



Product Catalog

Split System Air Conditioners Odyssey™

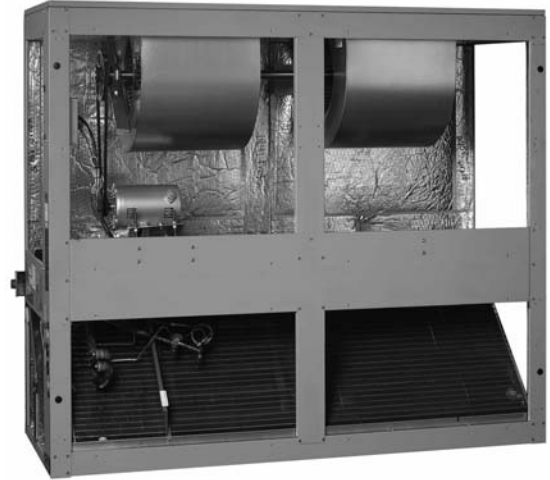
R-22 Dry Charge

Heat Pump Condenser — 7.5, 10, 15 and 20 Tons — 60 Hz





Introduction



Trane's reputation for providing quality comfort solutions continues with the development of the next generation Light Commercial Odyssey Split Systems.

With wide network availability, flexible applications, installation ease, built-in reliability and easy servicing, Odyssey will meet any number of customer applications. Add to that Trane's outstanding customer service and you have the formula to make Odyssey the clear choice for continued customer satisfaction.

Wide network availability

A broad distribution network provides owners, maintenance personnel, contractors, etc., the means to get their hands on equipment when they need it. Whether it's an emergency replacement or a new construction project in its infancy stages, Odyssey products meet an array of needs at the right time and right price.

Flexible applications

No matter what the application, Odyssey provides the solution. A broad array of models and tonnages are available with single or dual compressors, single or dual circuits and numerous accessories. Condensing units can be installed on the ground or on a rooftop along with extended piping runs, while air handlers can be free discharge on the ground or horizontally suspended with long duct runs from a ceiling. Should application challenges arise, Odyssey delivers.

Easy to install

Small footprints and low weights combined with factory installed components like TXVs, filter driers, etc., reduce installation time and cost. Colored and numbered wiring and factory tested units make Odyssey the right choice.

Built-in reliability

Keeping in mind that productivity only occurs when equipment is operational, Trane has taken the steps to ensure that Odyssey is up and running. Early indicators such as phase/reversal monitors and loss of charge protection provide diagnostics which prevent failure and provide years of worry-free service and operation.

Easy to service

When preventive maintenance or service is required, technicians will find efficient access to both air handlers and condensers. Panels provide complete, easy access coupled with standardized cabinets in which all components are located in proximity. Odyssey's improved design results in minimum service times and costs.

With these capabilities, Odyssey provides customers high efficiency and superior performance for the best all-around value in the market today.



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Accessories

Heat Pump Condenser

Table 1. TWA Accessories

Model	Used With
Coil (Hail/Vandal) Guard	
BAYGARD058A	TWA090A
BAYGARD060A	TWA120A
BAYGARD061A	TWA180B, TWA240B
BAYHGBP010B	All models
Rubber Isolators	
BAYISLT005A (black)	TWA090A, TWA120A
BAYISLT009A (red)	TWA180B
BAYISLT010A (green)	TWA240B
Steel Spring Isolators	
BAYISLT023A (red)	TWA090A, TWA120A
BAYISLT024A (black)	TWA180B
BAYISLT025A (yellow)	TWA240B
Low Ambient — On/Off Fan Control (External mount, small cabinets)^{(a) (b) (c)}	
BAYLOAMU01B (External Mount, small cabinets) ^(d)	(all voltages) TWA090A
BAYLOAMU02B (Internal mount, large cabinets)	(all voltages) TWA120A, TWA180B, TWA240B

^(a) Cycles fan on/off, (no modulating).

^(b) Quantity of 1 required for each fan (2 total for).

^(c) ReliaTel™ requires onboard EDC function to be disabled when BAYLOAM is used, remove OA sensor from terminal J8-1&2

^(d) Kit mounts external to the outdoor unit and operates by sensing ambient and liquid line temperatures.



Model Number Description

Heat Pump Condenser

T W A	1 2 0	A	3	0 0	*	*
1 2 3	4 5 6	7	8	9 10	11	12

All products are identified by a multiple-character model number that precisely identifies a particular type of unit. An explanation of the alphanumeric identification code is provided. Its use will enable the owner/operator, installing contractors, and service engineers to define the operation, specific components, and other options for any specific unit. When ordering replacement parts or requesting service, be sure to refer to the specific model number, serial number, and DL number (if applicable) stamped on the unit nameplate.

