	1.00	21.1	72.1	8.07	.70	.94	1.00
22°C (71°F)	1.13	2400	26.8	91.6	5.07	.42	.55	.67	25.1	85.7	5.88	.42	.56	.69	23.2	79.2	6.85	.43	.58	.71	21.0	71.5	8.05	.44	.59	.74
	1.41	3000	27.9	95.2	5.14	.44	.58	.72	26.0	88.6	5.94	.45	.59	.74	23.9	81.7	6.91	.45	.61	.78	21.7	73.9	8.11	.46	.65	.83
	1.70	3600	28.6	97.5	5.19	.44	.62	.77	26.6	90.7	5.98	.46	.63	.81	24.4	83.3	6.95	.47	.66	.86	22.2	75.7	8.16	.49	.69	.92

COOLING CAPACITY − TSA090S4S with [TAA120S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.13	2400	24.3	83.0	4.90	.70	.85	1.00	22.7	77.6	5.71	.72	.89	1.00	21.0	71.8	6.69	.75	.94	1.00	19.0	64.8	7.90	.79	1.00	1.00
	1.41	3000	25.5	86.9	4.97	.75	.95	1.00	23.8	81.1	5.78	.78	.99	1.00	22.1	75.3	6.77	.83	1.00	1.00	20.2	68.8	7.99	.89	1.00	1.00
	1.70	3600	26.5	90.3	5.04	.82	1.00	1.00	24.9	84.9	5.86	.86	1.00	1.00	23.1	78.7	6.84	.91	1.00	1.00	21.0	71.8	8.06	.98	1.00	1.00
19°C (67°F)	1.13	2400	25.8	87.9	4.99	.55	.68	.82	24.1	82.1	5.80	.56	.70	.85	22.2	75.8	6.78	.58	.73	.90	20.0	68.4	7.98	.61	.76	.96
	1.41	3000	26.8	91.6	5.06	.59	.74	.92	25.0	85.4	5.86	.60	.76	.96	22.9	78.3	6.83	.62	.80	1.00	20.7	70.8	8.05	.64	.87	1.00
	1.70	3600	27.5	94.0	5.11	.62	.79	.99	25.7	87.6	5.91	.63	.83	1.00	23.6	80.4	6.88	.66	.89	1.00	21.3	72.7	8.08	.70	.96	1.00
22°C (71°F)	1.13	2400	27.1	92.6	5.09	.42	.54	.66	25.4	86.6	5.89	.42	.55	.68	23.5	80.1	6.87	.43	.57	.71	21.2	72.4	8.08	.44	.59	.74
	1.41	3000	28.3	96.6	5.16	.43	.58	.72	26.3	89.7	5.96	.43	.58	.74	24.2	82.7	6.93	.45	.61	.77	21.9	74.7	8.13	.46	.64	.84
	1.70	3600	29.0	99.1	5.21	.45	.61	.78	27.1	92.3	6.01	.45	.63	.81	24.9	84.8	6.97	.46	.66	.86	22.4	76.3	8.17	.48	.69	.93

UP−FLOW INDOOR COIL

COOLING CAPACITY − TSA090S4S with [(2) CX34−49C−6F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.13	2400	23.8	81.3	4.87	.69	.83	.99	22.3	76.1	5.68	.71	.87	1.00	20.6	70.3	6.67	.74	.91	1.00	18.7	63.8	7.88	.77	.98	1.00
	1.41	3000	24.9	84.9	4.94	.74	.92	1.00	23.3	79.5	5.74	.76	.96	1.00	21.5	73.5	6.73	.80	1.00	1.00	19.7	67.3	7.96	.85	1.00	1.00
	1.70	3600	25.7	87.8	4.99	.79	.99	1.00	24.1	82.4	5.80	.82	1.00	1.00	22.5	76.7	6.80	.87	1.00	1.00	20.5	70.1	8.02	.94	1.00	1.00
19°C (67°F)	1.13	2400	24.9	85.1	4.94	.55	.67	.80	23.4	79.8	5.76	.56	.69	.83	21.6	73.8	6.74	.57	.71	.88	19.7	67.2	7.95	.60	.75	.94
	1.41	3000	26.1	89.1	5.02	.58	.72	.88	24.4	83.3	5.82	.59	.74	.92	22.5	76.8	6.80	.61	.78	.97	20.4	69.7	8.01	.64	.83	1.00
	1.70	3600	26.9	91.9	5.07	.61	.77	.96	25.2	86.0	5.88	.62	.80	1.00	23.2	79.1	6.85	.64	.85	1.00	21.0	71.5	8.06	.67	.91	1.00
22°C (71°F)	1.13	2400	26.1	89.1	5.02	.42	.54	.65	24.5	83.6	5.83	.42	.55	.67	22.6	77.2	6.81	.43	.56	.69	20.6	70.3	8.02	.44	.59	.73
	1.41	3000	27.3	93.1	5.09	.43	.57	.70	25.5	87.0	5.90	.44	.58	.72	23.6	80.6	6.88	.45	.60	.75	21.4	73.0	8.09	.45	.63	.80
	1.70	3600	28.2	96.1	5.15	.45	.60	.74	26.3	89.8	5.96	.45	.61	.78	24.3	82.9	6.93	.46	.64	.82	22.0	74.9	8.14	.48	.67	.89

RATINGS 26.4 KW

NOTES: For Temperatures and Capacities not shown in tables, see bulletin − Cooling UnitRating Table Correction Factor Data in Miscellaneous Engineering Data section.
Expanded rating tables are sorted by smallest to largest indoor unit model no.

DOWN−FLOW INDOOR COILS

COOLING CAPACITY − TSA090S4S with [(2) CR33−50/60C−F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.13	2400	23.4	80.0	4.84	.70	.84	.99	21.9	74.8	5.65	.71	.87	1.00	20.2	69.0	6.63	.74	.92	1.00	18.3	62.3	7.84	.78	.98	1.00
	1.41	3000	24.4	83.2	4.90	.74	.92	1.00	22.7	77.6	5.71	.77	.96	1.00	21.1	71.9	6.69	.81	1.00	1.00	19.3	65.9	7.92	.86	1.00	1.00
	1.70	3600	25.1	85.7	4.95	.79	.99	1.00	23.7	80.7	5.77	.83	1.00	1.00	22.0	75.2	6.77	.87	1.00	1.00	20.1	68.7	7.99	.93	1.00	1.00
19°C (67°F)	1.13	2400	24.7	84.2	4.92	.55	.67	.80	23.1	78.9	5.73	.57	.69	.84	21.4	72.9	6.72	.58	.72	.88	19.3	66.0	7.93	.60	.75	.94
	1.41	3000	25.8	87.9	4.99	.58	.72	.89	24.0	82.0	5.79	.60	.74	.93	22.2	75.6	6.77	.61	.78	.97	20.0	68.2	7.98	.64	.83	1.00
	1.70	3600	26.5	90.3	5.04	.61	.77	.96	24.6	84.1	5.84	.62	.80	.99	22.7	77.4	6.81	.65	.85	1.00	20.5	69.8	8.02	.67	.91	1.00
22°C (71°F)	1.13	2400	25.9	88.4	5.01	.42	.54	.65	24.3	82.8	5.81	.42	.55	.67	22.5	76.7	6.80	.43	.57	.70	20.4	69.6	8.01	.43	.59	.73
	1.41	3000	27.0	92.1	5.07	.43	.57	.70	25.3	86.2	5.88	.44	.59	.72	23.3	79.6	6.86	.45	.61	.76	21.0	71.8	8.05	.46	.63	.81
	1.70	3600	27.8	94.8	5.13	.45	.60	.75	25.9	88.4	5.93	.45	.62	.78	23.9	81.5	6.90	.46	.64	.83	21.6	73.6	8.11	.48	.67	.89

