American Standard
HEATING & AIR CONDITIONING

Product Catalog

Split System Air Conditioners
Odyssey™

R-22 Dry Charge
Cooling Condenser — 7.5, 10, 15 and 20 Tons — 60 Hz

July 2018

SS-PRC038J-EN

Ingersoll Rand

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Introduction

American Standard'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 American Standard'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,American Standard 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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Revision History

- Coil design was updated, driving a model number revision to digit 10. General data, performance data, etc., have been updated.
- Weights, dimensional drawings have been updated to reflect that service valves are no longer a factory installed feature.
- Running edits included.

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Table of Contents

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Accessories

Cooling Condenser

Table 1. TTA Accessories

Model	Used With
Coil (Hail/Vandal) Guard	
BAYGARD058*	TTA0902*A
BAYGARD059*	TTA1202*A
BAYGARD061*	TTA1802*D, TTA2402*D
Rubber Isolators	
BAYISLT004* (blue)	TTA0902*A
BAYISLT005* (black)	TTA1202*A
BAYISLT009* (red)	TTA1802*D
BAYISLT010* (green)	TTA2402*D
Steel Spring Isolators	
BAYISLT023* (red)	TTA0902*A, TTA1202*A
BAYISLT024* (black)	TTA1802*D
BAYISLT025* (yellow)	TTA2402*D
Service Valve Kit	
BAYVALV001A	TTA0902*A, TTA1202*A
BAYVALV005A	TTA1802*D, TTA2402*D
Low Ambient — On/Off Fan Control (External mount, small cabinets)[a] [b]	
BAYLOAMU01* (External Mount, small cabinets)[c]	(all voltages) TTA0902*A
BAYLOAMU02* (Internal mount, large cabinets)	(all voltages) TTA1202*A, TTA1802*D, TTA2402*D

[a] Cycles fan on/off (no modulating).
[b] Quantity of 1 required for each fan (2 total for 15 ton and larger).
[c] Kit mounts external to the outdoor unit and operates by sensing ambient and liquid line temperatures.

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Model Number Description

Cooling Condenser

Digit 1–3 — Unit Function

TTA = Split System Cooling

Digit 4–6 — Tonnage

090 = 7.5 Tons (60Hz)
120 = 10 Tons (60Hz)
180 = 15 Tons (60Hz)
240 = 20 Tons (60Hz)

Digit 7 — Refrigerant

2 = R-22

Digit 8 — Voltage

3 = 208-230VAC - 3 PH (60Hz)
4 = 460VAC - 3 PH (60Hz)

Digit 9 — Refrigeration Circuit/Stage

A = 1 Compressor/1 Line/1 Stage (Single)
D = 2 Compressors/2 Line/2 Stage (Duals)

Digit 10 — Major Design Sequence

B = Rev B

Digit 11 — Minor Design Sequence

A = Rev A

Digit 12–13 — Service Digits

00 = 00

Digit 14 — Efficiency Generation

A = Generation A

Digit 15 — Controls

E = Electromechanical

Digit 16 — None

0 = None

Digit 17 — Coil Protection

0 = Standard Coil

Digit 18-20 — None

0 = None

Digit 21 — Communications Options

0 = No Option

Digit 22-40 — None

0 = None

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General Data

Table 2. General Data – 7.5 to 20 ton

	7.5 Tons	10 Tons	15 Tons	20 Tons
	Single Compressor TTA0902*A*	Single Compressor TTA1202*D*	Dual Compressor TTA1802*D*	Dual Compressor TTA2402*D*
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 3/8	1 3/8	1 3/8	1 3/8
Liquid Line (in.) OD	1/2	1/2	1/2	1/2
Outdoor Coil				
Type	MCHE	MCHE	MCHE	MCHE
Tube Size (in.) OD	0.8	0.8	0.8	0.8
Face Area (sq ft)	18.5	23.8	44.3	44.3
Rows/FPI (Fins per inch)	1/23	1/23	1/23	1/23
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	5,100	7,800	15,500	15,500
No. Motor/HP	1/0.5	1/1	2/1	2/1
Motor RPM	1,100	1,100	1,100	1,100
Shipping Dimensions				
HxWxD (in.)	45” x 45” x 38”	45” x 55” x 42”	51.1” x 96” x 48”	51.1” x 96” x 48”

