Product Data

Commercial Split Systems
Air Conditioning Condensing Units

6 to 20 Tons

38AUZ07,08,12,14 Shown

38AUZ, AUD 07-28 Single and Dual Circuit Condensing Units with Puron® R-410A Refrigerant

Features/Benefits

These dependable outdoor air cooled condensing units match Carrier's indoor-air handlers to meet a wide selection of cooling solutions.

Carrier's air-cooled air conditioning split systems:

- Provide a logical solution for commercial needs
- Have rugged, dependable construction
- Available with single or dual refrigerant circuits.
- Have cooling capability up to 125°F (52°C) ambient and down to 35°F (2°C) ambient standard

Constructed for long life

The 38AUZ single circuit and 38AUD dual circuit, air cooled condensing units are designed and built to last. The high efficient designed outdoor coil construction allows for a more efficient design in a smaller cabinet size that utilizes an overall reduction in refrigerant charge. Where conditions require, special coil coating coil protection option is available. Cabinets are constructed of prepainted galvanized steel, delivering unparalleled protection from the environment. Inside and outside surfaces are protected to ensure long life, good looks, and reliable operation. Safety controls are used for enhanced system protection and reliability. Each unit utilizes the Comfort Alert™ diagnostic and troubleshooting control system. This protects the units operation and provides valuable diagnostic information when required.

Factory-installed options (FIOPs)

Certified and pre-engineered factory-installed options (FIOPs) allow units to be installed in less time, thereby reducing installed cost.

FIOPs include:

- low ambient controls which provide cooling operation down to –20°F (–29°C) ambient temperatures
- non-fused disconnect
- special coil coating coil protection
- louvered hail guard

Efficient operation

These air cooled condensing units will provide EERs up to 12.0 (tested in accordance with AHRI standard 340/360).

This high efficiency operation will help reduce overall operating cost and energy consumption.

Controls for performance dependability

The 38AU condensing units offer operating controls and components designed for performance dependability. The high efficiency hermetic scroll compressor is engineered for long life and durability. The compressors include vibration isolation for quiet operation. The high-pressure switch protects the entire refrigeration system from abnormally high operating pressures. A low-pressure switch protects the system from loss of charge. These units also include anti-short-cycling protection, which helps to protect the units against compressor failure.

All units include a crankcase heater to eliminate liquid slugging at start-up. Each unit comes standard with the Comfort Alert control system. This provides:

- System Go LED indicator
- Fault LED indicator
- Compressor fault LED indicator
- Phase loss protection
- Phase reversal protection
- Safety pressure indicator
- Anti-short cycle protection

Innovative Carrier 40RUA/40RFA packaged air handlers are custom matched to 38AUZ/D condensing units.

Information on matching 40RUA/40RFA DX packaged air handler follows for convenience. See separate product data for more details. The 40RUA/40RFA Series has excellent fan performance, efficient direct-expansion (DX) coils, a unique combination of indoor-air quality features, and is easy to install. Its versatility and state-of-the-art features help to ensure economical performance of the split system both now and in the future.

Indoor-air quality (IAQ) features

The unique combination of IAQ features in the 40RUA/40RFA Series air handlers help to ensure that only clean, fresh, conditioned air is delivered to the occupied space.

Direct-expansion 4 row cooling coils prevent the build-up of humidity in the room, even during part-load conditions.

Standard 2 in. (51 mm) disposable filters remove dust and airborne particles from the occupied space for cleaner air.

The pitched, non-corroding drain pan can be adjusted for a right-hand or left-hand connection to suit many applications and provide positive drainage and prevent standing condensate.

The accessory economizer can provide ventilation air to improve indoor-air quality by using demand control ventilation. When used in conjunction with Carrier Comfort System and CO_2 sensors, the economizer admits fresh outdoor air to replace stale, recirculated indoor air.

Economy

The 40RUA/40RFA Series packaged air handlers provide reduced installation expense and energy-efficient performance.

Quick installation is ensured by the multipoise design. Units can be installed in either the horizontal or vertical configuration without modifications. Fan motors and contactors are pre-wired and thermostatic expansion valves (TXVs) are factory-installed on all 40RUA/40RFA models.

High efficiency, precision-balanced fans minimize air turbulence, surging, and unbalanced operation, cutting operation expenses.

The economizer accessory precisely controls the blend of outdoor air and room air to achieve comfort levels. When the outside air enthalpy is suitable, outside air dampers can fully

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Features/Benefits (cont)

open to provide "free" cooling without energizing mechanical cooling.

Rugged dependability

The 40RUA/40RFA series units are made to last. The die-formed galvanized steel panels ensure structural integrity under all operating conditions. Galvanized steel fan housings are securely mounted to a die-formed galvanized steel fan deck. Rugged pillow-block bearings are securely fastened to the solid steel fan shaft with split collets and clamp locking devices.

Coil flexibility

Model 40RUA/40RFA direct-expansion coils have galvanized steel casings; inlet and outlet connections are on the same end. The coils are designed for use with Puron (R-410A) refrigerant and have 3/8 in. diameter copper tubes mechanically bonded to aluminum sine-wave fins. The coils include matched, factory-installed thermostatic expansion valves (TXVs) with matching distributor nozzles and offer a removable power element and extended connections.

Easier installation and service

The multipoise design and component layout ensures quick unit installation and operation. Units can be converted from horizontal to vertical operation by simply repositioning the unit. Drain pan connections are duplicated on both sides of the unit. The filters, motor, drive, TXVs, and coil connections are all easily accessed by removing a single side panel.

Model number nomenclature

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
3	8	A	U	D	T	1	2	A	0	A	6	-	0	A	0	A	0

Model Type
38AU = Carrier Condensing Unit
Puron® R–410A Refrigerant

Type of Coil
Z = Single Circuit, A/C Scroll Compressor
D = Dual Circuit, A/C Scroll Compressor

Refrigerant Options
A = None[1]
B = Low Ambient[1]
D = Single Circuit / 2-Stage[2]
E = Single Circuit / 2-Stage with Low Ambient[2]
M = Single Circuit / 2-Stage[3]
N = Single Circuit / 2-Stage with Low Ambient[3]
T = Dual Circuit / Three Cooling Stages[4]
U = Dual Circuit / Three Cooling Stages with Low Ambient[4]

Nominal Tonnage
07 = 6 Tons
08 = 7.5 Tons
12 = 10 Tons
14 = 12.5 Tons
16 = 15 Tons
25 = 20 Tons
28 = 25 Tons[4]

Not Used
A = Not Used

Not Used
0 = Not Used

Coil Options (RTPF)
A = Cu/Al
B = Precoat (Cu/Al)
C = E-Coat (Cu/Al)
E = Cu/Cu
M = Cu/Al with Louvered Hail Guard
N = Precoat (Cu/Al) with Louvered Hail Guard
P = E-Coat (Cu/Al) with Louvered Hail Guard
R = Cu/Cu with Louvered Hail Guard

Voltage
1 = 575/3/60
5 = 208/230/3/60
6 = 460/3/60

Design Rev
- = Factory Specified

Base Unit Controls
0 = Electro-Mechanical Controls

Not Used
A = Place Holder

Service Options
0 = None
1 = Un-powered Convenience Outlet
2 = Powered Convenience Outlet

Electrical Options
A = None
C = Non-Fused Disconnect

Packaging
0 = Standard
1 = LTL

NOTE(S):
[1] 38AUZ 16 and 25 units only.
[2] 38AUZ 07/08 models only.
[3] 38AUZ 12/14 models only.
[4] 38AUD models only.

AHRI capacity ratings

AHRI Capacity Ratings[a,b]

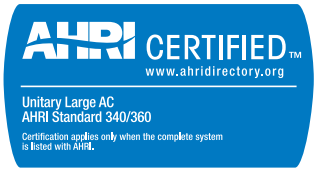
UNIT	COOLING STAGES	NOMINAL CAPACITY (tons)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	EER	IEER WITH 2-SPEED VFD
38AUZ(D,E)07/40RF07	2	6	70.0	5.8	12.0	15.5
38AUZ(D,E)08/40RF08	2	7.5	92.0	8.2	11.2	15.5
38AUZ(M,N)12/40RF12	2	10	117.0	10.4	11.2	15.5
38AUZ(M,N)14/40RU14	2	12.5	135.0	12.3	11.0	15.5
38AUZ(A,B)16/40RU16	2	15	184.0	16.4	11.2	14.3
38AUZ(A,B)25/40RU25	2	20	240.0	21.8	11.0	13.6
38AUD(T,U)12/40RF12	3	10	117.0	10.4	11.2	14.9
38AUD(T,U)14/40RU14	3	12.5	135.0	12.3	11.0	14.2
38AUD(T,U)16/40RU16	3	15	184.0	16.7	11.0	14.2
38AUD(T,U)25/40RU25	3	20	240.0	22.6	10.6	13.5
38AUD(T,U)28/40RU28	3	25	278.0	26.2	10.6	13.2

NOTE(S):

a. Rated in accordance with AHRI Standard 340/360, as appropriate.
b. Ratings are based on:
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temp and 95°F (35°C) db outdoor air temp.

LEGEND

AHRI — Air Conditioning, Heating, and Refrigeration
ASHRAE — American Society of Heating, Refrigeration, and Air-Conditioning, Inc.
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio



Sound Power Levels, dB

UNIT	COOLING STAGES	A-WEIGHT OCTAVE OUTDOOR SOUND (dB)[a]								
		TOTAL	63	125	250	500	1000	2000	4000	8000
38AUZ07	2	84.6	63.1	68.9	73.4	79.5	80.2	76.4	72.0	64.9
38AUZ08	2	84.6	63.1	68.9	73.4	79.5	80.2	76.4	72.0	64.9
38AUZ12	2	83.2	60.4	65.8	77.1	76.8	77.1	75.8	70.2	64.7
38AUD12	3	83.8	62.9	69.6	74.4	77.9	79.3	76.1	70.7	61.1
38AUZ14	2	82.6	60.5	65.1	70.3	77.2	78.0	75.4	71.2	63.9
38AUD14	3	85.2	64.8	68.9	71.4	82.8	79.0	74.2	69.0	61.9
38AUZ16	2	84.2	60.1	69.7	72.8	78.7	79.5	76.3	72.9	67.8
38AUD16	3	82.8	55.5	64.8	73.6	77.2	78.2	74.8	70.7	64.3
38AUZ25	2	82.6	60.5	65.1	70.3	77.2	78.0	75.4	71.2	63.9
38AUD25	3	85.2	64.8	68.9	71.4	82.8	79.0	74.2	69.0	61.8
38AUD28	3	88.2	67.8	71.9	74.4	85.8	82.0	77.2	72.0	64.8

NOTE(S):

a. Outdoor sound data is measured in accordance with AHRI standard 270-2008.

