



Product Catalog

Odyssey Split System Heat Pumps

R-22 Dry Charge

7½ - 20 Ton, 60 Hz





R-22 Dry Charge, 7½ - 20 Ton

General Data

Table 1. General Data — 7½ - 20 Ton Condensing Units— 60 Hz

	7½ Tons	10 Tons	15 Tons	20 Tons
	Single Compressor TWA090A	Single Compressor TWA120A	Dual Compressor TWA180B	Dual Compressor TWA240B
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	5/8	1/2	1/2	5/8
Outdoor Coil - Type	Lanced	Lanced	Lanced	Lanced
Tube Size (in.) OD	0.375	0.375	0.375	0.375
Face Area (sq ft)	19.24	29.02	52.6	52.6
Rows/FPI	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	9800	19500	19500
No. Motor/HP	1/0.5	1/1	2/1	2/1
Motor RPM	1100	1100	1100	1100
Refrigerant Charge (Field Supplied) R-22	20.6	27.9	47.1	47.0
Shipping Dimensions (HxWxD)	43.54" x 43" x 36.5"	49.48" x 53.25" x 41"	49.48" x 94.75" x 47"	49.48" x 94.75" x 47"

R-22 Dry Charge, 7½ - 20 Ton

Accessories

MODEL	DESCRIPTION	USED WITH
Coil Guard		
BAYGARD058A		TWA090A
BAYGARD060A	Hail/Vandal Guard	TWA120A
BAYGARD061A		TWA180B, TWA240B
Isolators		
BAYISLT005A	Rubber Isolator Floor (black)	TWA090A, TWA120A
BAYISTL009A	Rubber Isolator Floor (red)	TWA180B
BAYISTL010A	Rubber Isolator Floor (green)	TWA240B
BAYISLT023A	Steel Spring Isolator Floor (red)	TWA090A, TWA120A
BAYISLT024A	Steel Spring Isolator Floor (black)	TWA180B
BAYISLT025A	Steel Spring Isolator Floor (yellow)	TWA240B
Low Ambient		
BAYLOAMU01B(a)(b)(c)	On/Off Fan Control Mounted in External Enclosure (small cabinets)	TWA090A (all voltages)
BAYLOAMU02B(b)(c)	On/Off Fan Control Mounted in Unit Control Box (large cabinets)	TWA120A-TWA240B (all voltages)

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

(b) Cycles fan on/off, (no modulating).

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



R-22 Dry Charge, 7½ - 20 Ton

Model Number Description

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

Model Number Description

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.

Note: 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 Outdoor Unit

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

090 = 7½ Tons (60 Hz)

120 = 10 Tons (60 Hz)

180 = 15 Tons (60 Hz)

240 = 20 Tons (60 Hz)

Digit 7: Major Development Sequence

A = Single Circuit, R-22

B = Dual Circuit, R-22

Digits 8: Electrical Characteristics

3 = 208-230/60/3

4 = 460/60/3

Digits 9 - 10: Factory Installed Options

0R = ReliaTel, no LCI Board

DIGITS 11: Minor Design Sequence

* = Current Design Sequence¹

DIGITS 12: Service Digit

* = Current Design Sequence¹

¹ * = sequential alpha character

R-22 Dry Charge, 7½ - 20 Ton

Electrical Data

Table 2. Electrical Characteristics — Compressor and Condenser Fan Motors — Heat Pumps — 60Hz

Tons	Unit Model No.	Compressor Motor					Condenser Fan Motor				
		No.	Volts	Phase	Amps		No.	Volts	Phase	Amps	
					RLA (ea.)	LRA (ea.)				FLA (ea.)	LRA (ea.)
7½	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

Table 3. Unit Wiring — Heat Pumps — 60Hz

Tons	Unit Model No.	Unit Operating Voltage Range	Minimum Circuit Ampacity	Maximum Fuse Size or Maximum Circuit Breaker ^(a)
7½	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

(a) HACR type circuit breaker per NEC.