HORIZONTAL INDOOR COILS

COOLING CAPACITY − TSA090S4S with [(2) CH33−49C−2F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.13	2400	23.9	81.4	4.87	.69	.83	.99	22.3	76.1	5.68	.71	.87	1.00	20.6	70.2	6.66	.73	.92	1.00	18.6	63.6	7.87	.77	.98	1.00
	1.41	3000	24.9	85.0	4.94	.74	.92	1.00	23.2	79.3	5.74	.77	.96	1.00	21.4	73.1	6.72	.80	1.00	1.00	19.7	67.1	7.96	.86	1.00	1.00
	1.70	3600	25.7	87.8	4.99	.79	.99	1.00	24.1	82.2	5.80	.82	1.00	1.00	22.4	76.6	6.79	.87	1.00	1.00	20.5	69.9	8.02	.94	1.00	1.00
19°C (67°F)	1.13	2400	25.1	85.8	4.95	.55	.67	.80	23.6	80.4	5.76	.56	.69	.83	21.7	74.2	6.74	.57	.71	.88	19.7	67.2	7.95	.59	.75	.94
	1.41	3000	26.3	89.6	5.02	.58	.72	.88	24.5	83.6	5.83	.59	.74	.92	22.5	76.9	6.81	.61	.78	.97	20.4	69.6	8.01	.64	.83	1.00
	1.70	3600	27.0	92.2	5.07	.60	.77	.96	25.1	85.8	5.87	.62	.80	1.00	23.2	79.0	6.85	.64	.85	1.00	20.9	71.4	8.05	.67	.91	1.00
22°C (71°F)	1.13	2400	26.4	90.1	5.04	.42	.53	.65	24.7	84.3	5.85	.42	.55	.67	22.9	78.1	6.83	.43	.56	.69	20.7	70.8	8.04	.44	.58	.73
	1.41	3000	27.5	94.0	5.11	.43	.57	.70	25.8	87.9	5.92	.44	.58	.72	23.7	81.0	6.89	.44	.60	.75	21.5	73.4	8.10	.46	.63	.80
	1.70	3600	28.4	96.9	5.17	.44	.59	.75	26.4	90.2	5.97	.45	.61	.77	24.4	83.2	6.94	.46	.64	.82	22.0	74.9	8.13	.47	.67	.89

NOTES: For Temperatures and Capacities not shown in tables, see bulletin − Cooling UnitRating Table Correction Factor Data in Miscellaneous Engineering Data section. Expanded rating tables are sorted by smallest to largest indoor unit model no.

AIR HANDLERS

COOLING CAPACITY − TSA120S4S with [TAA120S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	30.8	105.1	5.96	.73	.89	1.00	28.9	98.7	7.01	.76	.92	1.00	26.7	91.2	8.26	.79	.97	1.00	24.3	82.8	9.79	.82	1.00	1.00
	1.89	4000	32.2	109.8	6.05	.79	.98	1.00	30.1	102.7	7.08	.82	1.00	1.00	28.1	95.8	8.35	.86	1.00	1.00	25.6	87.5	9.88	.92	1.00	1.00
	2.26	4800	33.5	114.3	6.13	.86	1.00	1.00	31.5	107.6	7.17	.89	1.00	1.00	29.3	99.9	8.42	.94	1.00	1.00	26.8	91.3	9.96	.99	1.00	1.00
19°C (67°F)	1.51	3200	32.6	111.4	6.08	.57	.71	.85	30.6	104.3	7.11	.59	.74	.89	28.2	96.1	8.35	.61	.76	.93	25.4	86.6	9.86	.63	.80	.99
	1.89	4000	33.9	115.7	6.16	.62	.77	.95	31.6	107.8	7.18	.62	.80	.98	29.1	99.3	8.41	.65	.84	1.00	26.2	89.4	9.91	.68	.90	1.00
	2.26	4800	34.8	118.8	6.21	.65	.83	1.00	32.4	110.7	7.23	.66	.87	1.00	29.9	102.0	8.46	.69	.92	1.00	26.9	91.7	9.97	.73	.98	1.00
22°C (71°F)	1.51	3200	34.3	117.1	6.19	.44	.56	.69	32.1	109.7	7.22	.43	.58	.71	29.7	101.4	8.46	.44	.59	.74	26.8	91.6	9.95	.45	.62	.78
	1.89	4000	35.7	121.8	6.28	.45	.60	.75	33.3	113.6	7.29	.45	.62	.78	30.7	104.8	8.52	.47	.64	.82	27.6	94.3	10.00	.47	.67	.88
	2.26	4800	36.6	124.8	6.33	.46	.63	.81	34.1	116.2	7.34	.48	.66	.84	31.3	106.7	8.56	.48	.68	.90	28.3	96.4	10.05	.51	.73	.96

UP−FLOW INDOOR COIL

COOLING CAPACITY − TSA120S4S with [(2) CX34−62D−6F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	30.2	103.2	5.92	.72	.86	1.00	28.4	96.9	6.97	.74	.89	1.00	26.3	89.9	8.23	.76	.94	1.00	23.9	81.4	9.77	.80	.99	1.00
	1.89	4000	31.6	107.9	6.01	.77	.94	1.00	29.6	101.1	7.04	.79	.98	1.00	27.4	93.5	8.30	.83	1.00	1.00	25.1	85.8	9.84	.88	1.00	1.00
	2.26	4800	32.6	111.4	6.07	.82	1.00	1.00	30.7	104.8	7.11	.85	1.00	1.00	28.6	97.7	8.37	.89	1.00	1.00	26.1	89.1	9.90	.95	1.00	1.00
19°C (67°F)	1.51	3200	31.8	108.5	6.02	.57	.70	.82	29.9	101.9	7.06	.58	.72	.86	27.7	94.5	8.31	.60	.74	.90	25.1	85.7	9.84	.62	.78	.96
	1.89	4000	33.2	113.3	6.11	.60	.75	.91	31.1	106.1	7.14	.61	.77	.94	28.7	98.0	8.38	.63	.80	.99	26.0	88.7	9.89	.66	.86	1.00
	2.26	4800	34.3	116.9	6.17	.63	.79	.98	32.0	109.1	7.20	.64	.83	1.00	29.5	100.6	8.43	.67	.87	1.00	26.6	90.9	9.92	.70	.93	1.00
22°C (71°F)	1.51	3200	33.5	114.4	6.13	.43	.56	.68	31.5	107.4	7.16	.44	.57	.69	29.2	99.5	8.41	.45	.59	.72	26.4	90.0	9.91	.45	.61	.76
	1.89	4000	35.0	119.3	6.22	.45	.59	.72	32.7	111.6	7.24	.45	.60	.75	30.2	102.9	8.47	.46	.62	.78	27.2	92.9	9.97	.47	.65	.83
	2.26	4800	36.0	122.7	6.29	.46	.62	.77	33.5	114.3	7.30	.47	.64	.80	30.9	105.5	8.53	.48	.66	.85	28.0	95.5	10.01	.49	.69	.91

DOWN−FLOW INDOOR COILS

COOLING CAPACITY − TSA120S4S with [(2) CR33−50/60C−2F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	29.5	100.8	5.88	.73	.87	1.00	27.7	94.4	6.93	.74	.90	1.00	25.6	87.4	8.19	.77	.94	1.00	23.2	79.1	9.73	.81	.99	1.00
	1.89	4000	30.7	104.8	5.95	.77	.95	1.00	28.7	98.0	6.99	.80	.98	1.00	26.7	91.2	8.25	.83	1.00	1.00	24.5	83.5	9.80	.89	1.00	1.00
	2.26	4800	31.7	108.1	6.01	.82	.99	1.00	29.8	101.8	7.06	.85	1.00	1.00	27.8	95.0	8.32	.90	1.00	1.00	25.4	86.7	9.86	.95	1.00	1.00
19°C (67°F)	1.51	3200	31.2	106.3	5.98	.58	.70	.84	29.2	99.8	7.02	.59	.72	.87	27.1	92.3	8.27	.60	.75	.91	24.5	83.5	9.81	.63	.79	.96
	1.89	4000	32.4	110.6	6.06	.61	.75	.91	30.3	103.3	7.08	.62	.78	.95	28.0	95.5	8.33	.64	.81	.99	25.2	86.1	9.85	.67	.86	1.00
	2.26	4800	33.3	113.6	6.11	.63	.80	.98	31.1	106.1	7.14	.65	.83	1.00	28.6	97.6	8.37	.67	.88	1.00	25.8	87.9	9.87	.70	.93	1.00
22°C (71°F)	1.51	3200	32.7	111.5	6.08	.43	.57	.68	30.7	104.7	7.11	.44	.57	.70	28.4	97.0	8.36	.44	.59	.73	25.8	87.9	9.87	.45	.62	.76
	1.89	4000	34.0	116.1	6.16	.44	.59	.73	31.9	108.8	7.19	.45	.61	.76	29.5	100.5	8.43	.46	.63	.79	26.6	90.8	9.92	.48	.66	.84
	2.26	4800	35.0	119.3	6.22	.46	.62	.78	32.7	111.6	7.24	.47	.64	.81	30.1	102.7	8.47	.48	.67	.86	27.2	92.7	9.96	.50	.70	.92