DIGITS 1 - 3: Product Type

TWA = Split System Heat Pump

DIGITS 4 - 6: Nominal Gross Cooling Capacity (MBh)

090 = 7.5 Tons (60Hz)

120 = 10 Tons (60Hz)

180 = 15 Tons (60Hz)

240 = 20 Tons (60Hz)

DIGIT 7: Major Development Sequence

A = Single Compressor, Single Circuit, R-22

B = Dual Compressor, Dual Circuit, R-22

DIGIT 8: Electrical Characteristics

3 = 208–230/60/3

4 = 460/60/3

DIGITS 9 - 10: Factory Installed Options

00 = Packed Stock

DIGITS 11: Minor Design Sequence

* = Current Design Sequence¹

DIGITS 12: Service Digit

* = Current Design Sequence¹

¹. * = sequential alpha character



General Data

Table 2. General data for 7.5 - 20 ton heat pump, 60 Hz

	7.5 Tons	10 Tons	15 Tons	20 Tons
	Single Compressor TTA090A3, A4	Single Compressor TTA120A3, A4	Dual Compressor TTA180B3, B4	Dual Compressor TTA240B3, B4
Compressor				
Type	Scroll	Scroll	Scroll	Scroll
No./Tons	1/6.9	1/8.6	2/6.9	2/8.6
System Data				
No. Refrigerant Circuits	1	1	2	2
Suction Line (in.) OD	1.38	1.38	1.38	1.38
Liquid Line (in.) OD	5/8	1/2	1/2	1/2
Outdoor Coil				
Type	Lanced	Lanced	Lanced	Lanced
Tube Size (in.) OD	0.38	0.38	0.38	0.38
Face Area (sq ft)	19.2	24.0	24.0	24.0
Rows/FPI (Fins per inch)	2/18	2/18	2/18	2/18
Outdoor Fan				
Type	Propeller	Propeller	Propeller	Propeller
No. Used/Diameter (in.)	1/26	1/28	2/28	2/28
Drive Type/No. Speeds	Direct/1	Direct/1	Direct/1	Direct/1
CFM	6530	9600	19500	19500
No. Motor/HP	1/0.5	1/1	2/1	2/1
Motor RPM	1100	1100	1100	1100
Refrigerant Charge (Field Supplied)				
lbs of R-22	17.6	22.5	39.0	43.8
Shipping Dimensions				
HxWxD (in.)	43.54" x 43" x 36.5"	43.5" x 53" x 40.5"	49.5" x 94.8" x 47"	49.5" x 94.8" x 47"



Performance Data

Table 3. Gross cooling capacities (MBH) 7.5 tons TWA090A condensing unit only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	161.6	172.5	178.6	185.2	192.0	199.2
	Capacity (Btuh/1000)	75.4	83.5	92.3	101.5	111.1	121.0
	Unit Power (kW)	4.8	5.0	5.1	5.3	5.5	5.6
75	Head Press (psig)	190.7	196.7	203.0	209.7	216.7	224.1
	Capacity (Btuh/1000)	71.3	79.2	87.7	96.4	105.5	114.8
	Unit Power (kW)	5.3	5.5	5.6	5.8	6.0	6.2
85	Head Press (psig)	217.1	223.3	230.0	237.0	244.3	252.0
	Capacity (Btuh/1000)	67.5	75.0	83.0	91.3	99.9	108.8
	Unit Power (kW)	5.8	6.0	6.1	6.3	6.5	6.7
95	Head Press (psig)	246.4	252.9	259.7	266.9	274.5	282.3
	Capacity (Btuh/1000)	63.6	70.8	78.3	86.2	94.4	102.8
	Unit Power (kW)	6.4	6.6	6.7	6.9	7.1	7.3
105	Head Press (psig)	278.2	285.0	292.0	299.4	307.2	315.2
	Capacity (Btuh/1000)	59.7	66.5	73.6	81.0	88.7	96.7
	Unit Power (kW)	7.0	7.2	7.4	7.6	7.8	8.0
115	Head Press (psig)	312.8	319.8	327.1	334.6	342.5	350.7
	Capacity (Btuh/1000)	55.7	62.1	68.9	75.8	83.1	90.5
	Unit Power (kW)	7.7	7.8	8.0	8.2	8.4	8.6
125	Head Press (psig)	350.1	357.3	364.7	372.5	380.5	388.8
	Capacity (Btuh/1000)	51.6	57.7	64.1	70.6	77.3	84.3
	Unit Power (kW)	8.4	8.6	8.7	8.9	9.1	9.3