R-22 Dry Charge, 7½ - 20 Ton

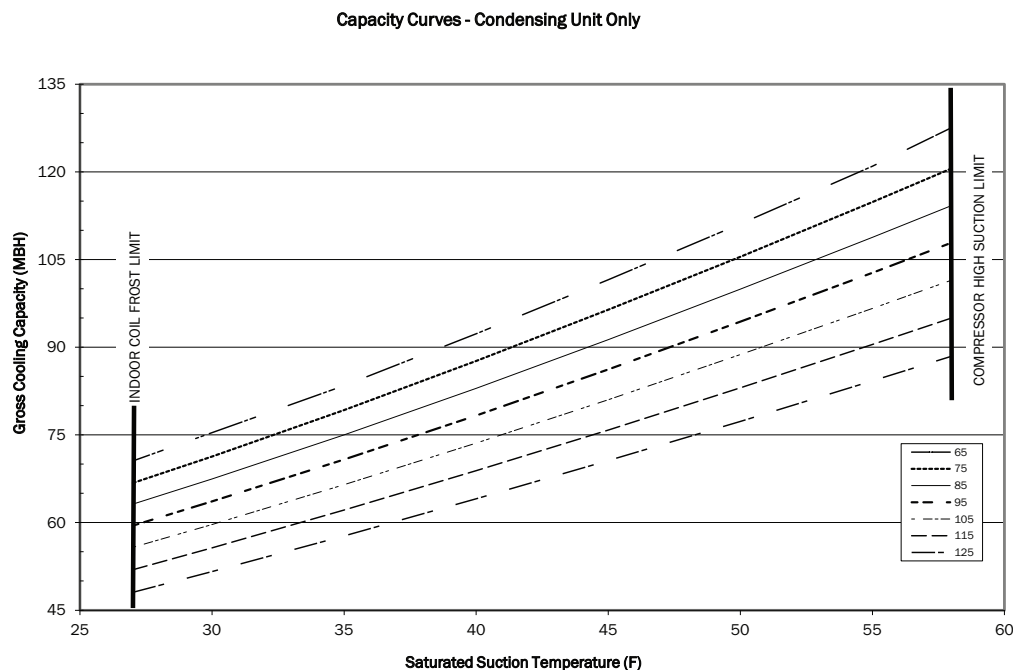
Performance Data

Table 4. Gross Cooling Capacities (MBH) 7½ 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 Curves