HORIZONTAL INDOOR COILS

COOLING CAPACITY − TSA120S4S with [(2) CH33−62D−2F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	30.0	102.3	5.91	.71	.85	.99	28.1	96.0	6.96	.73	.88	1.00	26.1	88.9	8.21	.76	.92	1.00	23.6	80.5	9.75	.79	.98	1.00
	1.89	4000	31.3	106.7	5.99	.76	.92	1.00	29.3	100.0	7.03	.78	.96	1.00	27.1	92.4	8.28	.81	1.00	1.00	24.8	84.5	9.82	.86	1.00	1.00
	2.26	4800	32.3	110.1	6.05	.80	.99	1.00	30.2	103.0	7.08	.83	1.00	1.00	28.2	96.2	8.34	.87	1.00	1.00	25.8	88.0	9.88	.93	1.00	1.00
19°C (67°F)	1.51	3200	31.4	107.3	6.00	.57	.69	.82	29.6	101.1	7.04	.58	.71	.85	27.4	93.6	8.30	.59	.73	.89	24.9	85.1	9.83	.61	.77	.94
	1.89	4000	32.9	112.3	6.09	.59	.73	.89	30.9	105.3	7.12	.61	.76	.93	28.5	97.3	8.36	.63	.79	.97	25.8	87.9	9.87	.65	.84	1.00
	2.26	4800	34.0	115.9	6.16	.62	.78	.96	31.7	108.3	7.18	.64	.81	.99	29.3	99.9	8.41	.66	.85	1.00	26.4	90.1	9.91	.69	.91	1.00
22°C (71°F)	1.51	3200	33.1	113.0	6.10	.43	.55	.66	31.1	106.0	7.14	.44	.56	.69	28.8	98.4	8.39	.44	.58	.71	26.2	89.4	9.90	.45	.60	.75
	1.89	4000	34.6	117.9	6.19	.45	.58	.71	32.4	110.6	7.22	.45	.60	.74	30.0	102.2	8.46	.46	.62	.77	27.1	92.3	9.96	.47	.64	.82
	2.26	4800	35.6	121.5	6.27	.46	.61	.76	33.3	113.6	7.28	.46	.63	.79	30.7	104.7	8.51	.47	.65	.83	27.7	94.6	9.99	.49	.68	.89

RATINGS — 35.2 KW (DUAL CIRCUIT)

NOTES: For Temperatures and Capacities not shown in tables, see bulletin − Cooling UnitRating Table Correction Factor Data in Miscellaneous Engineering Data section.
Expanded rating tables are sorted by smallest to largest indoor unit model no.

AIR HANDLERS

COOLING CAPACITY − TSA120S4D (FIRST STAGE) with [TAA120S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 18°C (65°F)						24°C (75°F)						29°C (85°F)						35°C (95°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	16.5	56.2	2.41	.67	.81	.99	15.8	54.0	2.72	.68	.84	1.00	15.1	51.6	3.07	.69	.87	1.00	14.4	49.1	3.48	.71	.90	1.00
	1.89	4000	17.2	58.8	2.43	.72	.92	1.00	16.5	56.3	2.75	.73	.95	1.00	15.8	53.9	3.10	.75	.98	1.00	15.0	51.3	3.51	.77	1.00	1.00
	2.26	4800	17.8	60.7	2.46	.77	1.00	1.00	17.1	58.4	2.77	.80	1.00	1.00	16.5	56.2	3.13	.83	1.00	1.00	15.7	53.6	3.54	.86	1.00	1.00
19°C (67°F)	1.51	3200	17.4	59.5	2.44	.53	.64	.77	16.8	57.2	2.76	.53	.66	.79	16.0	54.6	3.11	.54	.67	.82	15.3	52.1	3.52	.55	.69	.85
	1.89	4000	18.2	62.1	2.47	.55	.70	.87	17.5	59.6	2.79	.57	.71	.90	16.7	57.0	3.14	.58	.73	.94	15.8	54.0	3.55	.59	.74	.97
	2.26	4800	18.7	63.9	2.49	.59	.75	.97	17.9	61.2	2.81	.59	.76	.99	17.1	58.5	3.16	.61	.80	1.00	16.2	55.4	3.56	.63	.83	1.00
22°C (71°F)	1.51	3200	18.4	62.8	2.48	.40	.51	.62	17.7	60.3	2.80	.40	.52	.64	16.9	57.7	3.15	.40	.53	.65	16.1	54.9	3.55	.41	.54	.66
	1.89	4000	19.2	65.4	2.51	.41	.54	.68	18.4	62.8	2.83	.42	.55	.69	17.6	60.1	3.19	.42	.57	.71	16.7	57.0	3.59	.42	.58	.72
	2.26	4800	19.8	67.4	2.54	.42	.58	.73	18.9	64.6	2.86	.43	.59	.74	18.1	61.6	3.21	.43	.60	.77	17.1	58.4	3.61	.44	.61	.81

COOLING CAPACITY − TSA120S4D (SECOND STAGE) with [TAA120S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	31.0	105.8	5.79	.68	.85	1.00	28.8	98.2	6.96	.71	.90	1.00	26.5	90.3	8.44	.73	.96	1.00	23.8	81.2	10.27	.79	1.00	1.00
	1.89	4000	32.3	110.2	5.85	.74	.96	1.00	30.0	102.5	7.02	.77	1.00	1.00	27.9	95.1	8.51	.83	1.00	1.00	25.3	86.4	10.34	.91	1.00	1.00
	2.26	4800	33.6	114.6	5.90	.81	1.00	1.00	31.4	107.2	7.08	.86	1.00	1.00	29.1	99.3	8.56	.92	1.00	1.00	26.4	90.1	10.42	1.00	1.00	1.00
19°C (67°F)	1.51	3200	32.8	112.0	5.86	.53	.66	.81	30.5	104.2	7.04	.55	.69	.85	28.0	95.6	8.50	.57	.72	.91	25.0	85.4	10.33	.59	.76	.99
	1.89	4000	34.1	116.4	5.93	.57	.72	.92	31.6	107.8	7.10	.59	.74	.97	29.0	99.0	8.56	.61	.80	1.00	25.9	88.3	10.39	.64	.88	1.00
	2.26	4800	35.1	119.7	5.97	.60	.78	1.00	32.5	110.8	7.13	.63	.83	1.00	29.7	101.2	8.60	.65	.89	1.00	26.6	90.6	10.41	.69	.98	1.00
22°C (71°F)	1.51	3200	34.6	117.9	5.94	.40	.52	.64	32.2	109.8	7.11	.41	.54	.66	29.6	101.0	8.59	.42	.56	.69	26.6	90.7	10.42	.43	.58	.73
	1.89	4000	36.0	122.9	6.01	.42	.56	.70	33.4	113.9	7.18	.42	.58	.72	30.7	104.6	8.65	.43	.60	.77	27.4	93.6	10.47	.45	.63	.85
	2.26	4800	36.9	125.8	6.05	.43	.59	.75	34.2	116.8	7.23	.44	.61	.81	31.4	107.0	8.70	.45	.65	.87	28.0	95.6	10.50	.47	.68	.95

UP−FLOW INDOOR COIL

COOLING CAPACITY − TSA120S4D (FIRST STAGE) with [(2) CX34−60D−6F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 18°C (65°F)						24°C (75°F)						29°C (85°F)						35°C (95°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	15.9	54.3	2.38	.66	.80	.96	15.3	52.3	2.70	.67	.81	.98	14.7	50.1	3.06	.68	.84	1.00	14.0	47.9	3.46	.69	.87	1.00
	1.89	4000	16.7	56.9	2.41	.70	.87	1.00	16.0	54.7	2.73	.71	.90	1.00	15.4	52.4	3.08	.72	.93	1.00	14.7	50.1	3.49	.75	.97	1.00
	2.26	4800	17.3	58.9	2.43	.74	.96	1.00	16.6	56.5	2.75	.76	.98	1.00	15.9	54.1	3.10	.79	1.00	1.00	15.2	51.8	3.50	.81	1.00	1.00
19°C (67°F)	1.51	3200	16.8	57.3	2.41	.53	.64	.75	16.2	55.3	2.73	.53	.64	.77	15.5	53.0	3.09	.54	.66	.80	14.8	50.5	3.50	.55	.67	.83
	1.89	4000	17.5	59.8	2.44	.55	.68	.83	16.9	57.6	2.76	.56	.68	.86	16.1	55.1	3.12	.57	.70	.89	15.4	52.6	3.52	.58	.72	.92
	2.26	4800	18.1	61.8	2.46	.57	.72	.91	17.4	59.4	2.79	.58	.73	.94	16.6	56.8	3.14	.59	.76	.98	15.8	54.0	3.54	.60	.79	1.00
22°C (71°F)	1.51	3200	17.8	60.6	2.45	.40	.51	.61	17.1	58.3	2.77	.41	.52	.62	16.4	56.0	3.13	.41	.52	.64	15.6	53.4	3.53	.41	.53	.65
	1.89	4000	18.6	63.3	2.48	.41	.54	.66	17.8	60.9	2.80	.42	.54	.66	17.1	58.3	3.16	.42	.55	.68	16.3	55.5	3.56	.42	.57	.70
	2.26	4800	19.1	65.2	2.51	.42	.56	.70	18.3	62.6	2.83	.43	.57	.71	17.6	59.9	3.18	.43	.58	.73	16.7	56.9	3.58	.44	.60	.76