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Performance Data

Table 3. Gross cooling capacities (MBH) 7.5 tons TTA0902*A condensing unit only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	162.4	167.7	173.4	179.5	186.0	192.8
	Capacity (Btuh/1000)	77.8	85.7	94.0	102.7	111.8	121.3
	Unit Power (kW)	4.9	5.0	5.2	5.4	5.5	5.7
75	Head Press (psig)	186.3	191.7	197.6	203.8	210.4	217.3
	Capacity (Btuh/1000)	74.4	82.0	89.9	98.2	106.9	115.9
	Unit Power (kW)	5.3	5.5	5.6	5.8	6.0	6.1
85	Head Press (psig)	212.8	218.4	224.4	230.7	237.5	244.5
	Capacity (Btuh/1000)	71.0	78.1	85.7	93.6	101.8	110.3
	Unit Power (kW)	5.8	6.0	6.1	6.3	6.5	6.6
95	Head Press (psig)	242.0	247.8	253.9	260.4	267.3	274.6
	Capacity (Btuh/1000)	67.3	74.1	81.3	88.8	96.5	104.6
	Unit Power (kW)	6.4	6.5	6.7	6.9	7.0	7.2
105	Head Press (psig)	273.9	279.9	286.3	293.0	300.1	307.5
	Capacity (Btuh/1000)	63.6	70.0	76.7	83.8	91.1	98.6
	Unit Power (kW)	7.0	7.2	7.3	7.5	7.7	7.9
115	Head Press (psig)	308.8	315.0	321.5	328.4	335.7	343.4
	Capacity (Btuh/1000)	59.6	65.6	72.0	78.6	85.4	92.5
	Unit Power (kW)	7.7	7.9	8.1	8.2	8.4	8.6
125	Head Press (psig)	346.6	352.9	359.7	366.8	374.3	382.2
	Capacity (Btuh/1000)	55.5	61.1	67.0	73.2	79.6	86.2
	Unit Power (kW)	8.5	8.7	8.9	9.1	9.3	9.5