LEGEND

dB — Decibel

Physical data

38AUZ*07-12 Single Circuit Models – Physical Data

UNIT	38AUZ(D,E)07	38AUZ(D,E)08	38AUZ(M,N)12	38AUZ(M,N)14
NOMINAL CAPACITY (tons)	6	7.5	10	12.5
OPERATING WEIGHT (lb)	389	430	490	598
Refrigeration System				
No. Circuits / No. Comp. / Type	1 / 1 / Scroll	1 / 1 / Scroll	1 / 1 / Scroll	1 / 2 / Scroll
Refrigerant Type	Puron® R-410A	Puron R-410A	Puron R-410A	Puron R-410A
R-410A Shipping Charge A/B (lb)	9.0	9.0	9.0	9.0
System Charge w/ Fan Coil[a]	14.0	19.0	22.0	34.2
Metering Device	TXV	TXV	TXV	TXV
High-press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505	630 / 505
Low-press. Trip / Reset (psig)	54 / 117	54 / 117	54 / 117	54 / 117
Compressor				
Oil Charge A/B (oz)	56	58	85	84
Speed (rpm, 60 Hz)	3500	3500	3500	3500
Condenser Coil				
Material	Al/Cu	Al/Cu	Al/Cu	Al/Cu
Coil type	RTPF	RTPF	RTPF	RTPF
Rows / FPI	2 / 17	2 / 17	2 / 17	3 / 17
Total Face Area (ft^2)	17.5	23.0	25.1	31.8
Condenser Fan / Motor				
Qty / Motor Drive Type	2 / direct	2 / direct	2 / direct	2 / direct
Motor HP / RPM	1/4 / 1100	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	22	22	22	22
Nominal Airflow (cfm)	6,000	6,000	6,000	6,000
Watts (total)	610	610	610	610
Piping Connections				
Qty / Suction (in. ODS)	1 / 1-1/8	1 / 1-1/8	1 / 1-3/8	1 / 1-3/8
Qty / Liquid (in. ODS)	1 / 3/8	1 / 1/2	1 / 1/2	1 / 5/8

NOTE(S):

a. Approximate system charge with about 25 ft piping of sizes indicated with matched 40RF or 40RU.

38AUD*12-14 Two Circuit Models – Physical Data

UNIT	38AUD(T,U)12	38AUD(T,U)14
NOMINAL CAPACITY (tons)	10	12.5
OPERATING WEIGHT (lb)	516	654
Refrigeration System		
No. Circuits / No. Comp. / Type	2 / 2 / Scroll	2 / 2 / Scroll
Refrigerant Type	Puron R-410A	Puron R-410A
R-410A Shipping Charge A/B (lb)	9.0 / 9.0	9.0 / 9.0
System Charge w/ Fan Coil[a]	11.9 / 13.1	16.2 / 16.1
Metering Device	TXV	TXV
High-press. Trip / Reset (psig)	630 / 505	630 / 505
Low-press. Trip / Reset (psig)	54 / 117	54 / 117
Compressor		
Oil Charge A/B (oz)	42 / 42	56 / 56
Speed (rpm, 60 Hz)	3500	3500
Condenser Coil		
Material	Al/Cu	Al/Cu
Coil type	RTPF	RTPF
Rows / FPI	2 / 17	3 / 17
Total Face Area (ft^2)	31.8	31.8
Condenser Fan / Motor		
Qty / Motor Drive Type	2 / direct	2 / direct
Motor HP / RPM	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	22	22
Nominal Airflow (cfm)	6,000	6,000
Watts (total)	610	610
Piping Connections		
Qty / Suction (in. ODS)	2 / 1-1/8	2 / 1-3/8
Qty / Liquid (in. ODS)	2 / 3/8	2 / 1/2

NOTE(S):

a. Approximate system charge with about 25 ft piping of sizes indicated with matched 40RF or 40RU.

Physical data (cont)

38AUZ*16-25 Physical Data

UNIT	38AUZ(A,B)16	38AUZ(A,B)25
NOMINAL CAPACITY (tons)	15	20
OPERATING WEIGHT (lb)	731	978
Refrigeration System		
No. Circuits / No. Comp. / Type	1 / 2 / Scroll	1 / 2 / Scroll
Refrigerant Type	Puron R-410A	Puron R-410A
R-410A Shipping Charge A/B (lbs)	9.0	9.0
System Charge w/ Fan Coil[a]	43.0	38.0
Metering Device	TXV	TXV
High-press. Trip / Reset (psig)	630 / 505	630 / 505
Low-press. Trip / Reset (psig)	54 / 117	54 / 117
Compressor		
Oil Charge A/B (oz)	60 / 60	110 / 110
Speed (rpm, 60/50 Hz)	3500	3500
Condenser Coil		
Material	Al/Cu	Al/Cu
Coil type	RTPF	RTPF
Rows / FPI	2 / 17	2 / 17
Total Face Area (ft^2)	23.5 x 2	25.0 x 2
Condenser Fan / Motor		
Qty / Motor Drive Type	3 / direct	4 / direct
Motor HP / RPM	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	22	22
Nominal Airflow (cfm)	9,000	12,000
Watts (total)	970	1150
Piping Connections		
Qty / Suction (in. ODS)	1 / 1-3/8	1 / 1-5/8
Qty / Liquid (in. ODS)	1 / 5/8	1 / 5/8

NOTE(S):

a. Approximate system charge with about 25 ft piping of sizes indicated with matched 40RU.

38AUD*16-28 Physical Data

UNIT	38AUD(T,U)16	38AUD(T,U)25	38AUD(T,U)28
NOMINAL CAPACITY (tons)	15	20	25
OPERATING WEIGHT (lb)	731	978	978
Refrigeration System			
No. Circuits / No. Comp. / Type	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll
Refrigerant Type	Puron R-410A	Puron R-410A	Puron R-410A
R-410A Shipping Charge A/B (lbs)	9.0 / 9.0	9.0 / 9.0	9.0 / 9.0
System Charge w/ Fan Coil[a]	20.4 / 22.4	20.90 / 20.55	24.17 / 25.80
Metering Device	TXV	TXV	TXV
High-press. Trip / Reset (psig)	630 / 505	630 / 505	630 / 505
Low-press. Trip / Reset (psig)	54 / 117	54 / 117	54 / 117
Compressor			
Oil Charge A/B (oz)	60 / 60	110 / 110	110 / 110
Speed (rpm, 60/50 Hz)	3500 / 2900	3500 / 2900	3500 / 2900
Condenser Coil			
Material	Al/Cu	Al/Cu	Al/Cu
Coil type	RTPF	RTPF	RTPF
Rows / FPI	2 / 17	2 / 17	2 / 17
Total Face Area (ft^2)	23.5 x 2	25.0 x 2	25.0 x 2
Condenser fan / motor			
Qty / Motor Drive Type	3 / direct	4 / direct	4 / direct
Motor HP / RPM	1/4 / 1100	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	22	22	22
Nominal Airflow (cfm)	9,000	12,000	12,000
Watts (total)	970	1150	1150
Piping Connections			
Qty / Suction (in. ODS)	2 / 1-3/8	2 / 1-3/8	2 / 1-3/8
Qty / Liquid (in. ODS)	2 / 1/2	2 / 1/2	2 / 1/2

NOTE(S):

a. Approximate system charge with about 25 ft piping of sizes indicated with matched 40RU.

Physical data (cont)

38AUZ Piping Recommendations (Single-Circuit)