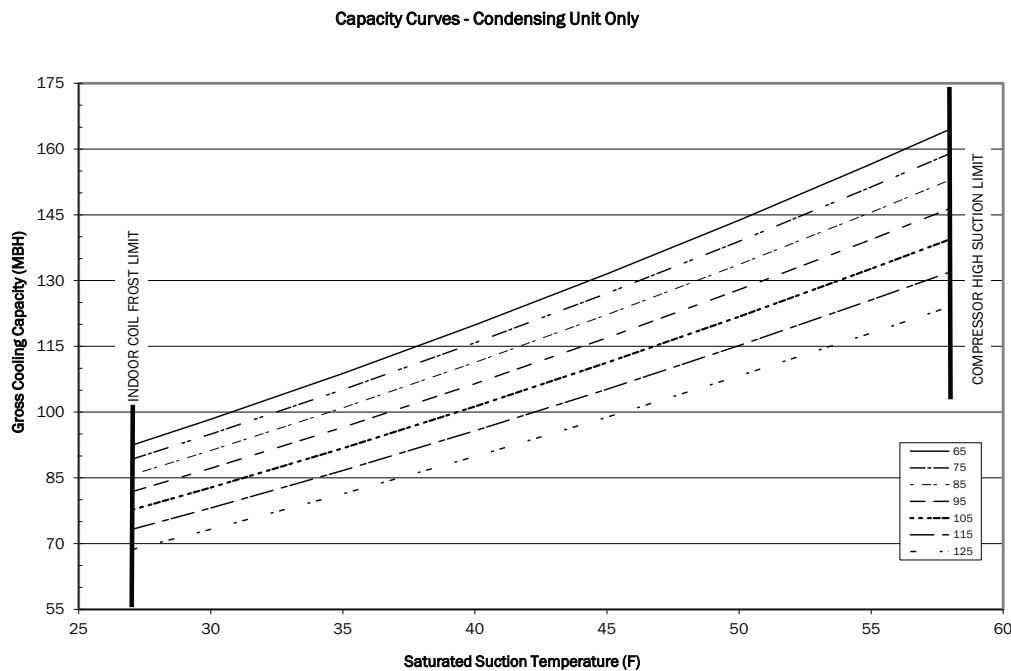
R-22 Dry Charge, 7½ - 20 Ton

Table 5. 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