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

Figure 1. TWA090A capacity curve

Capacity Curves - Condensing Unit Only

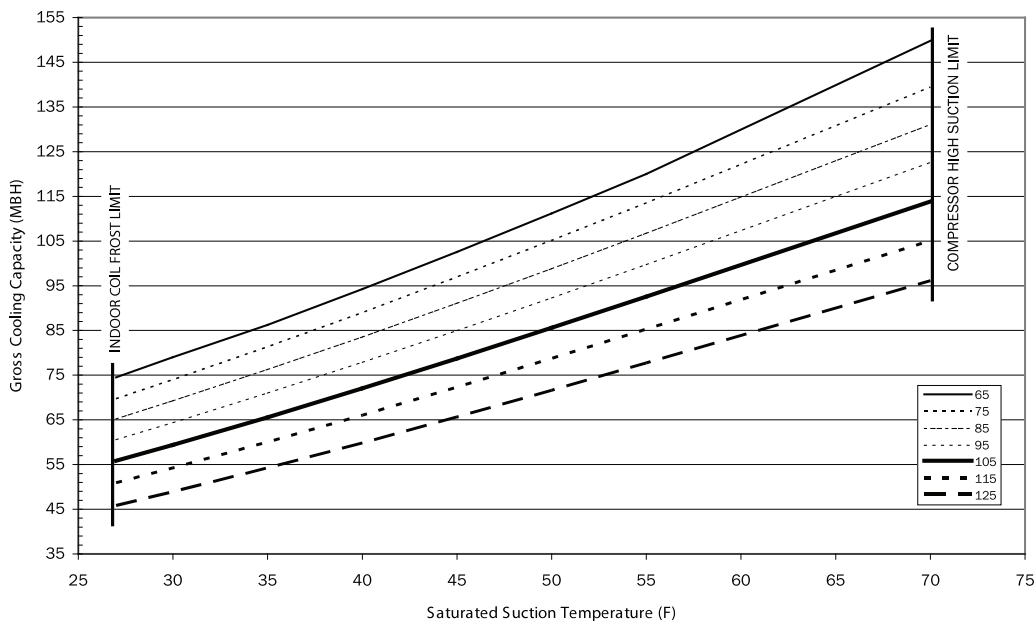
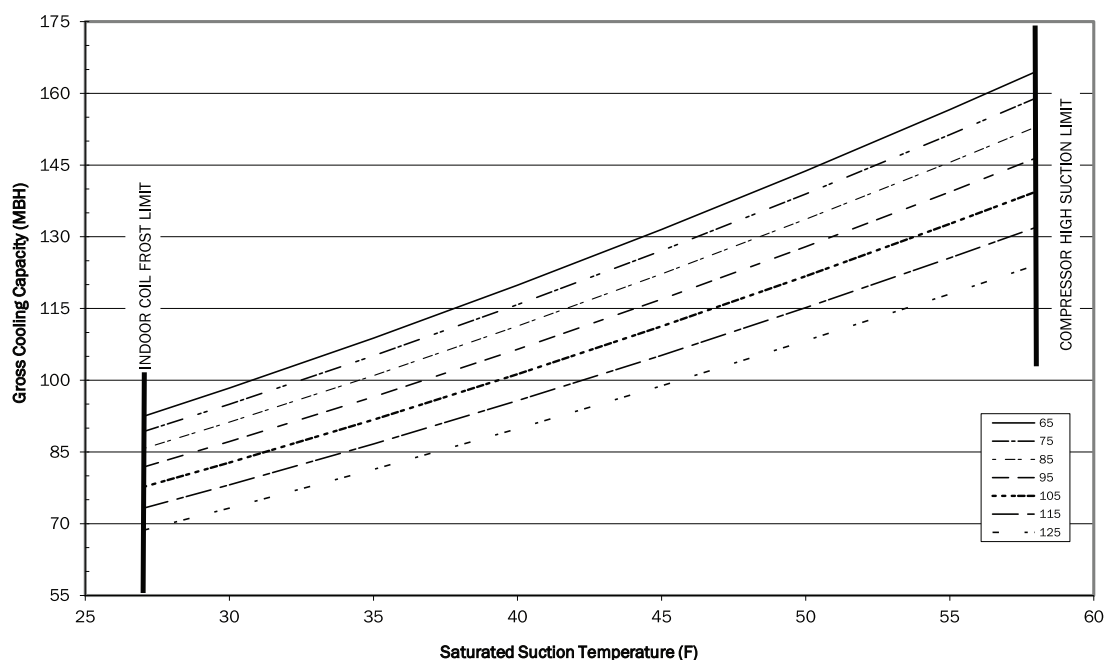


Table 4. Gross cooling capacities (MBH) 10 tons TWA120A condensing unit only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	166.3	172.1	178.4	185.1	192.3	199.9
	Capacity (Btuh/1000)	98.4	108.8	119.9	131.5	143.8	156.6
	Unit Power (kW)	7.1	7.3	7.5	7.8	8.0	8.3
75	Head Press (psig)	189.0	194.9	201.2	207.9	215.1	222.7
	Capacity (Btuh/1000)	95.0	105.1	115.8	127.1	138.9	151.3
	Unit Power (kW)	7.6	7.8	8.0	8.3	8.5	8.8
85	Head Press (psig)	213.9	219.9	226.3	233.1	240.4	248.1
	Capacity (Btuh/1000)	91.2	101.0	111.3	122.2	133.6	145.6
	Unit Power (kW)	8.1	8.4	8.6	8.8	9.1	9.3
95	Head Press (psig)	241.6	247.7	254.3	261.2	268.5	276.2
	Capacity (Btuh/1000)	87.2	96.5	106.5	117.0	127.9	139.4
	Unit Power (kW)	8.8	9.0	9.2	9.5	9.7	10.0
105	Head Press (psig)	272.0	278.2	284.8	291.7	299.1	306.9
	Capacity (Btuh/1000)	82.8	91.8	101.2	111.3	121.8	132.7
	Unit Power (kW)	9.6	9.8	10.0	10.2	10.5	10.7
115	Head Press (psig)	305.1	311.3	317.9	324.9	332.3	340.1
	Capacity (Btuh/1000)	78.1	86.7	95.7	105.2	115.2	125.6
	Unit Power (kW)	10.4	10.6	10.8	11.0	11.3	11.5
125	Head Press (psig)	340.8	347.1	353.8	360.8	368.2	375.9
	Capacity (Btuh/1000)	73.2	81.3	89.9	98.8	108.2	118.0
	Unit Power (kW)	11.3	11.5	11.7	12.0	12.2	12.4