MODEL & NOMINAL CAPACITY	LINEAR LINE (FT)	0 - 24	25 - 49		50 - 74		75 - 99		100 - 124		125 - 149		150 - 174		175 - 200	
	EQUIV. LINE (FT)	0 - 37	38 - 74		75 - 112		113 - 149		150 - 187		188 - 224		225 - 262		263 - 300	
38AUZ_07 TC 68.5, SC 5.57°F	Liquid Line Size (in.)	3/8	3/8	1/2	1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8
	Liquid PD (F)	2.0	4.0	0.7	1.1	0.3	1.4	0.4	1.8	0.5	2.1	0.6	2.5	0.7	2.8	0.8
	Max Lift (ft)	18	7	34	31	39	44	57	41	57	35	54	31	53	27	52
	Max Lift PD (F)	3.5	4.6	3.5	3.5	3.5	5.0	5.0	5.0	5.0	4.9	5.0	5.0	5.0	5.0	5.0
	Suction Line Size (in.)	7/8	7/8	1-1/8	7/8	1-1/8	7/8	1-1/8	7/8	1-1/8	1-1/8		1-1/8		1-1/8	
	Suction Ln PD (F)	0.9	1.8	0.5	2.7	0.8	3.6	1.0	4.5	1.3	1.6		1.8		2.1	
	Charge (lb)	10.8	11.8	13.7	15.2	18.5	16.9	21.3	18.7	24.2	21.4	27.1	23.4	30.0	25.3	32.8
	#/TR	1.90	2.07	2.41	2.67	3.25	2.97	3.74	3.28	4.25	3.8	4.75	4.1	5.26	4.4	5.75
38AUZ(D,E) 08 TC 92.0, SC 11.3°F	Liquid Line Size (in.)	1/2	1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8
	Liquid PD (F)	0.6	1.3	0.3	1.9	0.5	2.5	0.7	3.2	0.9	3.8	1.0	4.4	1.2	5.1	1.4
	Max Lift (ft)	25	50	50	75	75	100	100	97	97	90	90	82	121	74	119
	Max Lift PD (F)	2.7	5.4	4.5	8.1	6.7	10.8	9.0	11.2	8.9	11.2	8.5	11.2	11.2	11.2	11.2
	Suction Line Size (in.)	7/8	7/8	1-1/8	7/8	1-1/8	1-1/8		1-1/8	1-3/8	1-1/8	1-3/8	1-1/8	1-3/8	1-1/8	1-3/8
	Suction Ln PD (F)	1.5	3.1	0.8	4.6	1.2	1.6		2.1	0.7	2.5	0.8	2.9	1.0	3.3	1.1
	Charge (lb)	15.6	19.0	19.7	20.8	24.1	23.1	26.9	25.1	30.7	26.0	32.8	27.0	34.8	27.9	37.1
	#/TR	2.08	2.53	2.63	2.77	3.21	3.08	3.59	3.35	4.09	3.47	4.37	3.60	4.64	3.73	4.95
38AUZ_12 TC 113.1, SC 7.1°F	Liquid Line Size (in.)	1/2	1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8	5/8		5/8	
	Liquid PD (F)	0.9	1.9	0.5	2.8	0.8	3.8	1.0	4.7	1.3	5.7	1.6	1.8		2.1	
	Max Lift (ft)	25	40	50	28	54	34	68	22	65	11	63	59		55	
	Max Lift PD (F)	2.9	5.0	4.5	5.0	5.0	6.5	6.4	6.5	6.4	6.5	6.5	6.4		6.4	
	Suction Line Size (in.)	7/8	1-3/8	1-3/8	1-1/8	1-3/8	1-1/8	1-3/8	1-1/8	1-3/8	1-1/8	1-3/8	1-1/8	1-3/8	1-1/8	1-3/8
	Suction Ln PD (F)	2.4	1.2	1.2	1.8	0.6	2.4	0.9	3.1	1.1	3.7	1.3	4.3	1.5	4.9	1.7
	Charge (lb)	15.7	18.0	20.0	19.8	23.1	21.6	26.1	23.6	29.2	25.5	32.3	34.1	35.3	36.9	38.4
	#/TR	1.67	1.89	2.09	2.10	2.45	2.29	2.77	2.50	3.10	2.71	3.43	3.62	3.75	3.92	4.08
38AUZ_14 TC 146.1, SC 3.9°F	Liquid Line Size (in.)	5/8	5/8	3/4	5/8	3/4	5/8	3/4	5/8	3/4	5/8	3/4	5/8	3/4	3/4	7/8
	Liquid PD (F)	0.4	0.8	0.4	1.2	0.6	1.6	0.8	2.0	1.1	2.4	1.1	2.8	1.5	1.7	0.6
	Max Lift (ft)	23	16	23	10	18	28	38	21	36	14	35	9	30	25	43
	Max Lift PD (F)	1.8	1.84	1.84	1.8	1.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
	Suction Line Size (in.)	1-5/8	1-5/8	1-5/8	1-1/8	1-3/8	1-3/8		1-3/8	1-5/8	1-3/8	1-5/8	1-3/8	1-5/8	1-3/8	1-5/8
	Suction Ln PD (F) (Cap Red)	0.1	0.2	0.2	3.3 (-2.3%)	1.2	1.6		2.0	0.8	2.4 (-0.7%)	1.0	2.8 (-1.4%)	1.2	3.2 (-2.1%)	1.3
	Charge (lb)	35.1	38.4	40.9	37.6	41.8	41.1	46.1	44.2	51.6	47.3	56.1	50.3	60.6	63.4	76.9
	#/TR	3.10	3.99	3.62	3.09	3.44	3.38	3.79	3.64	4.24	3.89	4.61	4.14	4.98	5.21	6.32
38AUZ_16 TC185.7, SC 18.4°F	Liquid Line Size (in.)	5/8	5/8		5/8		5/8		5/8		5/8		5/8	3/4	5/8	3/4
	Liquid PD (F)	0.7	1.3		2.0		2.7		3.4		4.0		4.7	2.5	5.4	2.8
	Max Lift (ft)	25	50		75		100		125		150		153	175	145	175
	Max Lift PD (F)	2.8	5.65		8.5		11.3		14.1		16.9		17.9	17.5	17.9	17.9
	Suction Line Size (in.)	1-3/8"	1-3/8"		1-3/8"		1-3/8"		1-3/8"	1-5/8"	1-3/8"	1-5/8"	1-3/8"	1-5/8"	1-3/8"	1-5/8"
	Suction Ln PD (F)	1.4	1.0		1.5		2.0		2.5 (-0.9%)	1.1	3 (-1.8%)	1.3	3.5 (-2.7%)	1.5	4 (-3.6%)	1.7
	Charge (lb)	35.1	38.1		41.2		44.2		47.3	48.4	50.4	51.7	53.4	63.7	56.5	68.3
	#/TR	2.9	3.11		3.36		3.61		3.86	3.95	4.11	4.22	4.36	5.20	4.61	5.57
38AUZ_25 TC233.3, SC 13.0°F	Liquid Line Size (in.)	5/8	5/8		5/8		5/8		5/8	3/4	5/8	3/4	5/8	3/4	5/8	3/4
	Liquid PD (F)	1.1	2.1		3.2		4.3		5.4	2.8	6.4	3.3	7.5	3.9	8.6	4.4
	Max Lift (ft)	25	50		93		98		85	116	71	108	59	102	46	95
	Max Lift PD (F)	3.2	6.4		9.6		12.5		12.5	12.5	12.4	12.5	12.5	12.5	12.5	12.5
	Suction Line Size (in.)	1-3/8	1-3/8		1-3/8	1-5/8	1-3/8	1-5/8	1-3/8	1-5/8	1-5/8	2-1/8	1-5/8	2-1/8	1-5/8	2-1/8
	Suction Ln PD (F) (Cap Red)	0.8	1.6		2.4 (-0.8%)	1.0	3.3. (-2.2%)	1.4	4 (-3.6%)	1.7	2.0	0.4	2.4 (-0.7%)	0.5	2.7 (-1.2%)	0.6
	Charge (lb)	31.1	34.1		37.2	37.9	40.2	41.1	43.3	50.7	47.7	58.5	51.0	63.6	54.3	68.7
	#/TR	2.52	2.77		3.02	3.07	3.26	3.34	3.51	4.11	3.87	4.75	4.13	5.16	4.40	5.57

LEGEND

#/TR	—	Charge to unit capacity ratio, lbs per ton (at 45°F SST, 95°F ODA)
Cap Red	—	Capacity reduction caused by suction line pressure drop GT 2°F
Liquid PD (F)	—	Liquid line pressure drop, saturated temperature, °F
Max Lift	—	Maximum liquid lift (Indoor unit ABOVE outdoor unit only), at maximum permitted pressure drop.
Max Lift PD (F)	—	Pressure drop including Maximum liquid lift value
SC	—	Sub-cooling, °F (at liquid line valve)

Physical data (cont)

38AUD Piping Recommendations (Dual-Circuit)[a]