COOLING CAPACITY − TSA120S4D (SECOND STAGE) with [(2) CX34−60D−6F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	30.0	102.4	5.74	.67	.83	.99	28.0	95.7	6.93	.69	.87	1.00	25.8	88.1	8.39	.72	.92	1.00	23.3	79.4	10.27	.77	.99	1.00
	1.89	4000	31.4	107.2	5.80	.72	.92	1.00	29.3	100.1	6.99	.75	.97	1.00	26.9	91.9	8.46	.79	1.00	1.00	24.5	83.7	10.32	.86	1.00	1.00
	2.26	4800	32.4	110.7	5.84	.77	.99	1.00	30.3	103.5	7.01	.81	1.00	1.00	28.1	96.0	8.50	.87	1.00	1.00	25.6	87.4	10.36	.95	1.00	1.00
19°C (67°F)	1.51	3200	31.7	108.2	5.81	.53	.65	.78	29.6	100.9	7.00	.55	.67	.83	27.3	93.0	8.48	.56	.70	.88	24.5	83.6	10.32	.58	.74	.95
	1.89	4000	33.0	112.7	5.87	.56	.69	.87	30.8	105.1	7.05	.58	.72	.92	28.3	96.5	8.53	.59	.77	.98	25.4	86.7	10.35	.62	.83	1.00
	2.26	4800	34.1	116.2	5.92	.59	.75	.96	31.7	108.1	7.09	.60	.79	1.00	29.1	99.2	8.56	.63	.84	1.00	26.1	88.9	10.36	.66	.92	1.00
22°C (71°F)	1.51	3200	33.5	114.3	5.88	.41	.52	.63	31.3	106.7	7.07	.41	.53	.65	28.8	98.4	8.56	.42	.55	.68	26.0	88.7	10.39	.43	.57	.71
	1.89	4000	34.9	119.1	5.96	.42	.55	.67	32.5	111.0	7.13	.42	.57	.70	29.9	102.0	8.60	.43	.59	.74	26.8	91.4	10.39	.44	.61	.80
	2.26	4800	35.9	122.6	6.00	.43	.58	.72	33.4	113.8	7.17	.44	.60	.76	30.6	104.3	8.62	.45	.62	.81	27.4	93.5	10.45	.46	.65	.89

NOTES: For Temperatures and Capacities not shown in tables, see bulletin − Cooling UnitRating Table Correction Factor Data in Miscellaneous Engineering Data section. Expanded rating tables are sorted by smallest to largest indoor unit model no.

UP−FLOW INDOOR COIL

COOLING CAPACITY − TSA120S4D (FIRST STAGE) with [(2) CX34−62D−6F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			18°C (65°F)						24°C (75°F)						29°C (85°F)						35°C (95°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	16.1	54.9	2.39	.66	.79	.96	15.5	52.8	2.70	.67	.81	.98	14.8	50.6	3.06	.68	.84	1.00	14.2	48.4	3.47	.69	.86	1.00
	1.89	4000	16.9	57.5	2.42	.69	.87	1.00	16.2	55.3	2.73	.71	.90	1.00	15.5	53.0	3.09	.72	.93	1.00	14.8	50.5	3.50	.75	.97	1.00
	2.26	4800	17.4	59.5	2.44	.74	.95	1.00	16.8	57.2	2.76	.76	.98	1.00	16.0	54.7	3.11	.78	1.00	1.00	15.3	52.3	3.52	.81	1.00	1.00
19°C (67°F)	1.51	3200	16.9	57.6	2.42	.53	.64	.75	16.3	55.5	2.74	.53	.65	.77	15.6	53.2	3.09	.54	.66	.79	14.9	50.9	3.50	.54	.67	.82
	1.89	4000	17.7	60.5	2.45	.55	.68	.83	17.1	58.2	2.77	.56	.69	.86	16.3	55.7	3.13	.57	.70	.89	15.5	53.0	3.53	.58	.72	.92
	2.26	4800	18.3	62.6	2.48	.57	.71	.91	17.6	60.1	2.80	.58	.73	.94	16.9	57.5	3.15	.59	.76	.97	16.0	54.6	3.55	.61	.78	1.00
22°C (71°F)	1.51	3200	17.8	60.9	2.45	.40	.51	.62	17.2	58.7	2.77	.41	.52	.62	16.5	56.3	3.13	.41	.52	.64	15.7	53.7	3.54	.41	.53	.65
	1.89	4000	18.7	63.9	2.49	.41	.53	.65	18.0	61.3	2.81	.42	.55	.67	17.2	58.7	3.17	.42	.55	.68	16.4	55.9	3.57	.43	.57	.70
	2.26	4800	19.3	65.9	2.52	.43	.56	.70	18.6	63.3	2.84	.43	.57	.71	17.7	60.4	3.19	.43	.58	.73	16.8	57.4	3.59	.44	.59	.76

COOLING CAPACITY − TSA120S4D (SECOND STAGE) with [(2) CX34−62D−6F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	30.3	103.5	5.76	.67	.82	.99	28.3	96.7	6.94	.69	.86	1.00	26.1	89.0	8.41	.72	.92	1.00	23.4	80.0	10.25	.77	.99	1.00
	1.89	4000	31.7	108.3	5.82	.72	.92	1.00	29.6	100.9	7.00	.75	.97	1.00	27.2	92.8	8.46	.79	1.00	1.00	24.8	84.6	10.32	.86	1.00	1.00
	2.26	4800	32.8	112.0	5.86	.77	.99	1.00	30.7	104.6	7.04	.81	1.00	1.00	28.5	97.1	8.53	.87	1.00	1.00	25.8	88.2	10.36	.95	1.00	1.00
19°C (67°F)	1.51	3200	31.9	108.7	5.82	.53	.65	.78	29.8	101.7	7.00	.54	.67	.82	27.5	93.7	8.48	.56	.70	.88	24.7	84.4	10.30	.58	.74	.95
	1.89	4000	33.4	113.9	5.89	.56	.70	.87	31.1	106.1	7.07	.58	.72	.92	28.6	97.5	8.53	.59	.76	.98	25.6	87.4	10.37	.62	.83	1.00
	2.26	4800	34.5	117.7	5.93	.59	.75	.96	32.0	109.2	7.10	.61	.78	1.00	29.4	100.2	8.58	.63	.84	1.00	26.3	89.8	10.39	.66	.92	1.00
22°C (71°F)	1.51	3200	33.7	115.0	5.90	.41	.52	.63	31.5	107.4	7.08	.41	.53	.65	29.0	99.0	8.56	.42	.55	.68	26.1	89.1	10.39	.43	.57	.71
	1.89	4000	35.2	120.0	5.97	.42	.55	.67	32.8	111.8	7.15	.43	.57	.70	30.0	102.5	8.60	.43	.58	.74	27.0	92.0	10.44	.45	.61	.80
	2.26	4800	36.3	123.7	6.02	.43	.58	.72	33.6	114.8	7.19	.44	.59	.76	30.8	105.1	8.65	.45	.62	.81	27.7	94.5	10.45	.46	.65	.89

DOWN−FLOW INDOOR COILS

COOLING CAPACITY − TSA120S4D (FIRST STAGE) with [(2) CR33−50/60C−2F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			18°C (65°F)						24°C (75°F)						29°C (85°F)						35°C (95°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	15.7	53.6	2.38	.67	.81	.97	15.1	51.5	2.69	.67	.83	.99	14.5	49.5	3.05	.69	.85	1.00	13.8	47.1	3.45	.70	.88	1.00
	1.89	4000	16.4	55.9	2.40	.70	.89	1.00	15.7	53.7	2.71	.72	.91	1.00	15.1	51.5	3.07	.73	.94	1.00	14.4	49.0	3.48	.75	.97	1.00
	2.26	4800	16.9	57.5	2.42	.75	.96	1.00	16.2	55.3	2.73	.77	.98	1.00	15.6	53.1	3.09	.79	1.00	1.00	14.9	50.9	3.49	.82	1.00	1.00
19°C (67°F)	1.51	3200	16.6	56.6	2.41	.53	.64	.76	16.0	54.5	2.72	.54	.65	.78	15.3	52.2	3.07	.55	.67	.81	14.6	49.9	3.49	.55	.68	.83
	1.89	4000	17.3	59.0	2.43	.56	.68	.84	16.6	56.8	2.75	.56	.70	.87	15.9	54.4	3.11	.57	.71	.90	15.2	51.8	3.51	.58	.73	.93
	2.26	4800	17.8	60.9	2.46	.58	.72	.93	17.1	58.4	2.77	.59	.74	.95	16.4	55.9	3.13	.60	.77	.98	15.6	53.1	3.52	.61	.79	.99
22°C (71°F)	1.51	3200	17.4	59.5	2.44	.40	.52	.62	16.8	57.3	2.76	.41	.53	.63	16.1	54.9	3.11	.41	.53	.64	15.4	52.4	3.51	.41	.54	.66
	1.89	4000	18.2	62.1	2.47	.41	.54	.66	17.5	59.7	2.79	.42	.55	.68	16.8	57.2	3.14	.42	.56	.69	16.0	54.5	3.55	.42	.57	.71
	2.26	4800	18.8	64.1	2.49	.42	.57	.70	18.0	61.5	2.81	.43	.58	.72	17.2	58.8	3.17	.43	.59	.74	16.4	56.0	3.57	.44	.60	.77