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

Figure 2. TWA120A capacity curves
Capacity Curves - Condensing Unit Only




Performance Data

Table 5. Gross cooling capacities (MBH) 15 tons TWA180B condensing unit only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	149.9	154.2	158.9	164.0	169.3	175.0
	Capacity (Btuh/1000)	148.9	167.0	186.2	206.9	228.7	251.4
	Unit Power (kW)	10.4	10.6	10.9	11.1	11.4	11.6
75	Head Press (psig)	172.4	176.8	181.5	186.6	192.0	197.6
	Capacity (Btuh/1000)	141.1	158.4	176.8	196.3	217.1	238.9
	Unit Power (kW)	11.3	11.5	11.7	12.0	12.3	12.6
85	Head Press (psig)	197.3	201.8	206.6	211.6	217.0	222.7
	Capacity (Btuh/1000)	133.2	149.7	167.3	185.8	205.4	226.2
	Unit Power (kW)	12.2	12.4	12.7	13.0	13.3	13.6
95	Head Press (psig)	224.8	229.4	234.3	239.5	245.0	250.8
	Capacity (Btuh/1000)	125.1	140.9	157.6	175.4	194.0	213.5
	Unit Power (kW)	13.2	13.5	13.8	14.1	14.4	14.7
105	Head Press (psig)	255.2	259.9	264.9	270.2	275.8	281.6
	Capacity (Btuh/1000)	116.8	131.9	147.9	164.8	182.5	201.0
	Unit Power (kW)	14.4	14.7	15.0	15.3	15.6	15.9
115	Head Press (psig)	288.4	293.2	298.3	303.7	309.3	315.2
	Capacity (Btuh/1000)	108.4	122.8	138.1	154.1	170.9	188.4
	Unit Power (kW)	15.7	15.9	16.2	16.5	16.9	17.2
125	Head Press (psig)	324.5	329.5	334.7	340.1	345.8	351.7
	Capacity (Btuh/1000)	99.9	113.6	128.1	143.3	159.2	175.7
	Unit Power (kW)	17.1	17.3	17.6	17.9	18.2	18.6

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

Figure 3. TWA180B capacity curves

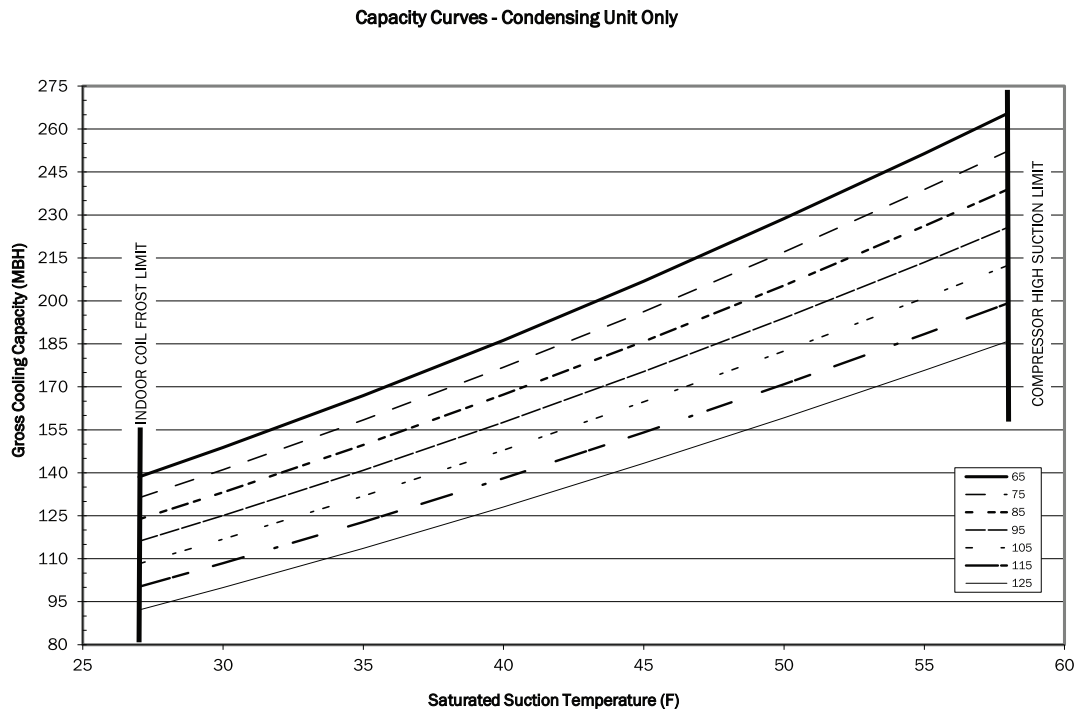
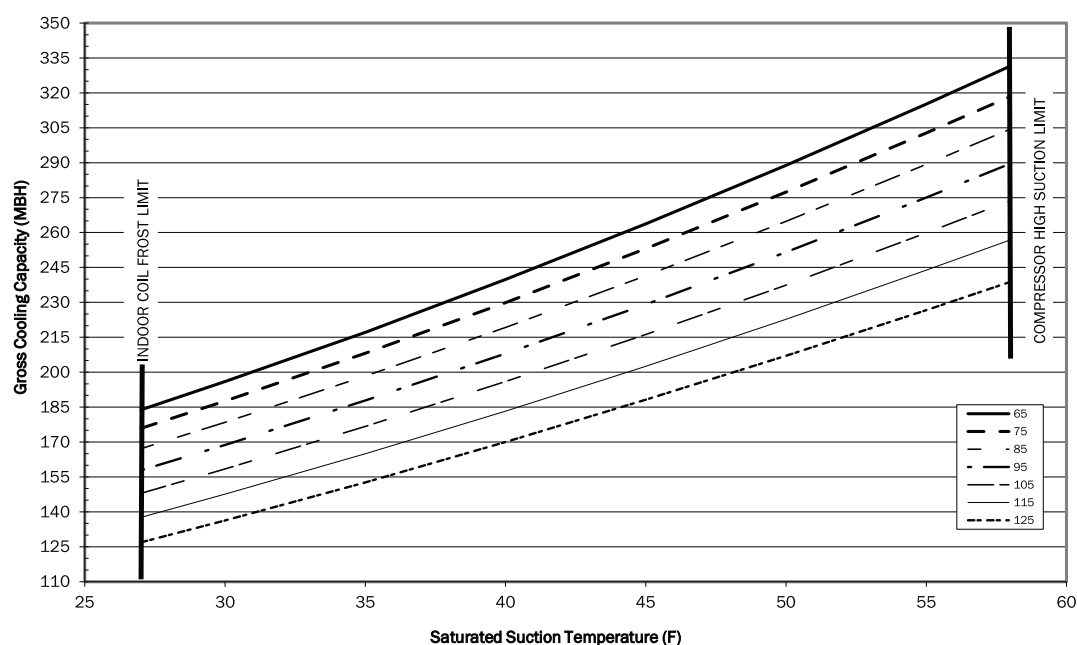