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

Figure 1. TTA0902*A capacity curves

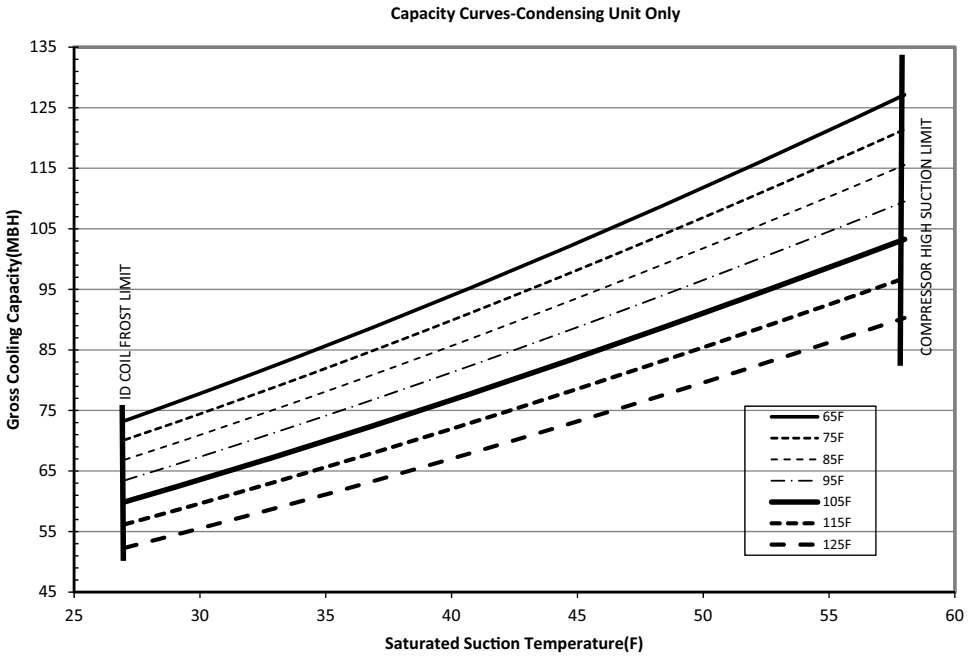


Table 4. Gross cooling capacities (MBH) 10 tons TTA1202*A condensing unit only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	164.6	169.7	175.2	181.1	187.3	194.0
	Capacity (Btuh/1000)	103.2	113.5	124.4	136.0	148.2	161.1
	Unit Power (kW)	7.2	7.4	7.6	7.8	8.1	8.3
75	Head Press (psig)	189.9	195.4	201.2	207.4	213.9	220.8
	Capacity (Btuh/1000)	99.2	109.3	119.9	131.3	143.2	155.7
	Unit Power (kW)	7.7	7.9	8.2	8.4	8.6	8.9
85	Head Press (psig)	218.0	223.8	229.9	236.4	243.3	250.5
	Capacity (Btuh/1000)	94.9	104.7	115.1	126.1	137.7	149.9
	Unit Power (kW)	8.4	8.6	8.8	9.0	9.3	9.5
95	Head Press (psig)	248.9	255.1	261.6	268.4	275.5	283.1
	Capacity (Btuh/1000)	90.3	99.8	109.8	120.5	131.7	143.5
	Unit Power (kW)	9.1	9.4	9.6	9.8	10.0	10.3
105	Head Press (psig)	282.9	289.4	296.2	303.3	310.8	318.6
	Capacity (Btuh/1000)	85.3	94.4	104.1	114.3	125.1	136.4
	Unit Power (kW)	10.0	10.2	10.4	10.7	10.9	11.1
115	Head Press (psig)	319.9	326.7	333.9	341.4	349.1	357.3
	Capacity (Btuh/1000)	80.0	88.6	97.8	107.6	117.9	128.6
	Unit Power (kW)	10.9	11.2	11.4	11.6	11.9	12.1
125	Head Press (psig)	360.1	367.3	374.8	382.6	390.6	399.0
	Capacity (Btuh/1000)	74.2	82.3	91.1	100.3	110.0	120.2
	Unit Power (kW)	12.0	12.2	12.4	12.7	12.9	13.2

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

Figure 2. TTA1202*A capacity curves

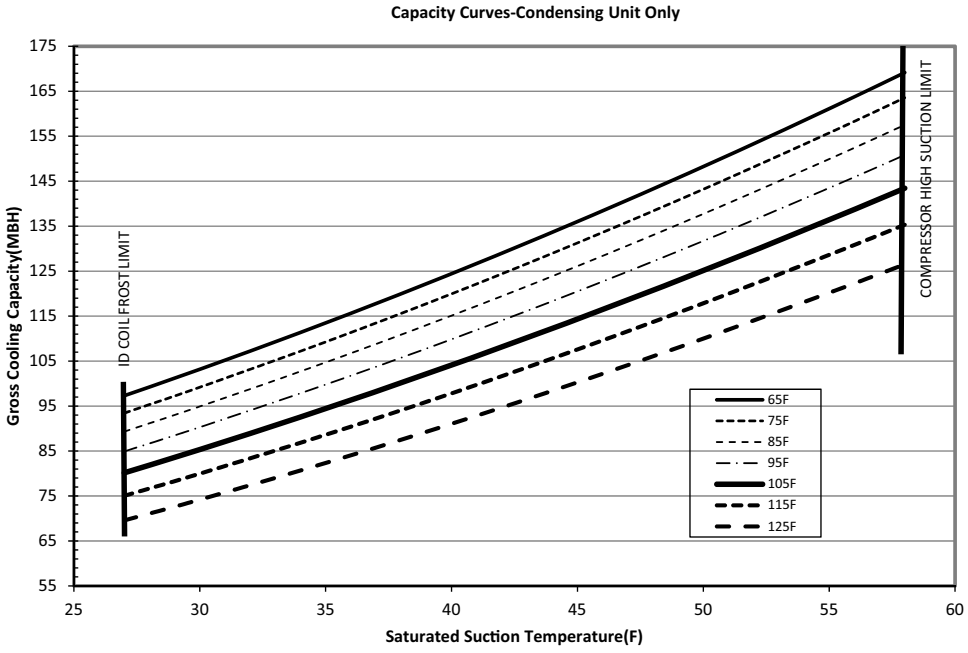


Table 5. Gross cooling capacities (MBH) 15 tons TTA1802*D condensing unit only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	148.8	152.3	156.3	160.5	165.0	169.8
	Capacity (Btuh/1000)	156.3	172.4	189.5	207.6	226.6	246.5
	Unit Power (kW)	10.4	10.7	10.9	11.2	11.5	11.8
75	Head Press (psig)	171.8	175.6	179.7	184.0	188.7	193.5
	Capacity (Btuh/1000)	149.8	165.3	181.6	198.9	217.1	236.2
	Unit Power (kW)	11.2	11.4	11.7	12.0	12.2	12.5
85	Head Press (psig)	197.6	201.5	205.7	210.2	214.9	219.9
	Capacity (Btuh/1000)	143.0	157.8	173.5	190.0	207.4	225.7
	Unit Power (kW)	12.1	12.3	12.6	12.9	13.1	13.4
95	Head Press (psig)	226.1	230.2	234.5	239.1	243.9	249.0
	Capacity (Btuh/1000)	136.0	150.1	165.0	180.9	197.5	214.9
	Unit Power (kW)	13.2	13.4	13.7	13.9	14.2	14.5
105	Head Press (psig)	257.4	261.6	266.1	270.8	275.8	281.0
	Capacity (Btuh/1000)	128.7	142.1	156.3	171.3	187.2	203.7
	Unit Power (kW)	14.4	14.6	14.9	15.2	15.4	15.7
115	Head Press (psig)	291.6	296.0	300.6	305.5	310.6	316.0
	Capacity (Btuh/1000)	121.0	133.7	147.2	161.4	176.5	192.2
	Unit Power (kW)	15.7	16.0	16.3	16.5	16.8	17.1
125	Head Press (psig)	328.9	333.4	338.1	343.1	348.5	354.0
	Capacity (Btuh/1000)	113.0	125.0	137.7	151.2	165.4	180.2
	Unit Power (kW)	17.2	17.5	17.8	18.1	18.4	18.7