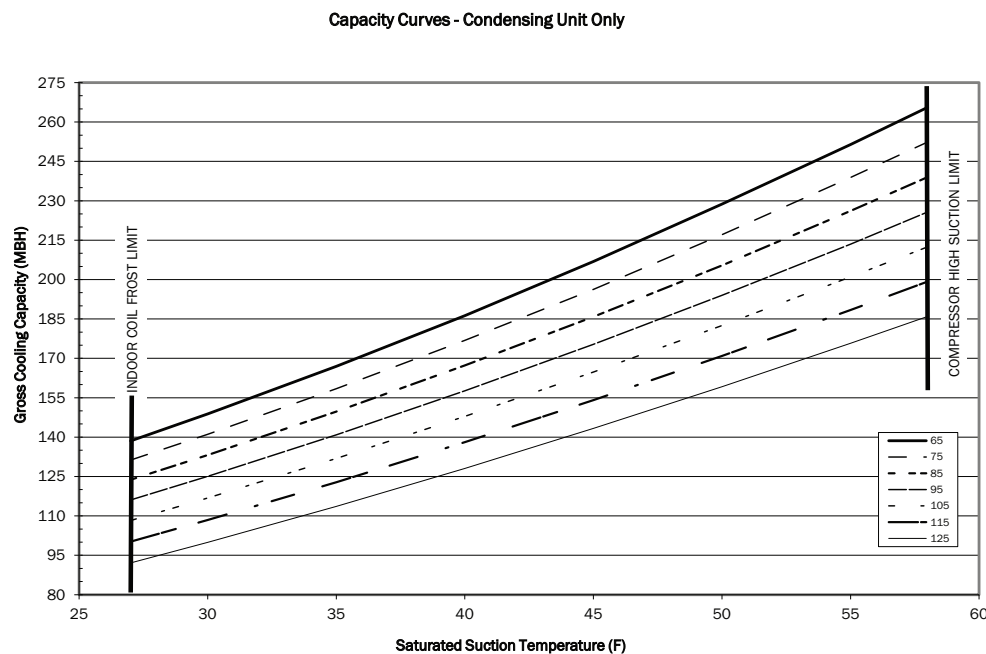
R-22 Dry Charge, 7½ - 20 Ton

Table 6. 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



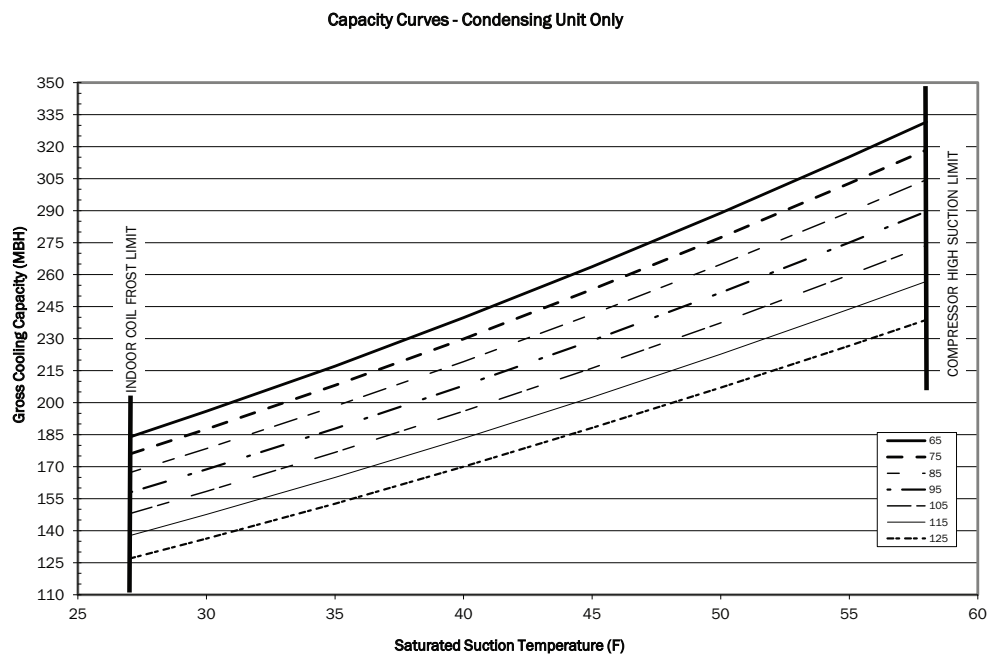