Table 6. Gross cooling capacities (MBH) 20 tons TWA240B condensing unit only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	164.1	169.9	176.1	182.8	189.9	197.5
	Capacity (Btuh/1000)	196.0	217.1	239.8	263.8	288.9	315.2
	Unit Power (kW)	14.3	14.8	15.2	15.7	16.2	16.8
75	Head Press (psig)	186.5	192.3	198.6	205.3	212.4	219.9
	Capacity (Btuh/1000)	187.6	208.1	229.8	253.0	277.4	302.8
	Unit Power (kW)	15.3	15.7	16.2	16.7	17.2	17.7
85	Head Press (psig)	211.3	217.1	223.4	230.1	237.3	245.0
	Capacity (Btuh/1000)	178.5	198.3	219.2	241.4	264.8	289.3
	Unit Power (kW)	16.4	16.8	17.3	17.8	18.3	18.8
95	Head Press (psig)	238.7	244.7	251.1	257.8	265.1	272.7
	Capacity (Btuh/1000)	168.8	187.8	208.0	229.1	251.6	275.1
	Unit Power (kW)	17.7	18.2	18.6	19.1	19.5	20.0
105	Head Press (psig)	268.9	275.0	281.4	288.2	295.4	303.1
	Capacity (Btuh/1000)	158.4	176.7	195.9	216.2	237.4	259.9
	Unit Power (kW)	19.2	19.6	20.1	20.5	21.0	21.5
115	Head Press (psig)	301.8	307.9	314.4	321.3	328.5	336.2
	Capacity (Btuh/1000)	147.6	164.9	183.3	202.5	222.7	243.8
	Unit Power (kW)	20.9	21.3	21.7	22.2	22.6	23.1
125	Head Press (psig)	337.5	343.7	350.2	357.1	364.1	371.6
	Capacity (Btuh/1000)	136.2	152.7	170.0	188.2	207.1	226.7
	Unit Power (kW)	22.7	23.1	23.5	24.0	24.4	24.8

Note: Performance data calculated at 15°F subcooling and 15°F superheat and does not include capacity loss due to refrigerant lines.

Figure 4. TWA240B capacity curves
Capacity Curves - Condensing Unit Only




Electrical Data

Table 7. Electrical characteristics — compressor and condenser fan motors — heat pumps — 60Hz

Tons	Unit Model Number	Compressor Motor					Condenser Fan Motor				
		No.	Volts	Phase	Amps		No.	Volts	Phase	Amps	
					RLA	LRA				FLA	LRA
					(Ea.)	(Ea.)				(Ea.)	(Ea.)
7.5	TWA090A3	1	208-230	3	22.4	164	1	208-230	1	3.1	8.1
	TWA090A4	1	460	3	10.9	100	1	460	1	1.6	3.8
10	TWA120A3	1	208-230	3	30.1	225	1	208-230	1	5.0	14.4
	TWA120A4	1	460	3	15.5	114	1	460	1	2.5	5.8
15	TWA180B3	1	208-230	3	22.4	164	2	208-230	2	5.0	14.4
	TWA180B4	1	460	3	10.9	100	2	460	2	2.5	5.8
20	TWA240B3	1	208-230	3	30.1	225	2	208-230	2	5.0	14.4
	TWA240B4	1	460	3	15.5	114	2	460	2	2.5	5.8

Note: Electrical characteristics reflect nameplate values and are calculated in accordance with cULus and ARI specifications.