COOLING CAPACITY − TSA120S4D (SECOND STAGE) with [(2) CR33−50/60C−2F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	29.6	101.1	5.73	.68	.84	.99	27.6	94.3	6.90	.70	.88	1.00	25.4	86.7	8.38	.72	.93	1.00	22.9	78.0	10.21	.78	.99	1.00
	1.89	4000	30.9	105.3	5.78	.72	.93	1.00	28.7	98.0	6.96	.75	.97	1.00	26.5	90.5	8.43	.80	1.00	1.00	24.2	82.5	10.31	.87	1.00	1.00
	2.26	4800	31.8	108.4	5.82	.78	.99	1.00	29.8	101.8	6.99	.82	1.00	1.00	27.7	94.5	8.50	.88	1.00	1.00	25.1	85.8	10.34	.95	1.00	1.00
19°C (67°F)	1.51	3200	31.3	106.7	5.79	.54	.66	.79	29.2	99.7	6.98	.55	.68	.83	26.9	91.8	8.44	.57	.70	.89	24.2	82.5	10.30	.59	.75	.96
	1.89	4000	32.6	111.1	5.85	.57	.70	.88	30.3	103.5	7.02	.58	.73	.93	27.9	95.1	8.50	.60	.77	.98	24.9	85.1	10.30	.63	.84	1.00
	2.26	4800	33.5	114.3	5.89	.59	.75	.96	31.1	106.2	7.05	.61	.80	.99	28.5	97.2	8.51	.63	.85	1.00	25.5	87.1	10.35	.66	.92	1.00
22°C (71°F)	1.51	3200	32.9	112.3	5.87	.41	.53	.64	30.7	104.7	7.03	.41	.54	.66	28.3	96.7	8.53	.42	.56	.68	25.5	87.1	10.36	.43	.58	.72
	1.89	4000	34.3	116.9	5.92	.42	.56	.68	31.9	109.0	7.11	.42	.57	.71	29.4	100.2	8.58	.43	.59	.74	26.3	89.9	10.40	.45	.62	.81
	2.26	4800	35.3	120.3	5.97	.43	.58	.73	32.8	111.9	7.15	.44	.60	.77	30.1	102.6	8.61	.45	.63	.82	27.0	92.1	10.43	.47	.66	.90

NOTES: For Temperatures and Capacities not shown in tables, see bulletin − Cooling UnitRating Table Correction Factor Data in Miscellaneous Engineering Data section.
Expanded rating tables are sorted by smallest to largest indoor unit model no.

HORIZONTAL INDOOR COILS

COOLING CAPACITY − TSA120S4D (FIRST STAGE) with [(2) CH33−62D−2F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			18°C (65°F)						24°C (75°F)						29°C (85°F)						35°C (95°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	15.9	54.3	2.38	.65	.79	.94	15.3	52.3	2.70	.66	.80	.97	14.7	50.2	3.06	.67	.83	.99	14.0	47.9	3.46	.69	.85	1.00
	1.89	4000	16.7	57.0	2.41	.69	.86	1.00	16.1	54.8	2.73	.70	.88	1.00	15.4	52.4	3.08	.72	.91	1.00	14.6	49.9	3.48	.74	.95	1.00
	2.26	4800	17.3	58.9	2.43	.73	.93	1.00	16.6	56.5	2.75	.75	.96	1.00	15.9	54.1	3.10	.77	.99	1.00	15.1	51.4	3.50	.80	1.00	1.00
19°C (67°F)	1.51	3200	16.7	57.0	2.41	.52	.63	.74	16.1	54.9	2.73	.53	.64	.76	15.4	52.7	3.08	.54	.65	.79	14.8	50.4	3.49	.54	.66	.81
	1.89	4000	17.6	60.0	2.44	.55	.67	.82	16.9	57.7	2.76	.55	.68	.84	16.2	55.2	3.12	.56	.69	.87	15.4	52.6	3.52	.57	.71	.90
	2.26	4800	18.2	62.1	2.47	.57	.70	.89	17.4	59.5	2.79	.58	.72	.92	16.7	57.0	3.14	.59	.74	.95	15.9	54.2	3.55	.60	.77	.98
22°C (71°F)	1.51	3200	17.6	60.2	2.45	.40	.51	.61	17.0	58.0	2.77	.41	.51	.62	16.3	55.6	3.12	.41	.52	.63	15.6	53.1	3.53	.41	.53	.64
	1.89	4000	18.5	63.1	2.48	.41	.53	.65	17.8	60.7	2.80	.42	.54	.66	17.0	58.1	3.15	.42	.55	.67	16.2	55.3	3.56	.42	.56	.69
	2.26	4800	19.1	65.2	2.51	.42	.56	.68	18.4	62.7	2.83	.43	.56	.70	17.5	59.8	3.18	.43	.58	.72	16.7	57.0	3.59	.44	.59	.74

COOLING CAPACITY − TSA120S4D (SECOND STAGE) with [(2) CH33−62D−2F]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	30.0	102.3	5.74	.67	.82	.98	28.0	95.7	6.92	.69	.85	1.00	25.8	88.0	8.41	.71	.91	1.00	23.2	79.2	10.27	.76	.98	1.00
	1.89	4000	31.4	107.1	5.80	.71	.90	1.00	29.2	99.7	6.97	.74	.95	1.00	26.8	91.6	8.44	.78	1.00	1.00	24.4	83.2	10.29	.84	1.00	1.00
	2.26	4800	32.4	110.6	5.84	.76	.98	1.00	30.1	102.8	7.01	.80	1.00	1.00	28.0	95.4	8.51	.85	1.00	1.00	25.5	86.9	10.34	.92	1.00	1.00
19°C (67°F)	1.51	3200	31.5	107.6	5.80	.53	.65	.77	29.5	100.7	6.98	.54	.66	.81	27.2	92.8	8.47	.56	.69	.86	24.5	83.7	10.32	.58	.73	.93
	1.89	4000	33.1	113.0	5.87	.56	.69	.85	30.8	105.2	7.05	.57	.71	.90	28.3	96.6	8.53	.59	.75	.96	25.4	86.7	10.35	.61	.81	1.00
	2.26	4800	34.2	116.7	5.92	.58	.73	.93	31.8	108.4	7.10	.60	.77	.98	29.1	99.3	8.56	.62	.82	1.00	26.1	89.2	10.38	.65	.89	1.00
22°C (71°F)	1.51	3200	33.3	113.6	5.88	.41	.52	.62	31.1	106.2	7.06	.41	.53	.64	28.7	97.8	8.54	.42	.55	.67	25.9	88.3	10.38	.43	.57	.70
	1.89	4000	34.8	118.7	5.95	.42	.54	.67	32.4	110.6	7.14	.42	.56	.69	29.8	101.7	8.59	.43	.58	.72	26.8	91.4	10.42	.44	.61	.78
	2.26	4800	35.9	122.5	6.01	.43	.57	.71	33.4	114.0	7.18	.44	.59	.74	30.6	104.4	8.65	.44	.61	.79	27.5	93.8	10.43	.46	.64	.87

NOTES: For Temperatures and Capacities not shown in tables, see bulletin − Cooling UnitRating Table Correction Factor Data in Miscellaneous Engineering Data section. Expanded rating tables are sorted by smallest to largest indoor unit model no.