R-22 Dry Charge, 7½ - 20 Ton

Table 7. 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



R-22 Dry Charge, 7½ - 20 Ton

Dimensional Data

Figure 5. 7½ Ton Heat Pump, Single Compressor

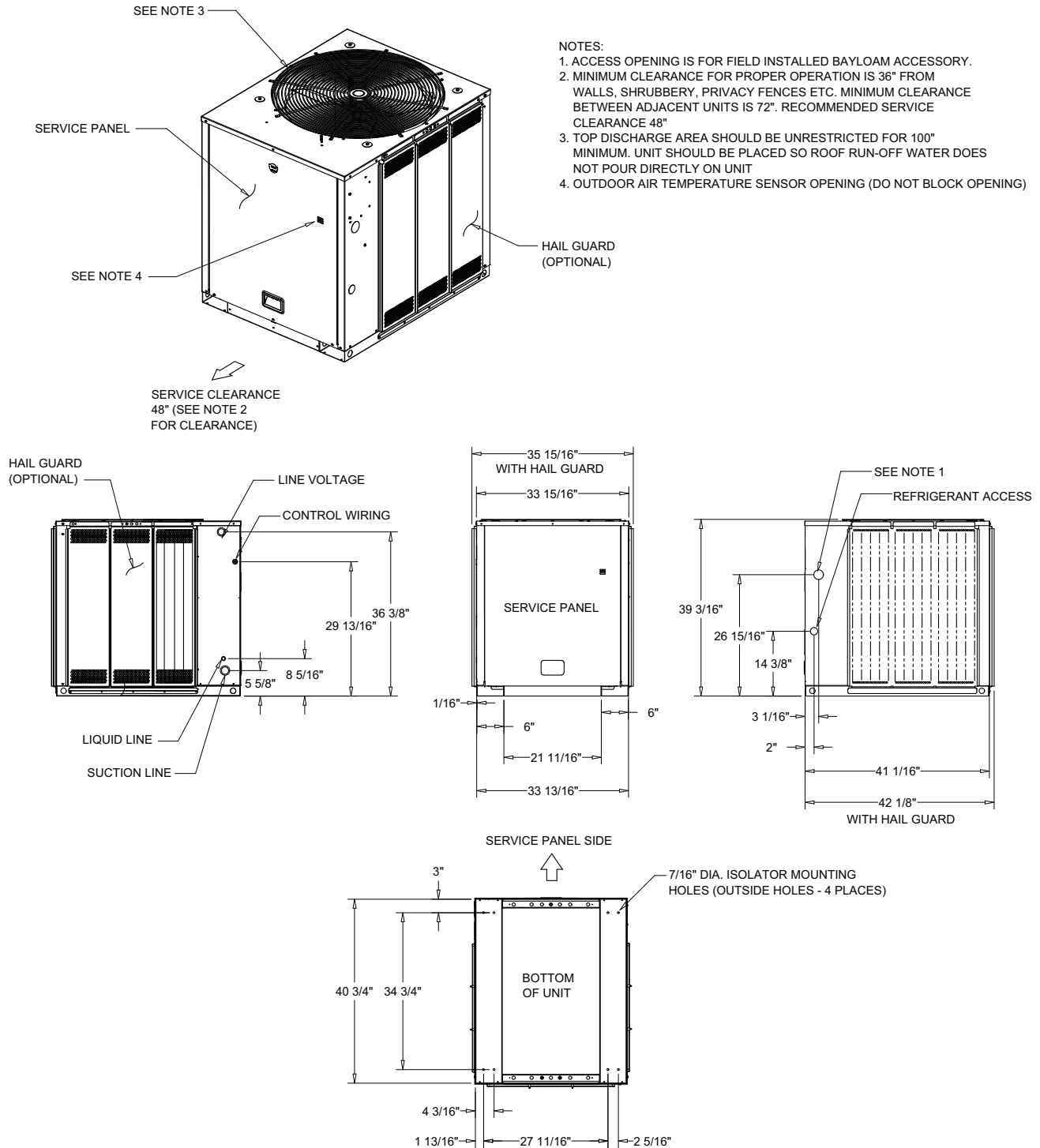
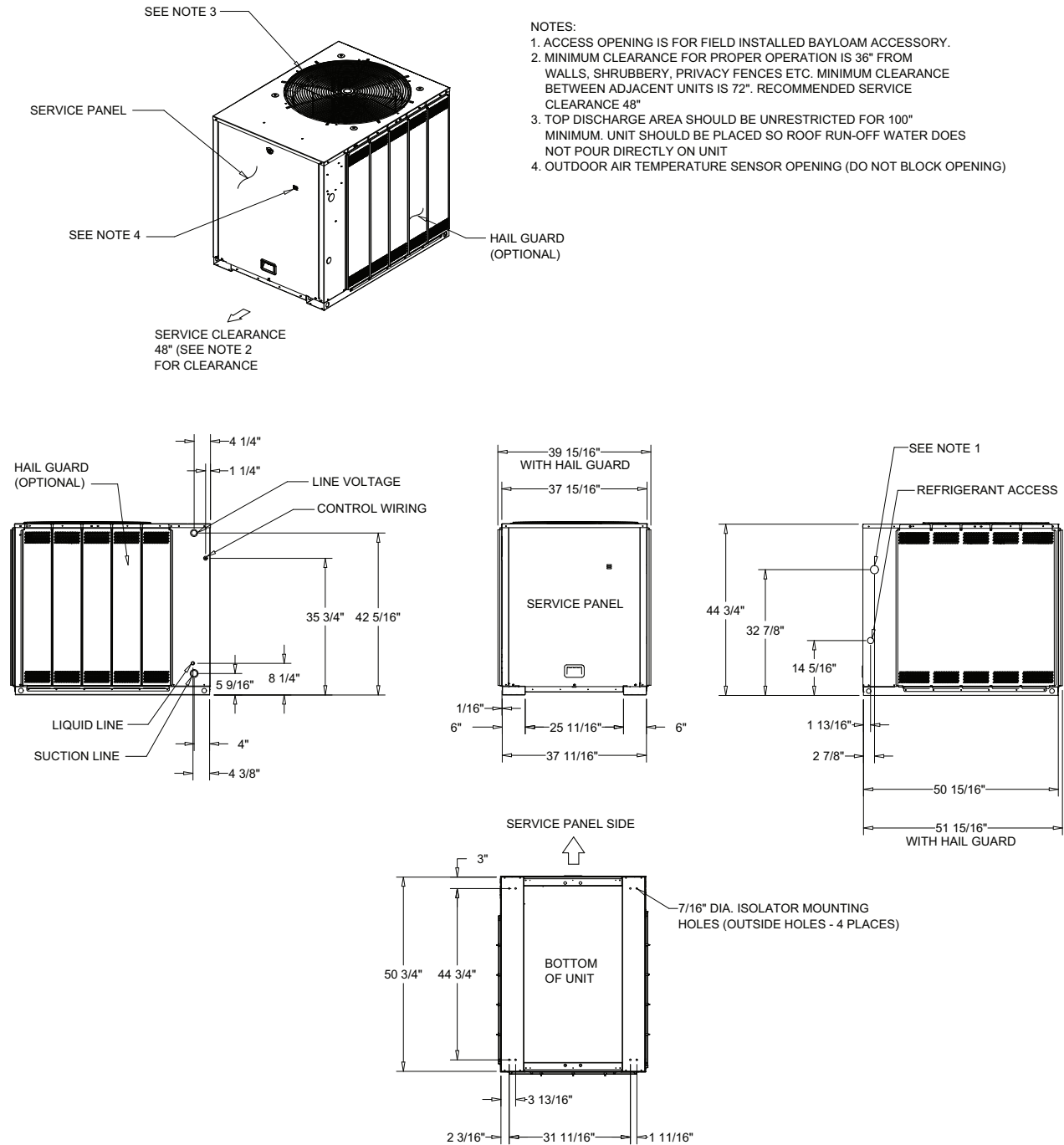
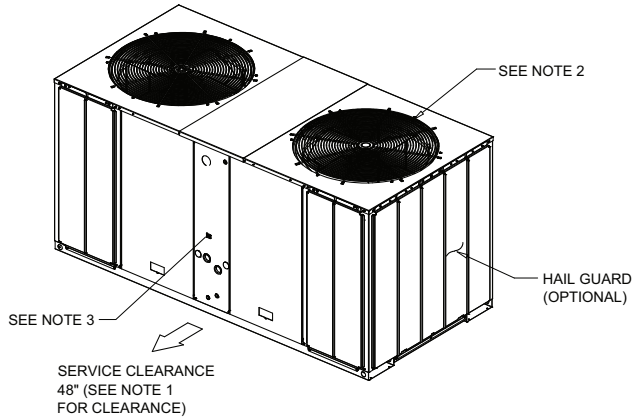