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

Figure 3. TTA1802*D capacity curves

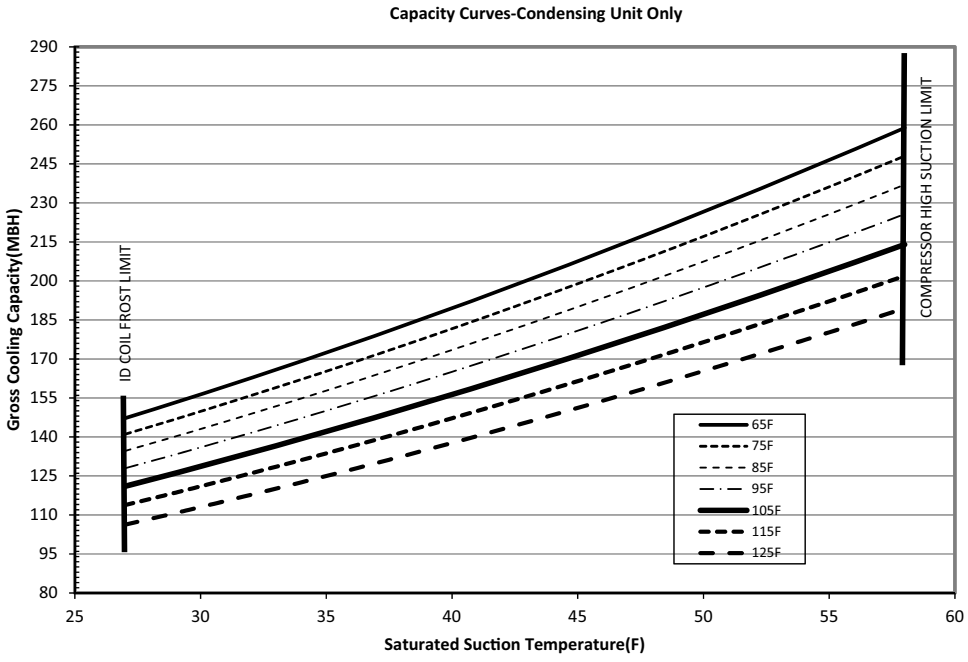
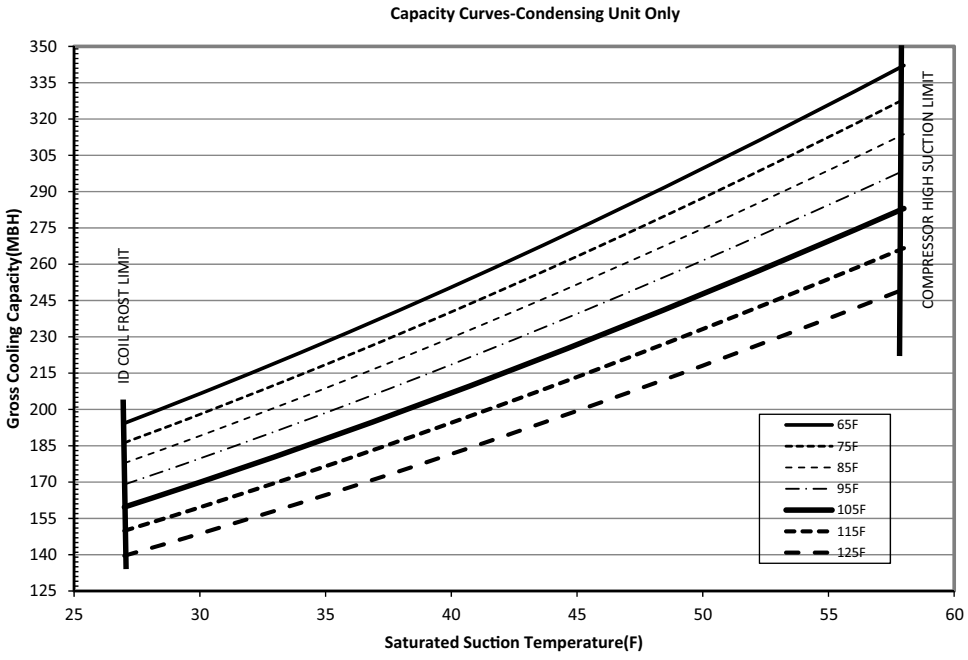