AIR HANDLERS

COOLING CAPACITY − TSA150S4D (FIRST STAGE) with [TAA120S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 18°C (65°F)						24°C (75°F)						29°C (85°F)						35°C (95°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	19.4	66.1	3.19	.66	.79	.93	18.7	63.9	3.56	.67	.81	.95	18.0	61.4	3.96	.68	.82	.97	17.1	58.4	4.41	.69	.85	.99
	1.89	4000	20.4	69.6	3.21	.70	.86	1.00	19.7	67.1	3.57	.72	.88	1.00	18.8	64.3	3.97	.73	.90	1.00	18.0	61.5	4.41	.75	.93	1.00
	2.26	4800	21.2	72.2	3.21	.75	.94	1.00	20.4	69.5	3.58	.77	.96	1.00	19.6	66.8	3.97	.78	.98	1.00	18.7	63.8	4.42	.81	1.00	1.00
19°C (67°F)	1.51	3200	20.5	70.1	3.21	.53	.64	.75	19.9	67.8	3.57	.53	.64	.77	19.1	65.2	3.97	.54	.66	.78	18.3	62.3	4.41	.55	.67	.80
	1.89	4000	21.6	73.8	3.22	.55	.68	.82	20.9	71.4	3.58	.56	.69	.84	20.1	68.5	3.98	.56	.70	.87	19.1	65.2	4.42	.57	.72	.89
	2.26	4800	22.4	76.3	3.23	.58	.72	.89	21.6	73.7	3.59	.58	.74	.92	20.7	70.7	3.99	.60	.76	.94	19.8	67.5	4.43	.60	.78	.97
22°C (71°F)	1.51	3200	21.8	74.3	3.22	.41	.51	.61	21.0	71.7	3.58	.41	.52	.62	20.3	69.1	3.98	.41	.52	.63	19.3	66.0	4.42	.41	.53	.64
	1.89	4000	22.8	77.8	3.24	.42	.54	.65	22.1	75.4	3.59	.42	.55	.67	21.2	72.3	3.99	.42	.55	.68	20.3	69.1	4.43	.42	.56	.70
	2.26	4800	23.6	80.6	3.25	.43	.56	.70	22.8	77.8	3.60	.43	.57	.71	21.9	74.7	3.99	.43	.58	.73	21.0	71.5	4.44	.44	.60	.75

COOLING CAPACITY − TSA150S4D (SECOND STAGE) with [TAA120S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.51	3200	36.8	125.5	7.51	.67	.81	.96	34.3	116.9	8.81	.69	.85	.99	31.5	107.6	10.40	.72	.89	1.00	28.2	96.3	12.32	.76	.96	1.00
	1.89	4000	38.6	131.8	7.52	.72	.89	1.00	36.0	123.0	8.83	.75	.93	1.00	33.1	113.1	10.42	.79	.98	1.00	30.0	102.2	12.35	.84	1.00	1.00
	2.26	4800	40.0	136.6	7.54	.78	.97	1.00	37.4	127.6	8.84	.81	1.00	1.00	34.6	118.0	10.42	.85	1.00	1.00	31.5	107.6	12.36	.92	1.00	1.00
19°C (67°F)	1.51	3200	39.0	133.1	7.52	.54	.65	.77	36.5	124.6	8.83	.55	.67	.80	33.7	114.9	10.41	.56	.69	.84	30.2	102.9	12.35	.58	.73	.91
	1.89	4000	41.0	140.0	7.54	.56	.70	.85	38.2	130.3	8.84	.57	.72	.89	35.2	120.1	10.43	.59	.76	.94	31.4	107.1	12.38	.62	.81	1.00
	2.26	4800	42.3	144.4	7.56	.59	.75	.93	39.6	135.0	8.86	.60	.78	.97	36.2	123.6	10.44	.63	.82	1.00	32.4	110.5	12.37	.66	.89	1.00
22°C (71°F)	1.51	3200	41.3	140.9	7.55	.41	.52	.63	38.7	132.1	8.85	.41	.53	.64	35.8	122.1	10.44	.42	.55	.67	32.1	109.7	12.38	.43	.57	.70
	1.89	4000	43.4	148.1	7.57	.42	.55	.67	40.5	138.1	8.86	.43	.56	.70	37.4	127.7	10.45	.44	.58	.73	33.6	114.6	12.40	.45	.61	.78
	2.26	4800	44.8	152.7	7.58	.43	.58	.72	41.9	142.9	8.89	.44	.60	.75	38.6	131.6	10.46	.45	.62	.79	34.5	117.8	12.41	.46	.65	.85

COOLING CAPACITY − TSA150S4D (FIRST STAGE) with [TAA150S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 18°C (65°F)						24°C (75°F)						29°C (85°F)						35°C (95°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.89	4000	20.1	68.7	3.21	.69	.85	1.00	19.5	66.5	3.57	.70	.87	1.00	18.7	63.8	3.97	.72	.89	1.00	17.9	61.0	4.42	.74	.92	1.00
	2.36	5000	21.2	72.3	3.22	.74	.94	1.00	20.5	69.8	3.58	.75	.96	1.00	19.7	67.1	3.98	.78	.99	1.00	18.8	64.2	4.42	.80	1.00	1.00
	2.83	6000	22.0	75.0	3.23	.80	1.00	1.00	21.2	72.5	3.59	.82	1.00	1.00	20.5	70.0	3.99	.84	1.00	1.00	19.7	67.3	4.44	.88	1.00	1.00
19°C (67°F)	1.89	4000	21.5	73.2	3.22	.55	.67	.80	20.7	70.8	3.58	.55	.68	.82	19.9	68.0	3.98	.57	.70	.84	19.0	65.0	4.43	.57	.71	.87
	2.36	5000	22.4	76.5	3.23	.58	.73	.89	21.6	73.6	3.59	.58	.73	.92	20.7	70.6	3.99	.60	.75	.94	19.8	67.4	4.43	.61	.77	.98
	2.83	6000	23.1	78.7	3.24	.61	.77	.98	22.3	76.0	3.60	.62	.79	.99	21.3	72.8	3.99	.62	.82	1.00	20.3	69.3	4.44	.64	.84	1.00
22°C (71°F)	1.89	4000	22.8	77.7	3.24	.41	.53	.65	22.0	75.1	3.60	.42	.54	.66	21.2	72.4	3.99	.42	.55	.67	20.3	69.2	4.44	.42	.56	.69
	2.36	5000	23.8	81.1	3.25	.43	.57	.70	22.9	78.3	3.61	.42	.58	.72	22.1	75.3	4.00	.43	.59	.73	21.0	71.8	4.44	.44	.60	.75
	2.83	6000	24.4	83.4	3.26	.44	.60	.75	23.6	80.6	3.61	.44	.61	.77	22.7	77.3	4.01	.45	.62	.79	21.6	73.7	4.45	.45	.63	.81

COOLING CAPACITY − TSA150S4D (SECOND STAGE) with [TAA150S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	1.89	4000	38.2	130.2	7.53	.71	.88	1.00	35.8	122.1	8.84	.74	.92	1.00	33.1	112.9	10.43	.77	.97	1.00	29.8	101.8	12.37	.82	1.00	1.00
	2.36	5000	40.2	137.0	7.55	.77	.97	1.00	37.6	128.3	8.84	.80	1.00	1.00	34.9	119.2	10.44	.85	1.00	1.00	31.8	108.5	12.40	.92	1.00	1.00
	2.83	6000	41.8	142.5	7.56	.83	1.00	1.00	39.4	134.6	8.87	.88	1.00	1.00	36.6	124.8	10.46	.93	1.00	1.00	33.2	113.4	12.40	1.00	1.00	1.00
19°C (67°F)	1.89	4000	40.7	138.9	7.55	.56	.69	.83	38.1	129.9	8.86	.57	.71	.87	34.9	119.2	10.43	.59	.74	.93	31.3	106.9	12.40	.62	.79	.99
	2.36	5000	42.3	144.3	7.56	.59	.74	.93	39.5	134.8	8.87	.61	.77	.98	36.3	124.0	10.45	.63	.82	1.00	32.6	111.2	12.40	.66	.89	1.00
	2.83	6000	43.6	148.9	7.58	.63	.81	1.00	40.6	138.7	8.87	.64	.84	1.00	37.4	127.6	10.46	.67	.90	1.00	33.6	114.6	12.41	.70	.98	1.00
22°C (71°F)	1.89	4000	43.2	147.3	7.57	.42	.54	.66	40.6	138.4	8.87	.42	.56	.69	37.4	127.5	10.46	.44	.58	.72	33.6	114.5	12.40	.44	.60	.76
	2.36	5000	45.0	153.7	7.59	.43	.58	.72	42.1	143.6	8.89	.44	.60	.75	38.7	132.0	10.48	.44	.61	.79	34.7	118.5	12.43	.46	.65	.85
	2.83	6000	46.3	158.0	7.61	.45	.62	.78	43.2	147.4	8.91	.45	.63	.81	39.7	135.6	10.49	.47	.66	.87	35.5	121.2	12.43	.48	.70	.94

NOTES: For Temperatures and Capacities not shown in tables, see bulletin − Cooling UnitRating Table Correction Factor Data in Miscellaneous Engineering Data section.