MODEL & NOMINAL CAPACITY	LINEAR LINE (FT)	0 - 24	25 - 49		50 - 74		75 - 99		100 - 124		125 - 149		150 - 174		175 - 200	
	EQUIV. LINE (FT)	0 - 37	38 - 74		75 - 112		113 - 149		150 - 187		188 - 224		225 - 262		263 - 300	
38AUD_12 TC 55.9 Each, SC 12.7°F	Liquid Line Size (in.)	3/8	3/8		3/8		3/8	1/2	3/8	1/2	3/8	1/2	1/2	5/8	1/2	5/8
	Liquid PD (F)	1.4	2.7		5.5		5.5	0.9	6.9	1.1	8.2	1.4	1.6	0.5	1.8	0.5
	Max Lift (ft)	25	50		75		82	100	66	125	49	133	130	144	128	144
	Max Lift PD (F)	3.4	6.8		10.2		12.1	9.0	12.1	11.2	12.1	12.1	12.1	12.1	12.1	12.1
	Suction Line Size (in.)	3/4	7/8		7/8		7/8	1-1/8	7/8	1-1/8	1-1/8		1-1/8		1-1/8	
	Suction Ln PD (F) (Cap Red)	1.4	1.2		1.8		2.5 (-0.8%)	0.8	3.1 (-1.9%)	0.9	1.1		1.3		1.5	
	Charge (lb)	9.0	10.0		11.0		12.1	15.7	13.1	17.7	14.9	19.6	21.5	28.2	23.5	31.0
	#/TR	0.73	0.81		0.89		0.97	1.27	1.05	1.42	1.20	1.58	1.74	2.27	1.89	2.50
38AUD_14 TC 69.8 Each, SC 14.2°F	Liquid Line Size (in.)	3/8	3/8		3/8		3/8	1/2	3/8	1/2	1/2		1/2	5/8	1/2	5/8
	Liquid PD (F)	2.1	4.1		6.2		8.2	1.5	10.3	1.8	2.2		2.6	0.7	2.9	0.8
	Max Lift (ft)	25	50		75		69	155	42	125	145		140	163	135	162
	Max Lift PD (F)	4.0	8.1		12.1		13.6	9.4	13.6	11.7	13.6		13.6	13.6	13.6	13.6
	Suction Line Size (in.)	1-3/8	1-3/8		7/8	1-1/8	1-1/8		1-1/8		1-1/8		1-1/8		1-1/8	
	Suction Ln PD (F) (Cap Red)	0.3	0.6		2.9 (-1.5%)	0.8	1.1		1.4		1.6		1.9		2.2 (-0.3%)	0.7
	Charge (lb)	16.5	17.9		19.0	19.5	20.6	23.7	21.8	25.7	27.6		29.5	36.2	31.5	39.0
	#/TR	1.44	1.56		1.52	1.56	1.65	1.90	1.74	2.05	2.21		2.36	2.89	2.52	3.12
38AUD_16 TC 92.9 Each, SC 15.1°F	Liquid Line size	3/8	3/8		3/8	1/2	1/2		1/2		1/2	5/8	1/2	5/8	1/2	5/8
	Liquid PD (F)	3.4	6.9		10.3	1.9	2.6		3.2		3.9	1.0	4.5	1.2	5.1	1.4
	Max Lift	25	50		32	75	144		125		127	150	121	159	112	157
	Max Lift PD (F)	5.5	11.1		13.0	8.2	10.9		13.7		14.5	13.6	14.5	14.5	14.5	14.5
	Suction Line size	1-3/8	1-3/8		1-1/8		1-1/8		1-1/8	1-3/8	1-1/8	1-3/8	1-1/8	1-3/8	1-1/8	
	Suction Ln PD(F) (Cap Red)	0.5	1.0		1.2		1.6		2 (-0.1%)	0.7	2.5 (-0.8%)	0.8	2.9 (-1.5%)	1.0	3.3 (-2.2%)	1.1
	Charge	22.6	23.9		19.5	21.8	23.7		25.7	26.6	27.6	34.4	29.5	37.4	31.5	40.5
	#/TR	1.42	1.50		1.55	1.73	1.89		2.04	2.11	2.19	2.73	2.35	2.97	2.50	3.22
38AUD_25 TC 121.2 Each, SC 10.6°F	Liquid Line size	3/8	1/2		1/2	5/8	1/2	5/8	1/2	5/8	1/2	5/8	5/8		5/8	3/4
	Liquid PD (F)	5.6	2.2		3.3	0.9	4.3	1.2	5.4	1.5	6.5	1.8	2.1		2.4	1.3
	Max Lift	25	50		64	75	70	108	55	104	42	100	97		92	107
	Max Lift PD (F)	7.7	6.3		8.5	7.1	10.0	9.4	9.9	10.0	10.0	10.0	10.0		9.9	10.0
	Suction Line size	1-1/8	1-1/8		1-1/8	1-3/8	1-1/8	1-3/8	1-1/8	1-3/8	1-3/8		1-3/8		1-3/8	
	Suction Line PD (F) (Cap Red)	0.7	1.3		2.0	0.7	2.7 (-1.2%)	1.0	3.4 (-2.4%)	1.2	1.4		1.7		1.9	
	Charge	15.2	17.9		19.8	23.2	21.7	26.2	23.7	29.3	26.7	32.4	35.4		38.5	48.5
	#/TR	1.20	1.41		1.56	1.83	1.72	2.07	1.87	2.31	2.11	2.56	2.80		3.04	3.83
38AUD_28 TC 281.9 Each, SC 13.9°F	Liquid Line size	1/2	1/2	5/8	5/8	3/4	5/8	3/4	5/8	3/4	3/4	7/8	3/4	7/8	3/4	7/8
	Liquid PD (F)	4.2	8.5	3.0	4.6	2.4	6.1	3.2	7.7	4.0	4.8	1.5	5.6	1.8	6.4	2.1
	Max Lift	25	14	50	48	75	42	79	23	69	59	99	49	96	39	93
	Max Lift PD (F)	6.3	9.6	7.1	8.4	8.4	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
	Suction Line size	1-1/8	1-3/8	1-5/8	1-3/8	1-5/8	1-5/8		1-5/8		1-5/8		1-5/8		2-1/8	
	Suction Line PD (F) (Cap Red)	4.2 (-4.0%)	2.8 (-1.6%)	1.2	4.3 (-4.2%)	1.8	2.4		3.0 (-1.9%)		3.6 (-2.9%)		4.2 (-4.0%)		1.9	
	Charge	25.8	28.1	30.4	33.7	39.1	39.2	44.2	43.1	49.3	54.4	63.3	59.5	69.8	64.6	76.4
	#/TR	1.10	1.20	1.30	1.44	1.67	1.67	1.88	1.83	2.10	2.32	2.69	2.53	2.97	2.75	3.25

NOTE(S):

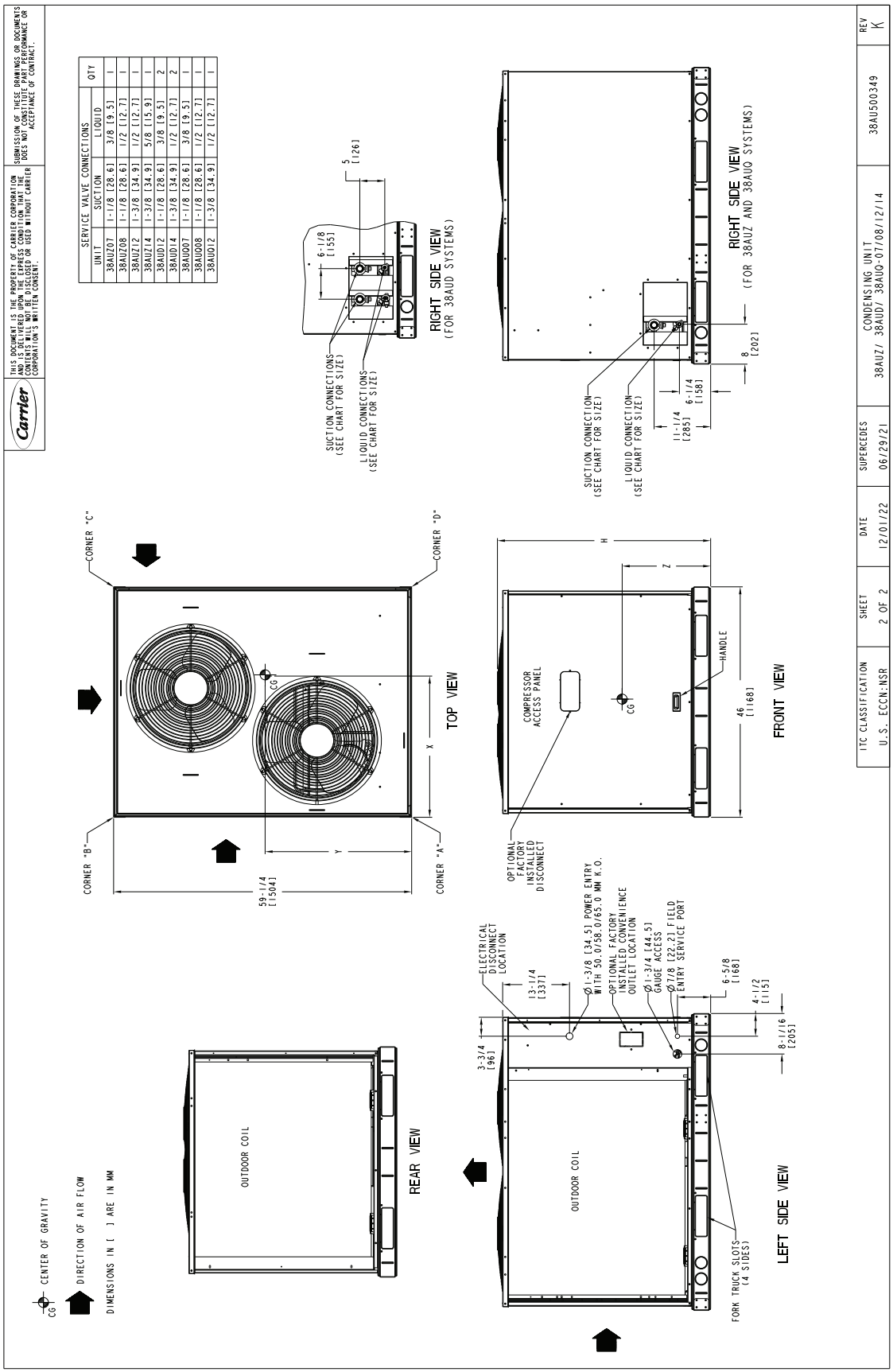
a. 38AUD units require TWO sets of refrigeration piping.

LEGEND

#/TR	—	Charge to unit capacity ratio, lbs per ton (at 45°F SST, 95°F ODA)
Cap Red	—	Capacity reduction caused by suction line pressure drop GT 2°F
Liquid PD (F)	—	Liquid line pressure drop, saturated temperature, °F
Max Lift	—	Maximum liquid lift (Indoor unit ABOVE outdoor unit only), at maximum permitted pressure drop.
Max Lift PD (F)	—	Pressure drop including Maximum liquid lift value
SC	—	Sub-cooling, °F (at liquid line valve)

Base unit dimensions

38AUD/Z 07-14 Base Unit Dimensions



Base unit dimensions (cont)

38AU 07-14 Corner Weights

UNIT	STD. UNIT WT.		CORNER A		CORNER B		CORNER C		CORNER D		CENTER OF GRAVITY[a]			UNIT HEIGHT[a]
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	X	Y	Z	H
38AUZ*07	389	176	141	64	96	44	62	28	91	41	18 [457.2]	24 [609.6]	21 [533.4]	42 3/8 [1076.0]
38AUZ*08	430	195	142	64	96	44	76	34	111	50	18 [457.2]	24 [609.6]	21 [533.4]	42 3/8 [1076.0]
38AUZ*12	490	222	177	80	120	54	78	35	114	52	18 [457.2]	24 [609.6]	24 [609.6]	50 3/8 [1279.2]
38AUZ*14	598	271	195	88	142	64	110	50	151	68	20 [508.0]	25 [635.0]	24 [609.6]	50 3/8 [1279.2]
38AUD*12	516	234	185	84	117	53	83	38	131	59	19 [482.6]	23 [584.2]	24 [609.6]	50 3/8 [1279.2]
38AUD*14	654	297	214	97	155	70	120	54	165	75	20 [508.0]	25 [635.0]	24 [609.6]	50 3/8 [1279.2]

NOTE(S):

a. Dimensions are in inches [mm].