Table 8. Unit wiring — heat pumps — 60Hz

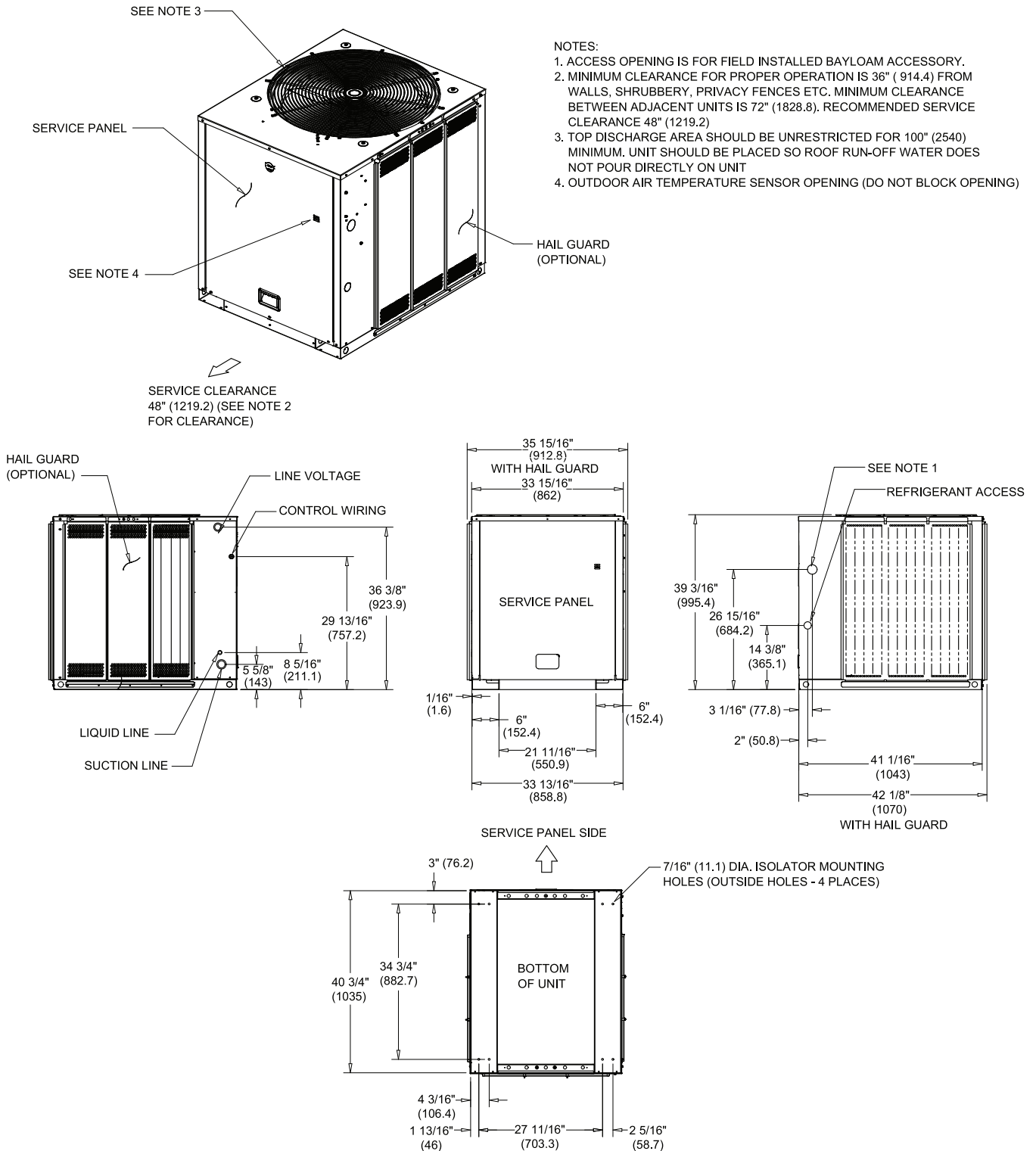
Tons	Unit Model Number	Unit Operating Voltage Range	Minimum Circuit Ampacity	Maximum Fuse or HACR Circuit Breaker Size
7.5	TWA090A3	187-253	31.1	45
	TWA090A4	414-506	15.2	25
10	TWA120A3	187-253	42.6	60
	TWA120A4	414-506	21.9	30
15	TWA180B3	187-253	60.4	80
	TWA180B4	414-506	29.5	40
20	TWA240B3	187-253	77.7	100
	TWA240B4	414-506	39.9	50

Note: HACR type circuit breaker per NEC.