AIR HANDLERS

COOLING CAPACITY − TSA180S4D (FIRST STAGE) with [TAA180S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			18°C (65°F)						24°C (75°F)						29°C (85°F)						35°C (95°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m³/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	2.26	4800	25.3	86.2	4.12	.72	.85	.97	24.4	83.3	4.56	.73	.87	.99	23.4	80.0	5.05	.74	.89	1.00	22.4	76.4	5.61	.76	.91	1.00
	2.83	6000	26.4	90.0	4.17	.77	.92	1.00	25.5	86.9	4.61	.78	.93	1.00	24.4	83.2	5.11	.80	.96	1.00	23.4	79.7	5.66	.81	.97	1.00
	3.40	7200	27.2	92.9	4.22	.82	.97	1.00	26.3	89.6	4.66	.83	.99	1.00	25.2	86.1	5.15	.85	1.00	1.00	24.1	82.4	5.71	.87	1.00	1.00
19°C (67°F)	2.26	4800	26.6	90.9	4.18	.57	.70	.82	25.7	87.7	4.63	.58	.71	.83	24.7	84.3	5.12	.59	.72	.85	23.6	80.5	5.68	.60	.74	.87
	2.83	6000	27.8	94.7	4.24	.60	.75	.89	26.8	91.3	4.68	.61	.76	.90	25.7	87.8	5.18	.62	.77	.93	24.6	83.8	5.73	.63	.79	.95
	3.40	7200	28.6	97.5	4.29	.63	.79	.95	27.5	94.0	4.73	.64	.81	.97	26.4	90.2	5.21	.65	.83	.98	25.2	86.1	5.76	.66	.85	1.00
22°C (71°F)	2.26	4800	27.9	95.1	4.25	.44	.56	.68	27.0	92.1	4.69	.44	.57	.69	25.9	88.5	5.19	.45	.57	.70	24.8	84.5	5.74	.45	.58	.71
	2.83	6000	29.1	99.2	4.32	.45	.59	.72	28.0	95.7	4.75	.45	.60	.74	27.0	92.1	5.24	.46	.61	.75	25.8	88.0	5.79	.46	.62	.77
	3.40	7200	30.0	102.4	4.37	.46	.62	.77	28.9	98.6	4.80	.47	.63	.79	27.7	94.6	5.29	.47	.64	.80	26.5	90.4	5.83	.47	.65	.83

COOLING CAPACITY − TSA180S4D (SECOND STAGE) with [TAA180S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m³/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	2.26	4800	47.9	163.4	9.60	.74	.88	1.00	44.8	152.8	11.22	.76	.91	1.00	41.4	141.3	13.20	.78	.94	1.00	37.5	127.9	15.66	.82	.99	1.00
	2.83	6000	50.0	170.5	9.70	.79	.94	1.00	46.7	159.3	11.33	.81	.97	1.00	43.2	147.4	13.30	.85	1.00	1.00	39.4	134.5	15.77	.89	1.00	1.00
	3.40	7200	51.5	175.6	9.78	.84	1.00	1.00	48.3	164.8	11.41	.87	1.00	1.00	44.9	153.3	13.40	.90	1.00	1.00	41.1	140.3	15.86	.95	1.00	1.00
19°C (67°F)	2.26	4800	50.4	171.9	9.73	.58	.71	.84	47.2	161.1	11.35	.60	.74	.87	43.7	149.0	13.33	.61	.76	.91	39.6	135.1	15.78	.63	.80	.96
	2.83	6000	52.6	179.4	9.84	.62	.76	.91	49.1	167.7	11.46	.63	.79	.95	45.3	154.5	13.41	.65	.82	.98	41.0	139.8	15.85	.68	.87	1.00
	3.40	7200	54.0	184.3	9.92	.64	.82	.97	50.4	172.1	11.53	.66	.85	1.00	46.6	158.9	13.49	.69	.88	1.00	41.9	143.0	15.89	.72	.93	1.00
22°C (71°F)	2.26	4800	52.9	180.4	9.86	.44	.57	.69	49.6	169.1	11.48	.45	.58	.71	45.9	156.6	13.46	.46	.60	.74	41.7	142.3	15.89	.46	.62	.78
	2.83	6000	55.1	187.9	9.98	.45	.60	.74	51.6	176.0	11.59	.46	.62	.77	47.6	162.5	13.55	.46	.64	.80	43.1	147.2	15.98	.48	.67	.85
	3.40	7200	56.7	193.5	10.07	.47	.63	.80	53.0	180.7	11.67	.47	.65	.83	48.9	166.9	13.62	.48	.68	.86	44.2	150.9	16.04	.49	.71	.92

COOLING CAPACITY − TSA180S4D (FIRST STAGE) with [(2) TAA090S4S]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			18°C (65°F)						24°C (75°F)						29°C (85°F)						35°C (95°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m³/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	2.26	4800	26.6	90.6	4.18	.72	.85	.97	25.7	87.6	4.63	.73	.86	.99	24.6	84.0	5.12	.74	.88	1.00	23.6	80.4	5.67	.76	.90	1.00
	2.83	6000	27.8	94.9	4.25	.77	.92	1.00	26.8	91.5	4.69	.78	.94	1.00	25.7	87.7	5.17	.80	.96	1.00	24.5	83.7	5.73	.81	.98	1.00
	3.40	7200	28.7	97.9	4.29	.81	.98	1.00	27.6	94.3	4.73	.83	.99	1.00	26.6	90.6	5.22	.85	1.00	1.00	25.5	87.0	5.78	.87	1.00	1.00
19°C (67°F)	2.26	4800	28.0	95.7	4.26	.57	.69	.81	27.1	92.6	4.70	.57	.71	.83	26.1	89.0	5.19	.59	.72	.85	24.9	84.8	5.74	.59	.73	.87
	2.83	6000	29.3	100.0	4.33	.59	.75	.89	28.3	96.4	4.77	.61	.76	.91	27.1	92.4	5.25	.62	.78	.93	25.8	88.2	5.80	.63	.78	.95
	3.40	7200	30.1	102.8	4.37	.63	.80	.96	29.0	99.0	4.81	.64	.81	.97	27.8	94.7	5.29	.64	.81	.99	26.6	90.6	5.84	.66	.85	1.00
22°C (71°F)	2.26	4800	29.5	100.8	4.34	.44	.55	.67	28.5	97.3	4.78	.44	.56	.68	27.5	93.7	5.27	.44	.57	.70	26.2	89.5	5.82	.45	.58	.71
	2.83	6000	30.8	105.0	4.41	.46	.58	.73	29.8	101.6	4.85	.45	.60	.74	28.6	97.5	5.34	.46	.61	.75	27.3	93.1	5.88	.46	.62	.76
	3.40	7200	31.7	108.1	4.46	.47	.62	.77	30.5	104.1	4.89	.46	.62	.79	29.3	100.0	5.38	.47	.65	.80	28.0	95.4	5.92	.47	.66	.83

COOLING CAPACITY − TSA180S4D (SECOND STAGE) with [(2) TAA090S4S]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m³/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	2.26	4800	50.3	171.7	9.73	.74	.87	.99	47.1	160.8	11.35	.76	.90	1.00	43.6	148.7	13.33	.79	.94	1.00	39.4	134.5	15.76	.81	.98	1.00
	2.83	6000	52.6	179.4	9.85	.79	.95	1.00	49.1	167.4	11.46	.81	.98	1.00	45.4	155.0	13.43	.85	1.00	1.00	41.7	142.4	15.89	.89	1.00	1.00
	3.40	7200	54.2	185.1	9.94	.83	1.00	1.00	51.0	174.0	11.56	.87	1.00	1.00	47.6	162.4	13.56	.91	1.00	1.00	43.5	148.5	15.99	.96	1.00	1.00
19°C (67°F)	2.26	4800	53.2	181.6	9.88	.58	.71	.84	49.7	169.6	11.48	.59	.73	.87	46.0	157.0	13.47	.61	.76	.91	41.6	142.0	15.90	.62	.79	.95
	2.83	6000	55.5	189.3	10.00	.61	.77	.92	51.7	176.4	11.60	.63	.78	.95	47.7	162.8	13.55	.65	.83	.99	43.2	147.3	15.97	.67	.87	1.00
	3.40	7200	56.8	193.9	10.08	.64	.82	.98	53.1	181.1	11.67	.66	.85	1.00	48.9	166.8	13.62	.68	.89	1.00	44.3	151.1	16.04	.72	.94	1.00
22°C (71°F)	2.26	4800	56.0	191.1	10.03	.44	.56	.69	52.5	179.1	11.64	.45	.58	.71	48.6	165.9	13.61	.45	.60	.74	44.1	150.4	16.03	.46	.62	.77
	2.83	6000	58.3	199.0	10.16	.45	.60	.75	54.5	186.1	11.75	.46	.62	.76	50.3	171.6	13.71	.47	.63	.80	45.5	155.1	16.11	.48	.66	.84
	3.40	7200	59.8	204.2	10.25	.46	.63	.80	55.9	190.8	11.84	.47	.66	.83	51.3	175.2	13.77	.49	.68	.87	46.4	158.4	16.16	.50	.71	.92

NOTES: For Temperatures and Capacities not shown in tables, see bulletin − Cooling UnitRating Table Correction Factor Data in Miscellaneous Engineering Data section.