Base unit dimensions (cont)

38AUD/Z 16 Base Unit Dimensions

UNIT	ELECTRICAL CHARACTERISTICS	STD. UNIT WT.		CORNER A		CORNER B		CORNER C		CORNER D		CENTER OF GRAVITY			UNIT HEIGHT
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z	H
38AUZ16 (RTPF)	208/230-3-60,460-3-60,575-3-60	731	332	237	107	172	78	135	61	186	84	38 [965.2]	19 [482.6]	17 [431.8]	50-3/8 [1279.2]
38AUD16 (RTPF)	208/230-3-60,460-3-60,575-3-60	731	332	237	107	172	78	135	61	186	84	38 [965.2]	19 [482.6]	17 [431.8]	50-3/8 [1279.2]

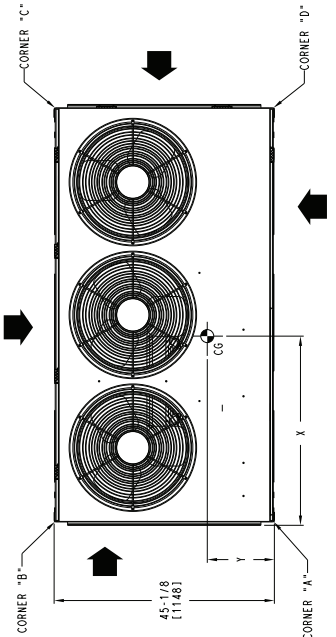
NOTES:
1. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   A. BOTTOM TO COMBUSTIBLE SURFACES: 0 INCHES.
   B. OUTDOOR COIL: FOR PROPER AIR FLOW: 36 INCHES.
      FOR SERVICE ACCESS: THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   C. OVERHEAD: 60 INCHES, TO ASSURE PROPER OUTDOOR FAN OPERATION.
   D. BETWEEN UNITS: CONTROL BOX SIDE, 42 INCHES PER NEC.
   E. BETWEEN UNIT AND UNGROUNDED SURFACES: CONTROL BOX SIDE, 36 INCHES PER NEC.
   F. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES: CONTROL BOX SIDE, 42 INCHES PER NEC.
2. WITH EXCEPTION IN NOTE 1E, A CLEARANCE OF 12 INCHES IS ALLOWED FOR THE OUTDOOR COIL IF INSTALLED ON THE CONCRETE PAD SUPPORTS OR BARRICADE REQUIRES NO CLEARANCE.
3. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B OR C ROOF COVERING MATERIAL.

SERVICE VALVE CONNECTIONS			QTY
UNIT	SUCTION	LIQUID	
38AUZ16	1-3/8 [34.91]	5/8 [15.9]	1 EA
38AUD16	1-3/8 [34.91]	1/2 [12.7]	2 EA

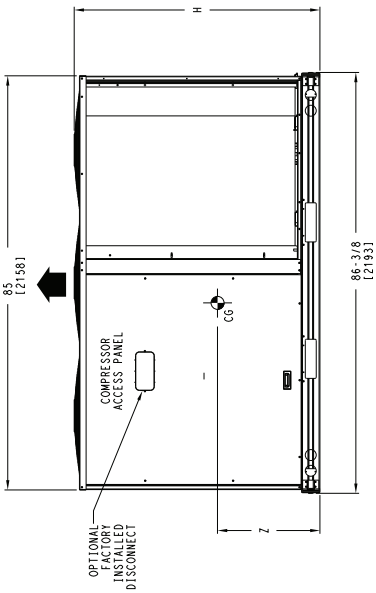
CG CENTER OF GRAVITY

DIRECTION OF AIR FLOW

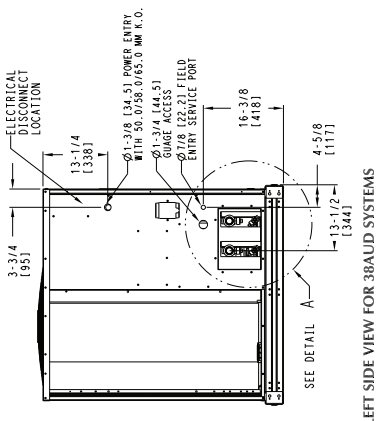
DIMENSIONS IN [ ] ARE IN MM



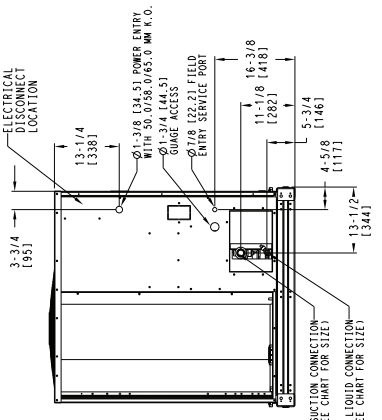
TOP VIEW



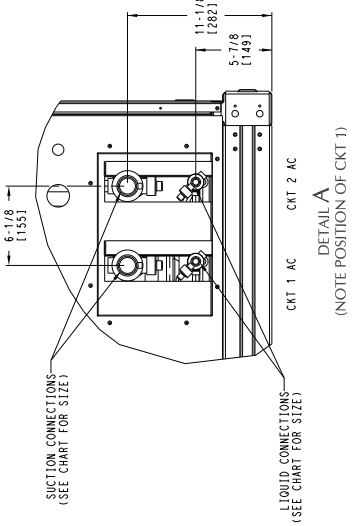
FRONT VIEW



LEFT SIDE VIEW FOR 38AUD SYSTEMS



LEFT SIDE VIEW

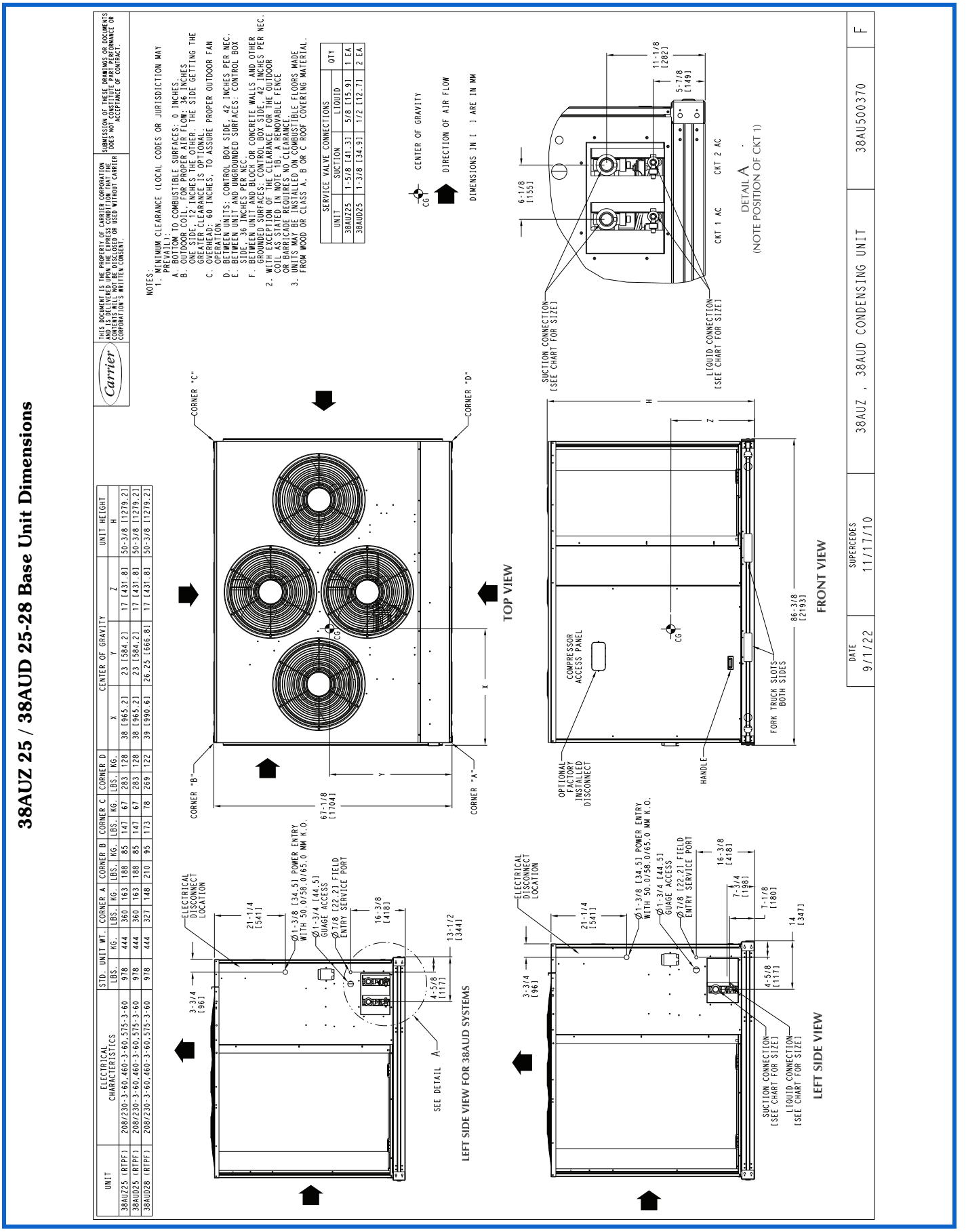


DETAIL A
(NOTE POSITION OF CKT 1)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	38AUZ,38AUD CONDENSING UNIT	38AU500503	REV
U.S. ECCN:NSR	1 OF 1	02/07/22	05/08/19			H

Base unit dimensions (cont)

38AUZ 25 / 38AUD 25-28 Base Unit Dimensions



UNIT	ELECTRICAL CHARACTERISTICS	STD. UNIT WT.	CORNER A	CORNER B	CORNER C	CORNER D	CENTER OF GRAVITY			UNIT HEIGHT
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z	H
38AUZ25 (RTPF)	208/230-3-60,460-3-60,575-3-60	978	444	360	163	188	85	147	67	283	128	38 [965.2]	23 [584.2]	17 [431.8]	50-3/8 [1279.2]
38AUD25 (RTPF)	208/230-3-60,460-3-60,575-3-60	978	444	360	163	188	85	147	67	283	128	38 [965.2]	23 [584.2]	17 [431.8]	50-3/8 [1279.2]
38AUD28 (RTPF)	208/230-3-60,460-3-60,575-3-60	978	444	327	148	210	95	173	78	269	122	39 [990.6]	26.25 [666.8]	17 [431.8]	50-3/8 [1279.2]

38AU/40RUA options and accessories

38AUZ/38AUD Factory-Installed Options

ITEM	OPTION[a]	ACCESSORY[b]
E-coated Aluminum-Fin Coils	X	
Pre-coated Coils	X	
Low-Ambient Temperature Kit (Motormaster I)	X	X
Louvered Hail Guard	X	X
Condenser Coil Grille		X
Non-fused Disconnect Switch[c]	X	
Powered Convenience Outlet	X	
Unpowered Convenience Outlet	X	
Thermostats		X
Staged Air Volume (SAV)	X[d]	

NOTE(S):

a. Factory-installed option.
b. Field-installed accessory.
c. Non-fused disconnect switch cannot be used when unit MOCP electrical rating exceeds 80 amps.
d. Requires pairing with 40RU/40RF series packaged air handlers.