Table 6. Gross cooling capacities (MBH) 20 tons TTA2402*D condensing unit only (IP)

Outdoor Temp (°F)		Suction Temperature (°F)					
		30	35	40	45	50	55
65	Head Press (psig)	160.3	165.3	170.7	176.4	182.6	189.1
	Capacity (Btuh/1000)	206.5	227.9	250.5	274.4	299.5	325.8
	Unit Power (kW)	14.2	14.6	15.0	15.4	15.8	16.3
75	Head Press (psig)	184.6	189.8	195.4	201.4	207.7	214.4
	Capacity (Btuh/1000)	198.0	218.5	240.3	263.3	287.3	312.5
	Unit Power (kW)	15.3	15.6	16.0	16.5	16.9	17.4
85	Head Press (psig)	211.4	216.9	222.7	228.9	235.4	242.3
	Capacity (Btuh/1000)	189.1	208.8	229.7	251.7	274.7	298.8
	Unit Power (kW)	16.5	16.9	17.3	17.7	18.2	18.6
95	Head Press (psig)	240.9	246.6	252.7	259.1	265.8	272.9
	Capacity (Btuh/1000)	179.7	198.6	218.5	239.5	261.5	284.5
	Unit Power (kW)	17.9	18.3	18.7	19.2	19.6	20.1
105	Head Press (psig)	273.2	279.1	285.4	292.1	299.0	306.4
	Capacity (Btuh/1000)	169.9	187.8	206.8	226.8	247.7	269.5
	Unit Power (kW)	19.5	19.9	20.3	20.8	21.2	21.7
115	Head Press (psig)	308.3	314.5	321.0	327.9	335.1	342.7
	Capacity (Btuh/1000)	159.6	176.5	194.5	213.4	233.2	253.9
	Unit Power (kW)	21.3	21.7	22.1	22.5	23.0	23.4
125	Head Press (psig)	346.4	352.8	359.6	366.7	374.2	382.0
	Capacity (Btuh/1000)	148.7	164.7	181.6	199.4	218.1	237.6
	Unit Power (kW)	23.2	23.6	24.0	24.5	24.9	25.4

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

Figure 4. TTA2402*D capacity curves



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Electrical Data

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

Tons	Unit Model Number	Compressor Motor							Condenser Fan Motor				
					Compressor 1		Compressor 2					Amps	
		No.	Volts	Phase	RLA Amps	LRA Amps	RLA Amps	LRA Amps	No.	Volts	Phase	FLA (Ea.)	LRA (Ea.)
7.5	TTA09023A	1	208-230	3	22.4	164	N/A	N/A	1	208-230	1	3.1	8.1
	TTA09024A	1	460	3	10.9	100	N/A	N/A	1	460	1	1.6	3.8
10	TTA12023A	1	208-230	3	30.1	231	N/A	N/A	1	208-230	1	5.0	14.4
	TTA12024A	1	460	3	15.5	114	N/A	N/A	1	460	1	2.5	5.8
15	TTA18023D	2	208-230	3	22.4	164	22.4	164	2	208-230	1	5.0	14.4
	TTA18024D	2	460	3	10.9	100	10.9	100	2	460	1	2.5	5.8
20	TTA24023D	2	208-230	3	30.1	231	30.1	231	2	208-230	1	5.0	14.4
	TTA24024D	2	460	3	15.5	114	15.5	114	2	460	1	2.5	5.8

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

Table 8. Unit wiring — condensing units — 60 Hz

Tons	Unit Model Number	Unit Operating Voltage Range	Minimum Circuit Ampacity	Maximum Fuse or HACR Circuit Breaker Size
7.5	TTA09023A	187-253	31	50
	TTA09024A	414-506	15	25
10	TTA12023A	187-253	43	70
	TTA12024A	414-506	22	35
15	TTA18023D	187-253	60	80
	TTA18024D	414-506	30	40
20	TTA24023D	187-253	78	100
	TTA24024D	414-506	40	50

Note: HACR type circuit breaker per NEC.