AIR HANDLERS

COOLING CAPACITY − TSA240S4D (FIRST STAGE) with [TAA240S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 18°C (65°F)						24°C (75°F)						29°C (85°F)						35°C (95°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	3.02	6400	33.4	114.1	5.25	.74	.88	.99	32.2	110.0	5.85	.75	.89	1.00	31.0	105.7	6.53	.77	.91	1.00	29.6	100.9	7.28	.79	.93	1.00
	3.77	8000	34.9	119.1	5.33	.79	.94	1.00	33.6	114.6	5.92	.81	.96	1.00	32.2	110.0	6.59	.83	.98	1.00	30.8	105.1	7.36	.84	.99	1.00
	4.53	9600	36.0	122.9	5.39	.85	.99	1.00	34.6	118.2	5.99	.86	1.00	1.00	33.4	113.8	6.66	.87	1.00	1.00	32.0	109.3	7.42	.89	1.00	1.00
19°C (67°F)	3.02	6400	35.4	120.8	5.36	.59	.72	.84	34.1	116.2	5.95	.59	.73	.86	32.8	111.8	6.62	.60	.74	.87	31.4	107.0	7.39	.61	.76	.90
	3.77	8000	37.0	126.1	5.45	.62	.78	.91	35.5	121.3	6.04	.63	.79	.93	34.1	116.4	6.70	.64	.81	.95	32.5	111.0	7.45	.65	.82	.97
	4.53	9600	38.1	129.9	5.51	.65	.83	.97	36.5	124.6	6.10	.66	.84	.99	35.0	119.4	6.75	.67	.86	1.00	33.3	113.6	7.50	.68	.87	1.00
22°C (71°F)	3.02	6400	37.3	127.2	5.46	.44	.57	.70	35.9	122.5	6.06	.45	.58	.70	34.5	117.6	6.72	.45	.59	.72	33.0	112.6	7.47	.45	.60	.74
	3.77	8000	38.9	132.6	5.56	.45	.60	.75	37.3	127.4	6.15	.46	.61	.77	35.9	122.4	6.81	.46	.63	.78	34.2	116.7	7.56	.46	.64	.80
	4.53	9600	40.0	136.4	5.63	.46	.64	.80	38.5	131.5	6.22	.47	.65	.82	36.9	125.8	6.88	.47	.66	.84	35.1	119.7	7.61	.47	.67	.86

COOLING CAPACITY − TSA240S4D (SECOND STAGE) with [TAA240S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	3.02	6400	63.1	215.4	12.35	.76	.90	1.00	59.2	201.9	14.56	.79	.93	1.00	54.7	186.5	17.31	.81	.96	1.00	49.3	168.3	20.68	.85	1.00	1.00
	3.77	8000	65.9	224.8	12.49	.82	.97	1.00	61.6	210.1	14.71	.84	.99	1.00	57.1	194.8	17.44	.87	1.00	1.00	52.2	178.1	20.88	.92	1.00	1.00
	4.53	9600	68.0	231.9	12.62	.87	1.00	1.00	64.1	218.6	14.85	.89	1.00	1.00	59.5	203.1	17.58	.93	1.00	1.00	54.3	185.2	20.93	.98	1.00	1.00
19°C (67°F)	3.02	6400	66.8	228.0	12.55	.60	.73	.87	62.7	214.0	14.77	.61	.76	.90	57.8	197.2	17.50	.63	.79	.93	52.3	178.4	20.82	.66	.83	.98
	3.77	8000	69.6	237.4	12.71	.63	.80	.94	65.1	222.0	14.90	.65	.82	.97	59.9	204.5	17.60	.67	.86	1.00	54.0	184.3	20.95	.70	.90	1.00
	4.53	9600	71.5	244.0	12.83	.66	.85	.99	66.6	227.3	15.00	.68	.87	1.00	61.4	209.6	17.71	.71	.91	1.00	55.0	187.7	21.00	.74	.96	1.00
22°C (71°F)	3.02	6400	70.4	240.1	12.76	.45	.58	.71	66.0	225.2	14.95	.45	.60	.74	61.0	208.1	17.68	.46	.61	.76	55.1	188.1	21.04	.47	.64	.80
	3.77	8000	73.3	250.0	12.92	.46	.62	.77	68.4	233.3	15.11	.46	.64	.80	63.3	215.9	17.82	.47	.66	.83	57.0	194.5	21.12	.49	.69	.88
	4.53	9600	75.4	257.4	13.07	.47	.66	.83	70.2	239.4	15.22	.47	.67	.86	64.7	220.8	17.92	.48	.70	.90	58.1	198.2	21.16	.51	.74	.94

COOLING CAPACITY − TSA240S4D (FIRST STAGE) with [(2) TAA120S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 18°C (65°F)						24°C (75°F)						29°C (85°F)						35°C (95°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	3.02	6400	33.6	114.8	5.24	.75	.88	.99	32.4	110.5	5.83	.76	.90	1.00	30.9	105.6	6.47	.77	.91	1.00	29.6	101.1	7.20	.79	.94	1.00
	3.77	8000	35.3	120.3	5.34	.81	.95	1.00	33.9	115.6	5.92	.82	.97	1.00	32.4	110.5	6.55	.83	.99	1.00	30.9	105.5	7.28	.85	1.00	1.00
	4.53	9600	36.4	124.3	5.41	.86	1.00	1.00	35.1	119.7	5.99	.87	1.00	1.00	33.8	115.2	6.65	.89	1.00	1.00	32.4	110.4	7.38	.91	1.00	1.00
19°C (67°F)	3.02	6400	35.7	121.8	5.36	.59	.72	.85	34.3	117.2	5.95	.60	.74	.87	32.8	112.0	6.58	.60	.75	.88	31.4	107.1	7.31	.62	.77	.91
	3.77	8000	37.2	127.0	5.46	.62	.78	.92	35.8	122.0	6.03	.64	.80	.94	34.2	116.6	6.67	.65	.82	.96	32.4	110.7	7.38	.65	.83	.98
	4.53	9600	38.3	130.6	5.52	.66	.83	.98	36.6	125.0	6.09	.66	.85	.99	35.1	119.7	6.73	.68	.87	1.00	33.4	114.0	7.45	.69	.89	1.00
22°C (71°F)	3.02	6400	37.6	128.3	5.48	.45	.57	.70	36.1	123.3	6.06	.45	.58	.71	34.6	118.0	6.70	.45	.59	.73	33.0	112.7	7.43	.46	.60	.75
	3.77	8000	39.2	133.8	5.59	.46	.61	.76	37.7	128.5	6.16	.47	.62	.77	36.0	122.9	6.79	.47	.63	.79	34.3	117.0	7.50	.47	.64	.81
	4.53	9600	40.4	137.9	5.66	.48	.65	.82	38.7	132.2	6.23	.47	.66	.83	37.0	126.3	6.86	.48	.67	.85	35.1	119.9	7.57	.50	.69	.87

COOLING CAPACITY − TSA240S4D (SECOND STAGE) with [(2) TAA120S4D]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil: 27°C (80°F)						35°C (95°F)						43°C (110°F)						52°C (125°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	kBtuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	3.02	6400	64.2	219.1	12.39	.76	.90	1.00	60.2	205.5	14.62	.79	.93	1.00	55.5	189.3	17.35	.81	.97	1.00	50.2	171.3	20.73	.85	1.00	1.00
	3.77	8000	67.2	229.4	12.57	.82	.97	1.00	62.7	213.9	14.77	.84	.99	1.00	58.3	198.9	17.51	.88	1.00	1.00	53.3	181.7	20.91	.92	1.00	1.00
	4.53	9600	69.7	237.8	12.71	.87	1.00	1.00	65.6	223.8	14.94	.90	1.00	1.00	60.9	207.9	17.65	.94	1.00	1.00	55.7	190.0	21.06	.99	1.00	1.00
19°C (67°F)	3.02	6400	68.0	232.1	12.62	.61	.74	.87	63.7	217.2	14.82	.61	.76	.90	58.7	200.3	17.52	.63	.79	.93	52.8	180.2	20.88	.65	.82	.98
	3.77	8000	70.8	241.7	12.79	.64	.80	.94	66.0	225.2	14.96	.66	.82	.97	60.9	207.8	17.64	.68	.86	1.00	54.9	187.4	21.00	.70	.90	1.00
	4.53	9600	72.9	248.7	12.90	.67	.85	.99	67.7	231.1	15.05	.68	.88	1.00	62.4	213.0	17.76	.71	.92	1.00	56.2	191.9	21.08	.75	.97	1.00
22°C (71°F)	3.02	6400	71.9	245.5	12.84	.46	.59	.72	67.3	229.6	15.04	.45	.60	.74	62.0	211.5	17.75	.46	.62	.77	55.9	190.8	21.07	.48	.64	.80
	3.77	8000	74.7	255.0	13.02	.47	.63	.78	69.6	237.4	15.19	.47	.63	.80	64.2	218.9	17.89	.49	.66	.84	57.6	196.6	21.16	.49	.70	.88
	4.53	9600	76.5	261.2	13.14	.48	.66	.83	71.3	243.2	15.30	.48	.68	.86	65.7	224.3	17.96	.51	.71	.90	59.0	201.3	21.29	.52	.75	.95

REVISIONS

Sections	Description of Change
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