E-coated Aluminum-Fin Coils

Have a flexible and durable epoxy coating uniformly applied to all coil surfaces. Unlike brittle phenolic dip and bake coatings, E-coating provides superior protection with unmatched flexibility, edge coverage, metal adhesion, thermal performance, and most importantly, corrosion resistance.

Pre-coated Coils

Provides protection in mild coastal environments.

Staged Air Volume (SAV™) System

Our SAV units will automatically adjust the indoor fan motor speed in sequence with the unit's cooling operation. Per ASHRAE 90.1 2010 standard section 6.4.3.10.b, during the first stage of cooling operation the fan motor (either ECM or controlled by VFD) will adjust to provide two-thirds of the total cfm established for the unit. When a call for the second stage of cooling is required, the fan motor will allow the total cfm (100%) established for the unit. During the heating mode the fan motor will allow total design cfm (100%) operation and during the ventilation mode the fan motor will allow operation to two-thirds of total cfm.

Low-Ambient Temperature Kit (Motormaster® I) (–20°F [–29°C])

Controls outdoor-fan motor operation to maintain the correct head pressure at low outdoor ambient temperatures.

Louvered Hail Guard

Protects coils against damage from flying debris and hail.

Non-Fused Disconnect Switch

Used to remove power locally at the condensing unit. This switch also includes a power lockout capability to protect the service person. This lockout switch saves the service person time and effort because there is no need to access a distant disconnect switch while servicing the unit.

NOTE: Non-fused disconnect switch cannot be used when unit MOCP electrical rating exceeds 80 amps.

38AUZ/D Field-Installed Accessories

Low-Ambient Temperature Kit (Motormaster I) (–20°F [–29°C])

Controls outdoor-fan motor operation to maintain the correct head pressure at low outdoor ambient temperatures.

Louvered Hail Guard

Protects coils against damage from flying debris and hail.

Condenser Coil Grille

Protects condensing unit coil from impact by large objects and vandalism.

Thermostats

Provide both programmable and non-programmable capability with the new Carrier line of commercial programmable thermostats. The Commercial Electronic thermostats provide 7-day programmable capability for economical applications.

40RUA/40RFA Factory-Installed Options

ITEM	OPTION[a]	ACCESSORY[b]
Alternate Fan Motors	X	
Alternate Drives	X[c]	
CO_2 Sensors		X
Condensate Drain Trap		X
Discharge Plenum		X
Economizer		X
Electric Heat		X
Hot Water Heating Coils		X
Overhead Suspension Package		X
Prepainted Units	X	
Return Air Grille		X
Steam Heating Coil		X
Subbase		X
Staged Air Volume (SAV)	X[d]	
SAV VFD Display Kit		X[c]

NOTE(S):

a. Factory-installed option.
b. Field-installed accessory.
c. 40RUA only.
d. Standard on both 40RU and 40RF.

Alternate Fan Motors and Drives

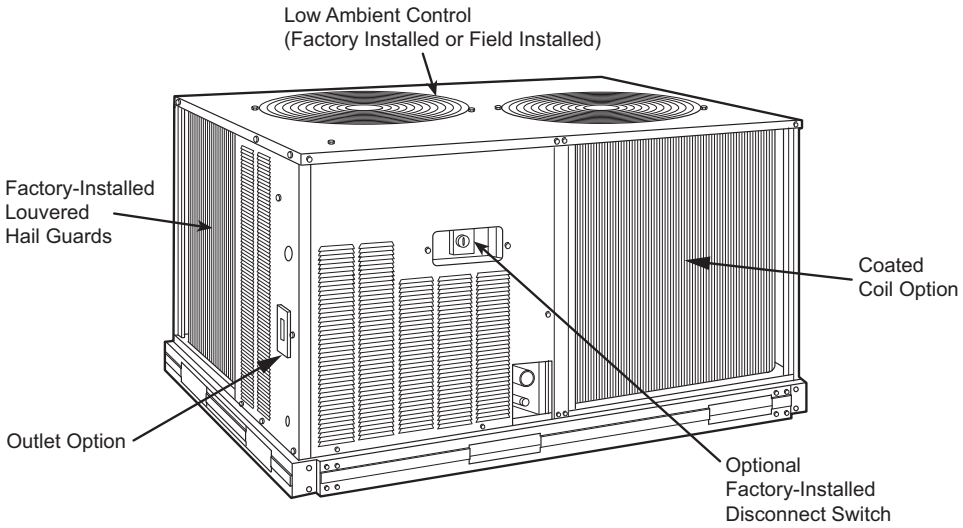
Provide the widest possible range of performance.

Pre-painted Steel Constructed Units

Available from the factory for applications that require painted units. Unit color is American Sterling Gray.

38AU/40RUA options and accessories (cont)

38AUZ/38AUD Factory-Installed Options



40RUA/40RFA Field-Installed Accessories

Two-Row Hot Water Coils

The 5/8 in. diameter copper tubes are mechanically bonded to aluminum plate fins. Coils have non-ferrous headers.

One-Row Steam Coil

1 in. OD copper tube and aluminum fins. The Inner Distributing Tube (IDT) design provides uniform temperatures across the coil face. The IDT steam coils are especially suited to applications where sub-freezing air enters the unit.

Electric Resistance Heat Coils

An open-wire design and are mounted in a rigid frame. Safety cutouts for high temperature conditions are standard.

Economizer

Provides ventilation air and provides "free" cooling if the outside ambient temperature and humidity are suitable. The economizer can also be used in conjunction with Carrier Comfort System thermostats and CO_2 sensors to help meet indoor air quality requirements. The economizer can be used in both vertical and horizontal positions.

Discharge Plenum

Directs the air discharge into the occupied space; integral horizontal and vertical louvers enable redirection of airflow. This accessory is available unpainted or painted.

Return-Air Grille

Provides a protective barrier over the return-air opening and gives a finished appearance to units installed in the occupied space. This accessory is available unpainted or painted.

Subbase

A stable, raised platform and room for condensate drain connection for floor-mounted units. This accessory is available unpainted or painted. Overhead suspension package includes necessary brackets to support units in horizontal installations.

CO_2 Sensors

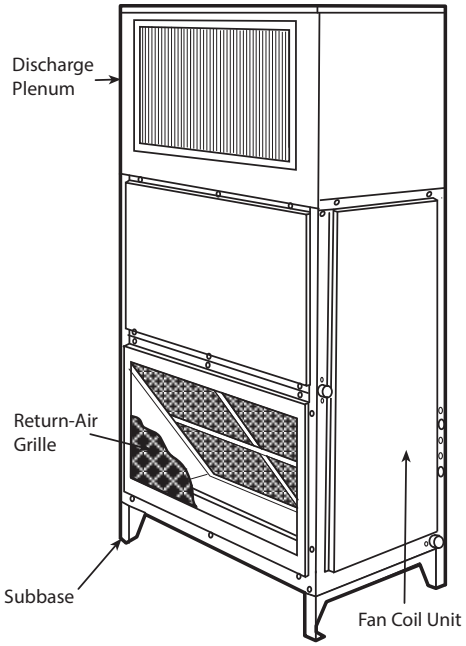
Used in conjunction with the economizer accessory to help meet indoor air quality requirements. The sensor signals the economizer to open when the CO_2 level in the space exceeds the setpoint. A Carrier Comfort System programmable thermostat can also be used to override the sensor if the outside-air temperature is too high or too low.

Condensate Drain Trap

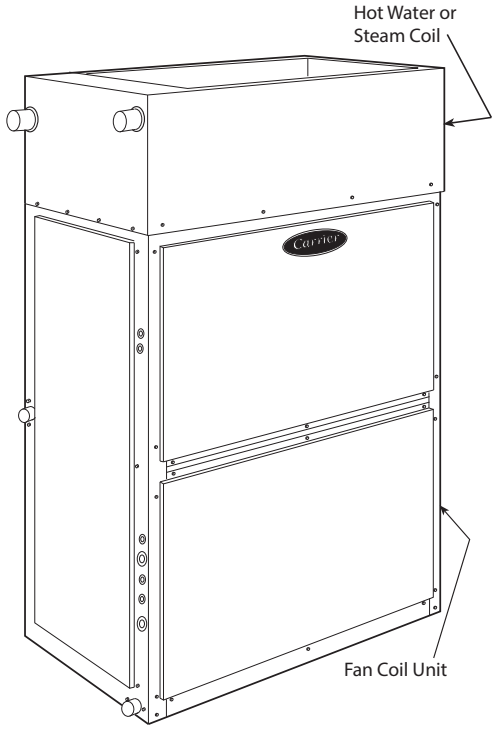
Includes an overflow shutoff switch that can be wired to turn off the unit if the trap becomes plugged. The kit also includes a wire harness that can be connected to an alarm if desired. The transparent trap is designed for easy service and maintenance.