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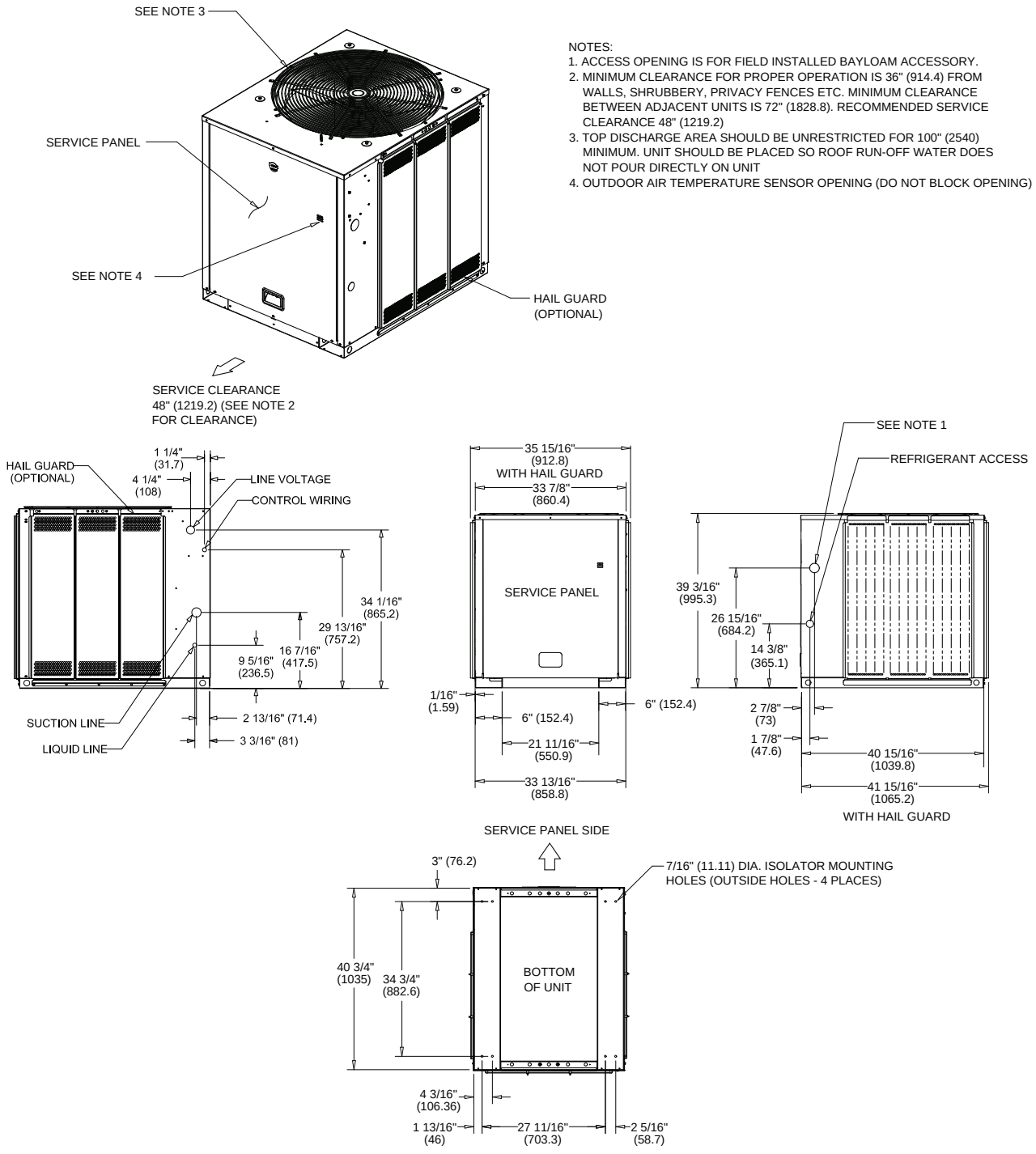
Dimensional Data