Figure 6. 10 Ton Heat Pump, Single Compressor



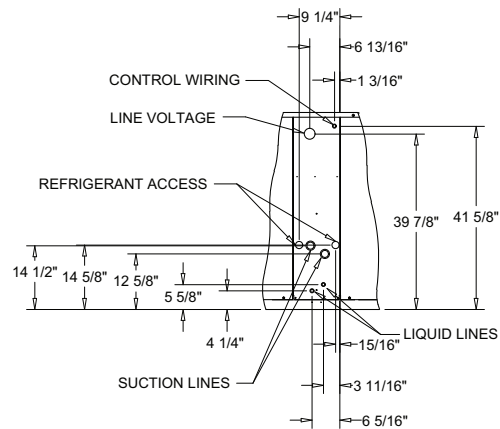
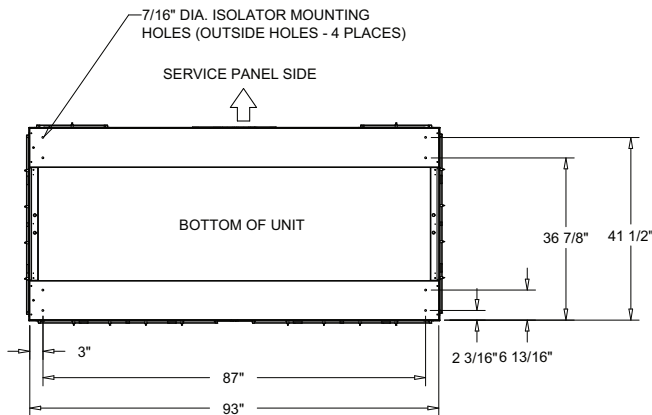
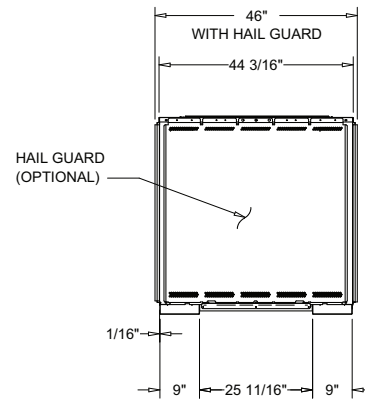
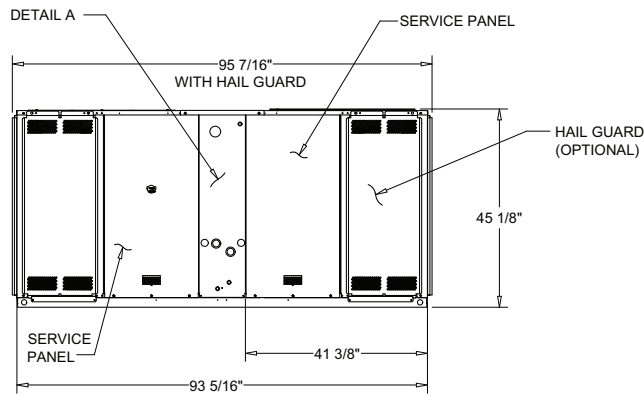
R-22 Dry Charge, 7½ - 20 Ton

Figure 7. 15-20 Ton Heat Pump, Dual Compressor



NOTES:

1. MINIMUM CLEARANCE FOR PROPER OPERATION IS 36" FROM WALLS, SHRUBBERY, PRIVACY FENCES ETC. MINIMUM CLEARANCE BETWEEN ADJACENT UNITS IS 72". RECOMMENDED SERVICE CLEARANCE 48"
2. TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR 100" 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

Table 8. TWA Unit & Corner Weights — lbs (60 Hz)

Tons	Model No.	Shipping Max (lbs)	Net Max (lbs)	Corner Weights			
				1	2	3	4
7½	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

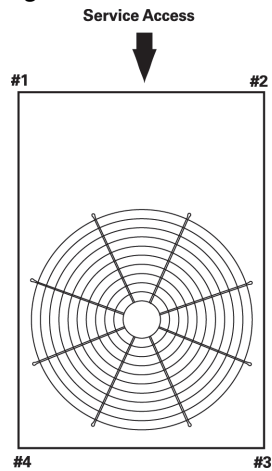
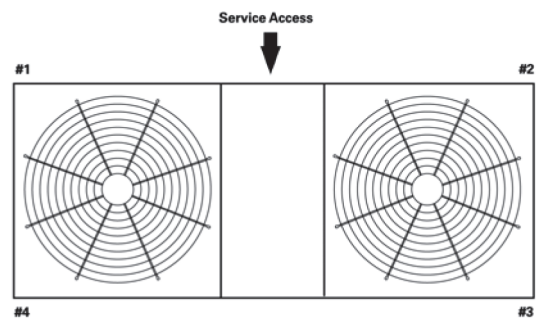


Figure 9. TWA180, 240





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.

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.

© 2012 Trane All rights reserved
SSP-PRC027-EN 27 Jun 2012
Supersedes SSP-PRC027-EN(16 Apr 2012)

We are committed to using environmentally
conscious print practices that reduce waste.