38AU/40RUA Options and accessories (cont)

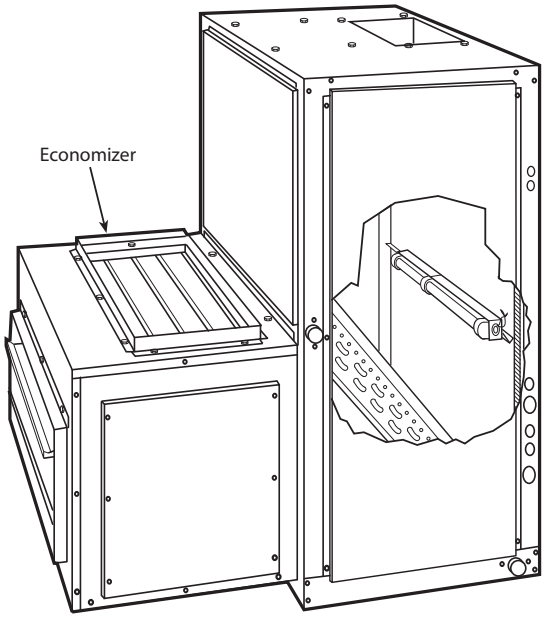
40RUA/40RFA with Discharge Plenum Return-Air Grille and Subbase



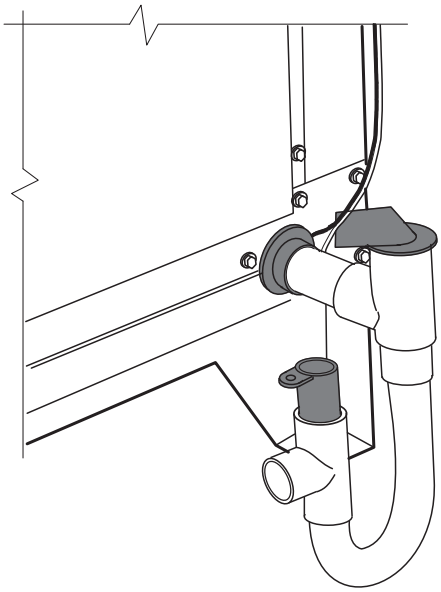
40RUA/40RFA with Hot Water or Steam Coil



40RUA/40RFA with Economizer

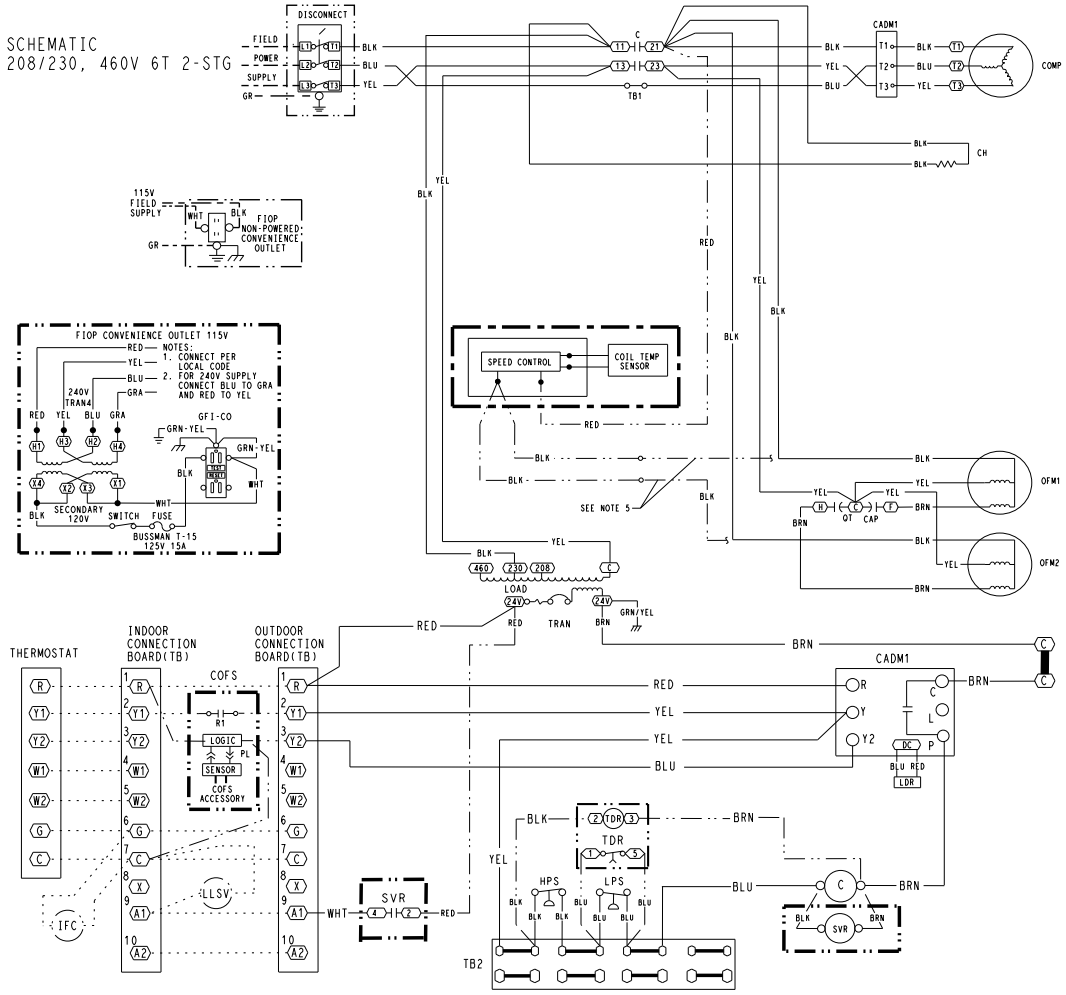


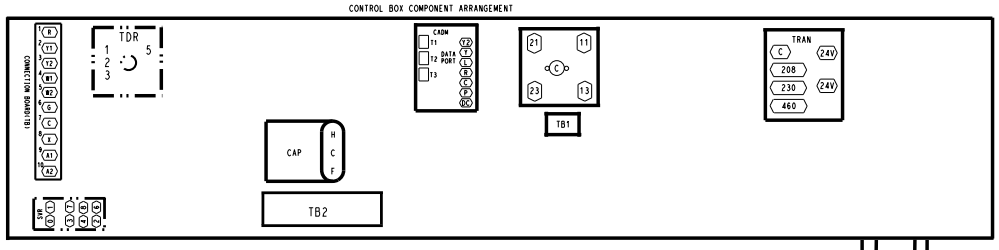
40RUA/40RFA with Condensate Trap



Typical piping and wiring

Typical Single Circuit/Two-Stage Wiring Diagram, 6 Ton — 460-3-60 Units





FIELD CONTROL WIRING

- FIELD SPLICE
- MARKED WIRE
- TERMINAL(MARKED)
- TERMINAL(UNMARKED)
- TERMINAL BLOCK
- SPLICE
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- ACCESSORY OR OPTIONAL WIRING
- TO INDICATE COMMON POTENTIAL ONLY, NOT TO REPRESENT WIRING

LEGEND

C	CONTACTOR, COMPRESSOR
CAP	CAPACITOR
CADM	COMFORT ALERT - DIAGNOSTICS MODULE
CH	CRANKCASE HEATER
COFS	CONDENSATE OVERFLOW SWITCH
COMP	COMPRESSOR MOTOR
EQUIP	EQUIPMENT
FU	FUSE
GR	GROUND
HPS	HIGH PRESSURE SWITCH
IFC	INDOOR FAN CONTACTOR
LLSV	LIQUID LINE SOLENOID VALVE
LPS	LOW PRESSURE SWITCH
LDR	COMPRESSOR LOADER PLUG
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
QT	QUADRUPLE TERMINAL
SVR	SOLENOID VALVE RELAY
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY
TRAN	TRANSFORMER

NOTES:

1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. USE COPPER CONDUCTORS ONLY.
3. COMPRESSORS AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. TRANSFORMER IS WIRED FOR 230V UNIT. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY, DISCONNECT BLACK WIRE FROM 230V TAP AND CONNECT TO 208V TAP.
5. ON UNITS WITH SPEED CONTROL, REMOVE OFM1 AND OFM2 BLK WIRES FROM COMPRESSOR CONTACTOR TERMINAL 21 AND CONNECT TO BLK WIRES FROM SPEED CONTROL.