Cooling Condenser

Figure 5. 7.5 ton condensing unit, single compressor, microchannel



Dimensional Data

Figure 6. 10 ton condensing unit, single compressor, microchannel

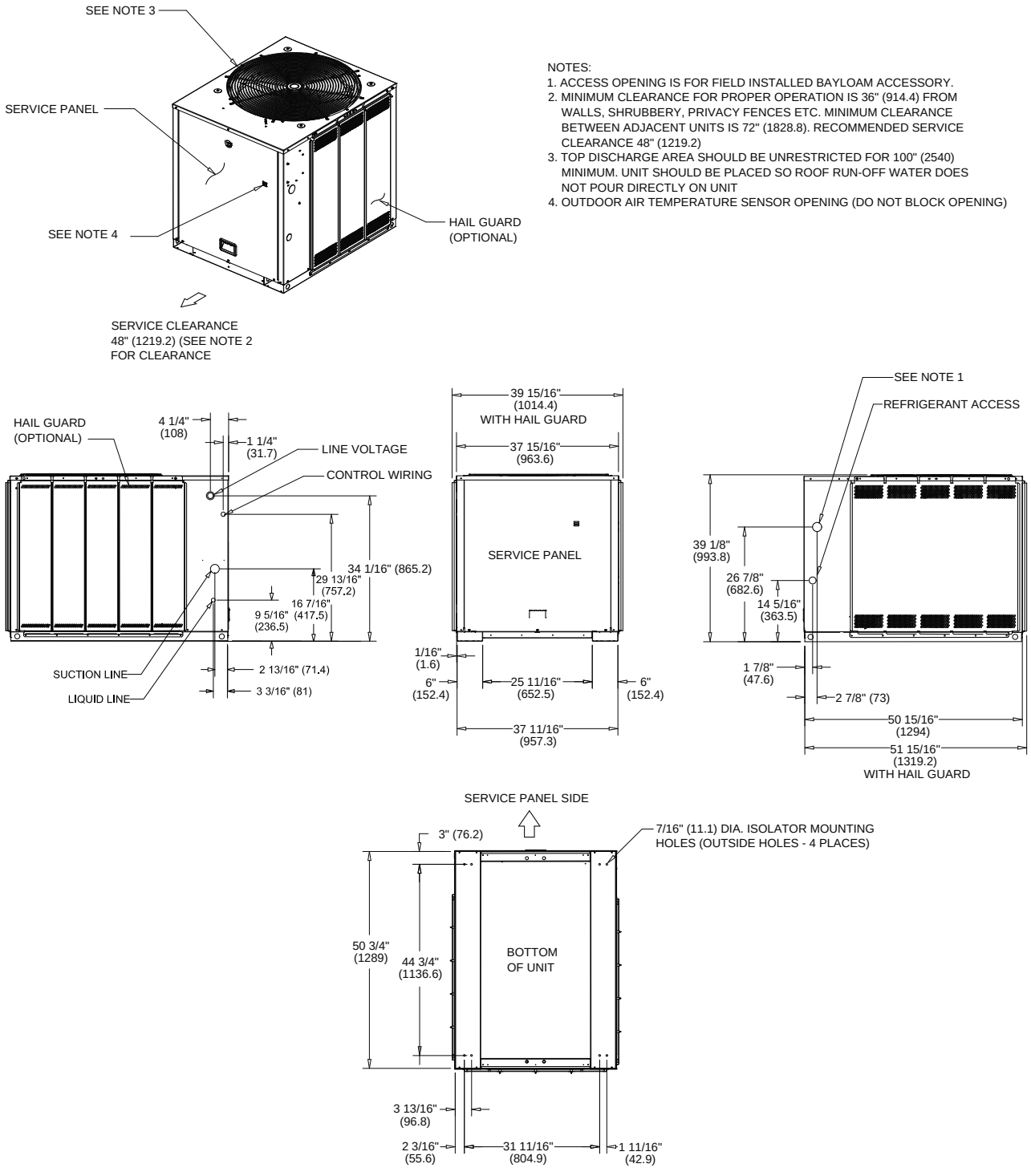
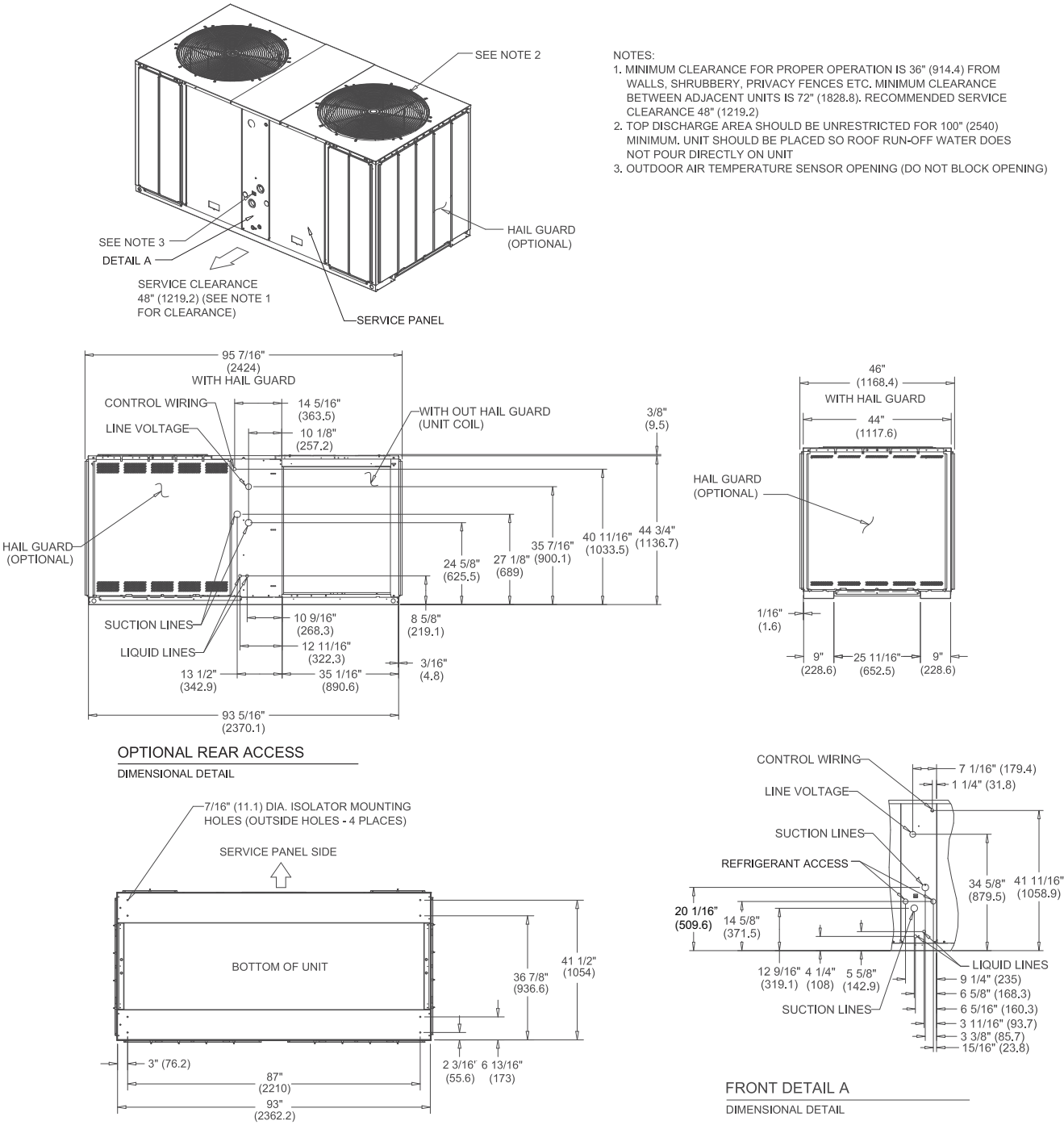