Dimensional Data

Heat Pump Condenser

Figure 5. 7.5 ton heat pump, single compressor



Dimensional Data

Figure 6. 10 ton heat pump, single compressor

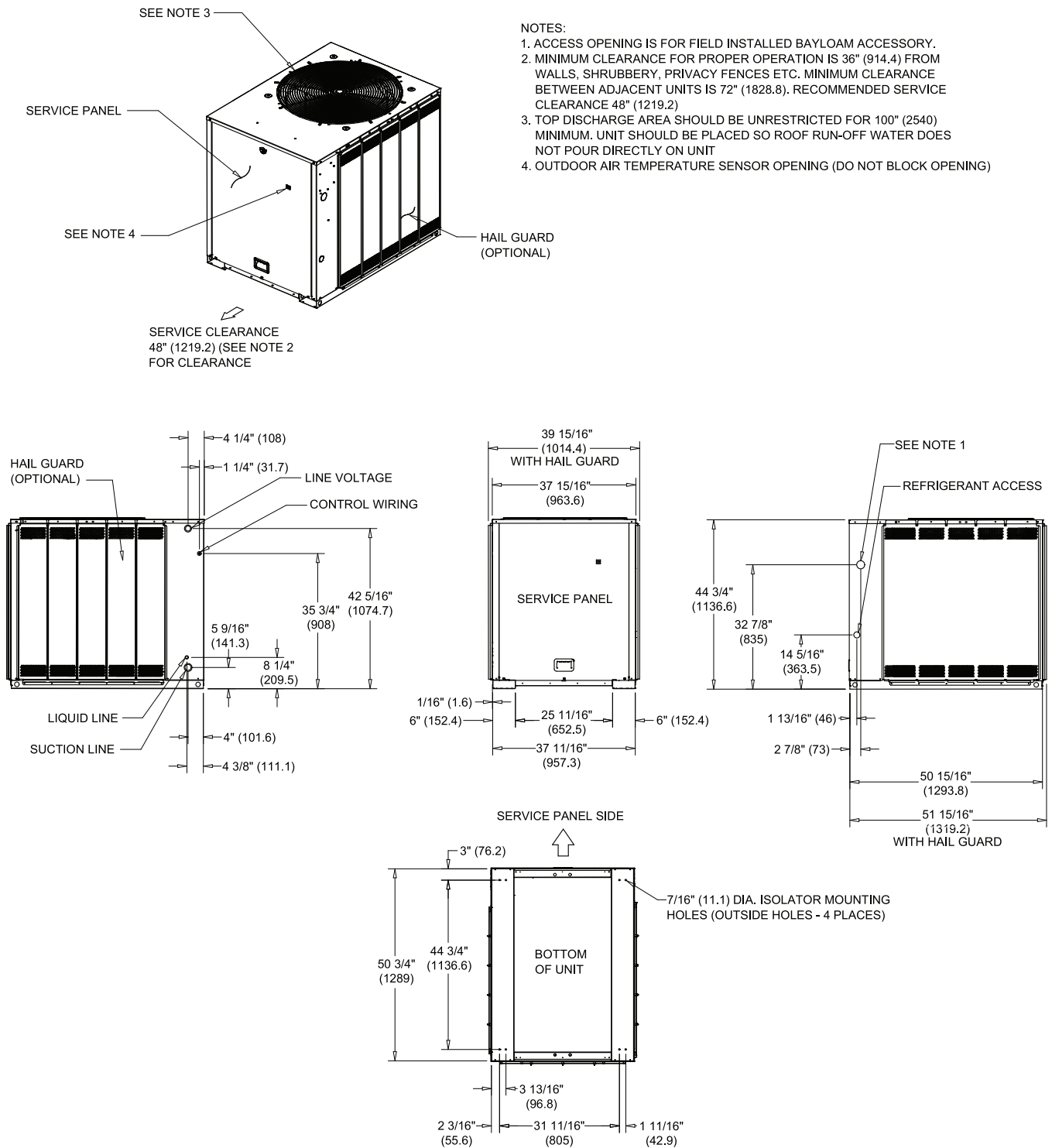
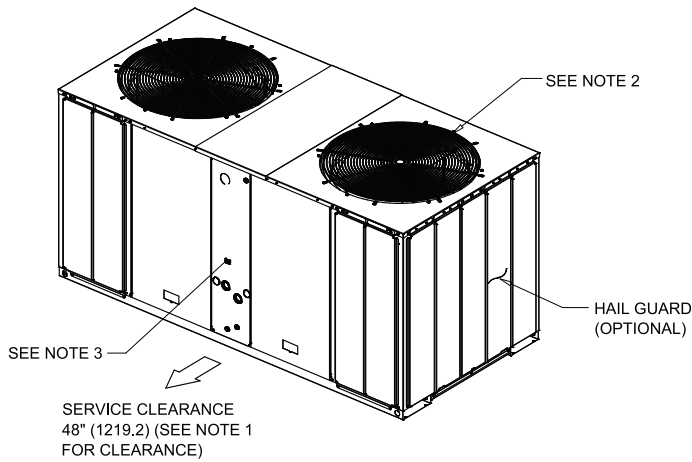
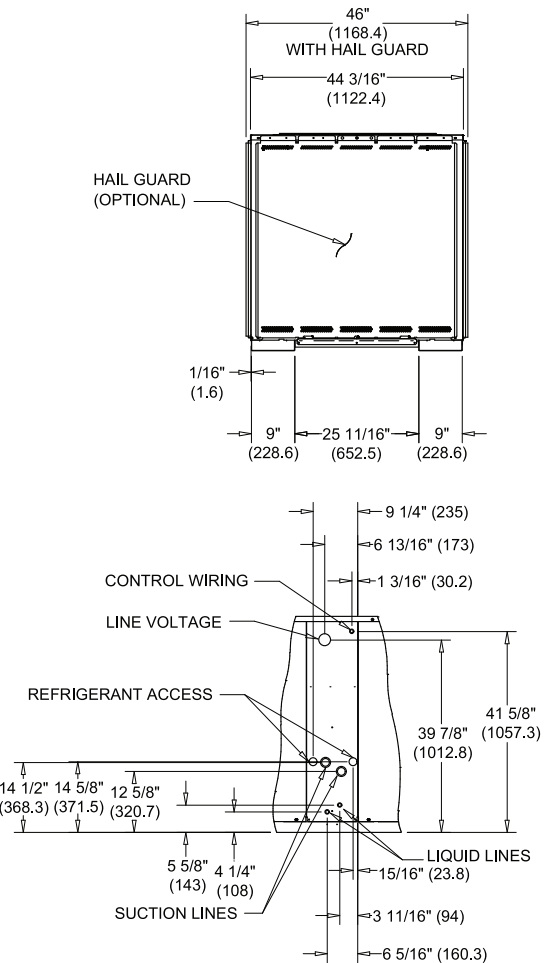
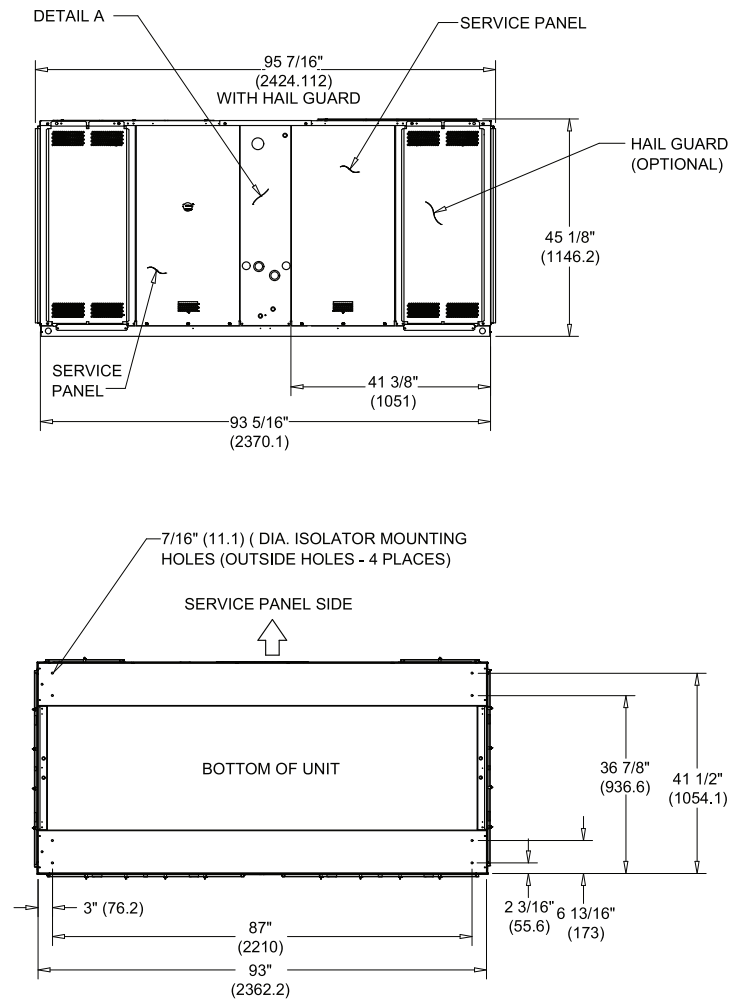