Figure 7. 15–20 ton condensing unit, dual compressor, microchannel



Weights

Cooling Condenser

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

Tons	Model No.	Shipping Max (lbs)	Net Max (lbs)	Corner Weights			
				1	2	3	4
7.5	TTA0902*A	328	280	73	89	51	67
10	TTA1202*A	405	329	107	84	60	77
15	TTA1802*D	776	661	141	228	112	180
20	TTA2402*D	922	756	180	265	122	190

Figure 8. TTA0902*A, 1202*A

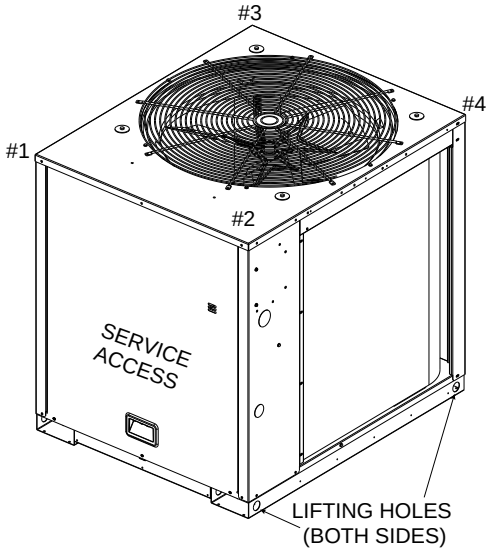
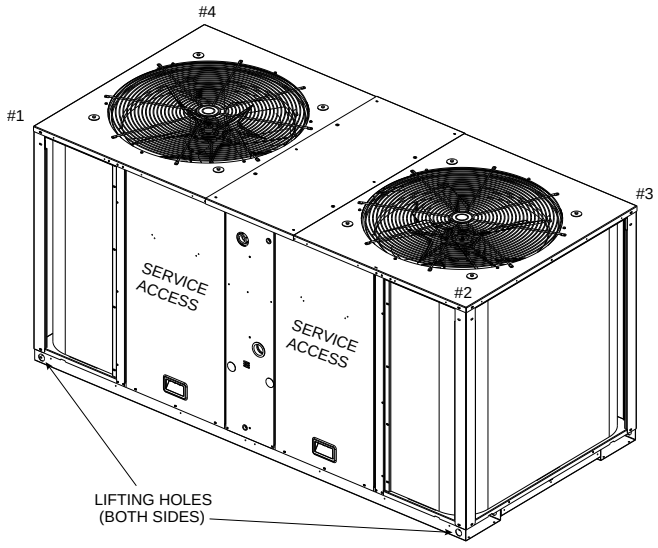


Figure 9. TTA1802*D, 2402*D



Notes

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