Figure 7. 15-20 ton heat pump, dual compressor



NOTES:

1. MINIMUM CLEARANCE FOR PROPER OPERATION IS 36" (914.4) FROM WALLS, SHRUBBERY, PRIVACY FENCES ETC. MINIMUM CLEARANCE BETWEEN ADJACENT UNITS IS 72" (1829). RECOMMENDED SERVICE CLEARANCE 48" (1219.2)
2. TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR 100" (2540) MINIMUM. UNIT SHOULD BE PLACED SO ROOF RUN-OFF WATER DOES NOT POUR DIRECTLY ON UNIT
3. OUTDOOR AIR TEMPERATURE SENSOR OPENING (DO NOT BLOCK OPENING).



FRONT DETAIL A
DIMENSIONAL DETAIL



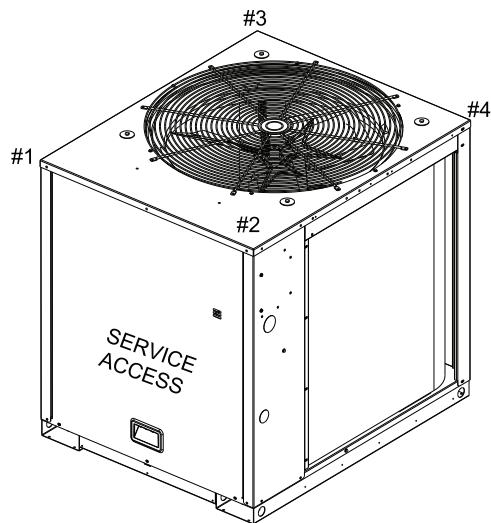
Weights

Heat Pump Condenser

Table 9. TWA unit and corner weights — lbs (60 Hz)

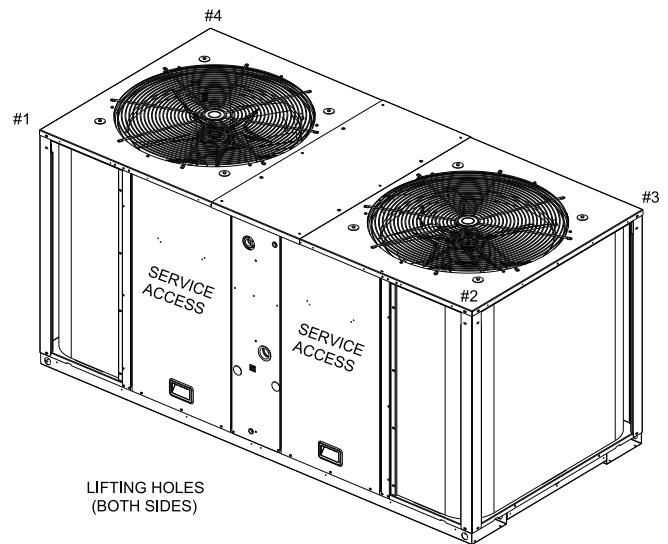
Tons	Model No.	Shipping Max (lbs)	Net Max (lbs)	Corner Weights			
				1	2	3	4
7.5	TWA090A	394	340	117	86	58	79
10	TWA120A	509	438	127	121	72	118
15	TWA180B	898	765	202	192	181	190
20	TWA240B	981	848	254	266	147	181

Figure 8. TWA090, 120



LIFTING HOLES (BOTH SIDES)

Figure 9. TWA180, 240



LIFTING HOLES
(BOTH SIDES)



Notes



Trane optimizes the performance of homes and buildings around the world. A business of Ingersoll Rand, the leader in creating and sustaining safe, comfortable and energy efficient environments, Trane offers a broad portfolio of advanced controls and HVAC systems, comprehensive building services, and parts. For more information, visit www.Trane.com.

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SSP-PRC027B-EN 19 May 2014
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