FIELD WIRING
DISCONNECT PER NEC

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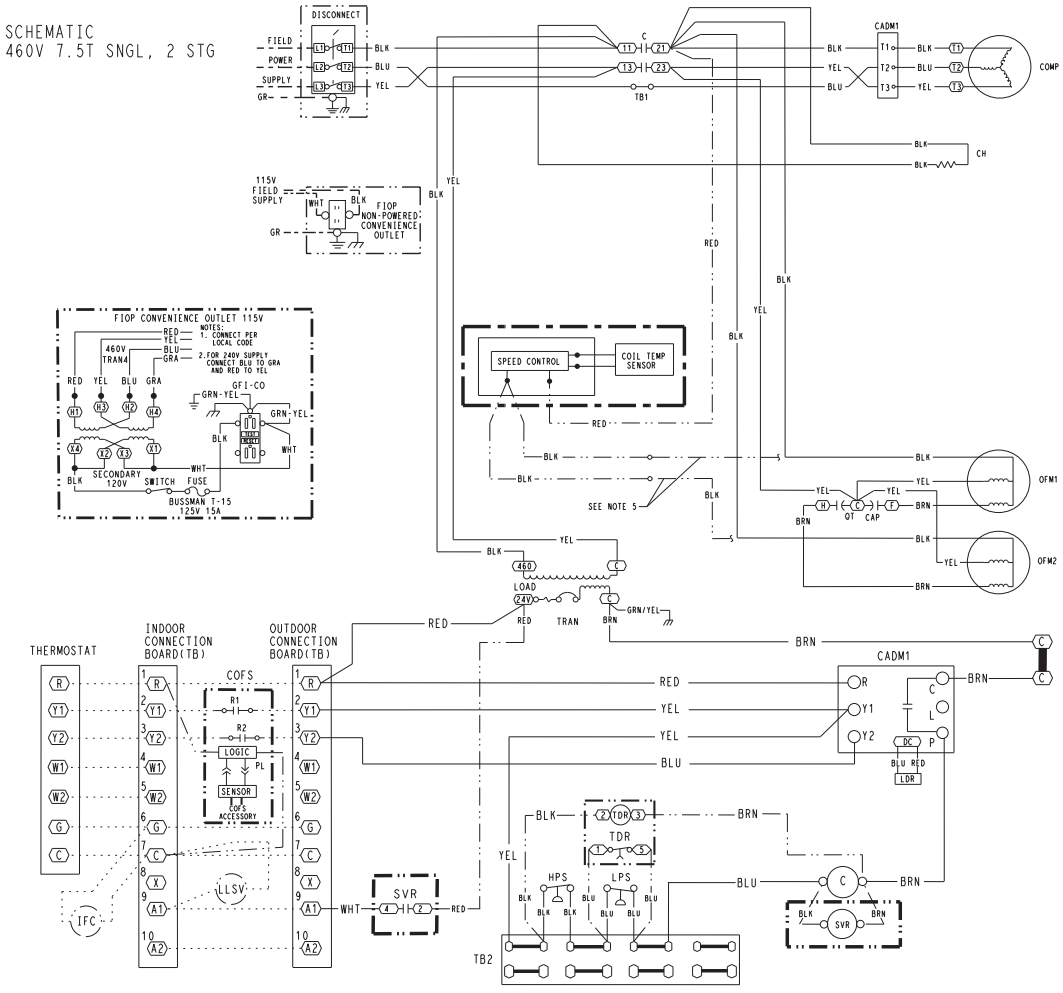
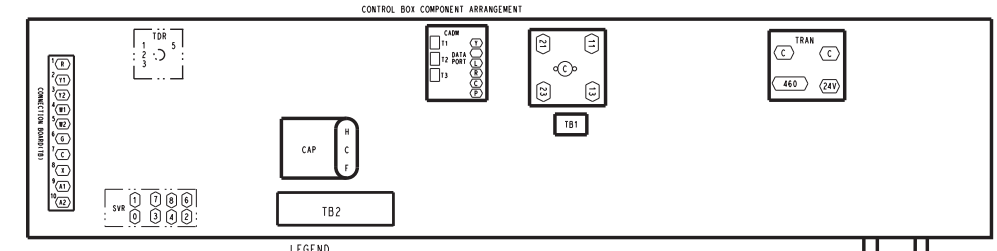
Typical piping and wiring (cont)

Typical Single Circuit/Two-Stage Wiring Diagram, 7.5 Ton — 460-3-60 Units





FIELD CONTROL WIRING
- FIELD SPLICE
- MARKED WIRE
- TERMINAL(MARKED)
- TERMINAL(UNMARKED)
- TERMINAL BLOCK
- SPLICE
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- ACCESSORY OR OPTIONAL WIRING
- TO INDICATE COMMON POTENTIAL ONLY, NOT TO REPRESENT WIRING

LEGEND

C	CONTACTOR, COMPRESSOR
CAP	CAPACITOR
CADM	COMFORT ALERT - DIAGNOSTICS MODULE
CH	CRANKCASE HEATER
COFS	CONDENSATE OVERFLOW SWITCH
COMP	COMPRESSOR MOTOR
CTD	CYCLE TIMER DEVICE
CTR	COMPRESSOR TIMERR RELAY
DCS	DIGITAL COMPRESSOR SOLENOID
EQUIP	EQUIPMENT
FU	FUSE
GR	GROUND
HPS	HIGH PRESSURE SWITCH
IFC	INDOOR FAN CONTACTOR
LDR	COMPRESSOR LOADER PLUG
LLSV	LIQUID LINE SOLENOID VALVE
LPS	LOW PRESSURE SWITCH
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
QT	QUADRUPLE TERMINAL
SVR	SOLENOID VALVE RELAY
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY
TRAN	TRANSFORMER

NOTES:

1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. USE COPPER CONDUCTORS ONLY.
3. COMPRESSORS AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. TRANSFORMER IS WIRED FOR 230V UNIT. IF THE UNIT IS TO BE RUN WITH 208V POWER SUPPLY, DISCONNECT BLACK WIRE FROM 230V TAP AND CONNECT TO 208V TAP.
5. ON UNITS WITH SPEED CONTROL, REMOVE OFM1 AND OFM2 BLK WIRES FROM COMPRESSOR CONTACTOR TERMINAL 21 AND CONNECT TO BLK WIRES FROM SPEED CONTROL.

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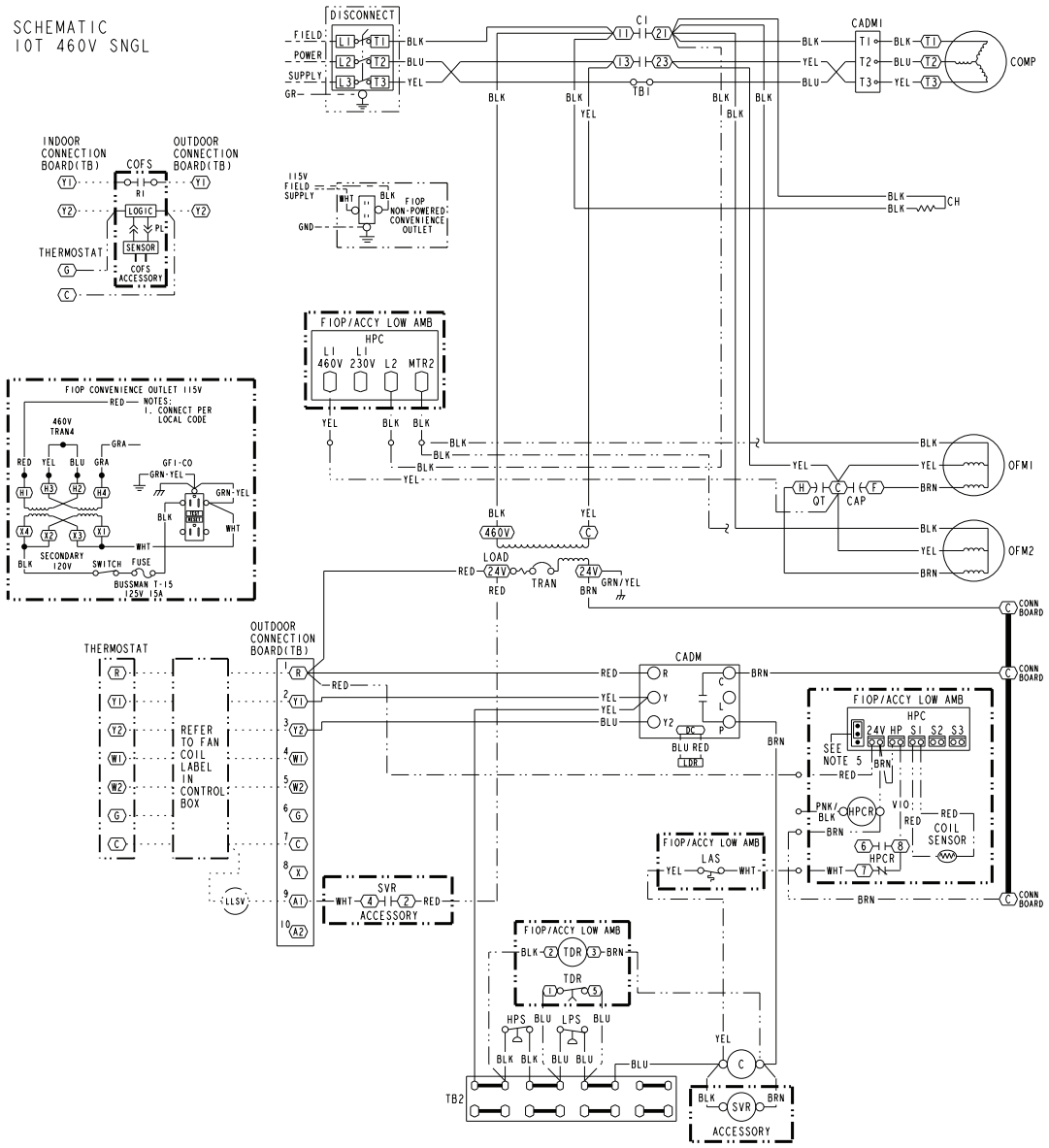
Typical piping and wiring (cont)

Typical Single Circuit/Two-Stage Wiring Diagram, 10 Ton — 460-3-60 Units



FIELD CONTROL WIRING

- FIELD SPLICE
- (X) MARKED WIRE
- (X) TERMINAL(MARKED)
- ○ TERMINAL(UNMARKED)
- [X] TERMINAL BLOCK
- • SPLICE
- —— FACTORY WIRING
- – – FIELD CONTROL WIRING
- ▬ ▬ FIELD POWER WIRING
- –·–· ACCESSORY OR OPTIONAL WIRING
- ▬ TO INDICATE COMMON POTENTIAL ONLY, NOT TO REPRESENT WIRING

LEGEND

C	CONTACTOR, COMPRESSOR
CAP	CAPACITOR
CADM	COMFORT ALERT - DIAGNOSTICS MODULE
CH	CRANKCASE HEATER
CLR	COMPRESSOR LOCK-OUT RELAY
COFS	CONDENSATE OVERFLOW SWITCH
COMP	COMPRESSOR MOTOR
EQUIP	EQUIPMENT
FU	FUSE
GR	GROUND
HPC	HEAD PRESSURE CONTROL
HPCR	HEAD PRESSURE CONTROL RELAY
HPS	HIGH PRESSURE SWITCH
IFC	INDOOR FAN CONTACTOR
LAR	LOW AMBIENT RELAY
LAS	LOW AMBIENT TEMP SWITCH
LDR	COMPRESSOR LOADER PLUG
LLSV	LIQUID LINE SOLENOID VALVE
LPS	LOW PRESSURE SWITCH
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
QT	QUADRUPLE TERMINAL

LEGEND

SVR	SOLENOID VALVE RELAY
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY
TRAN	TRANSFORMER

NOTES:

1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. USE COPPER CONDUCTORS ONLY.
3. COMPRESSORS AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. TRANSFORMER IS WIRED FOR 460V UNIT.
5. HARDSTART AND CUTOUT SET TO "MIN". JUMPER PIN ON TOP 2-PINS AS SHOWN.

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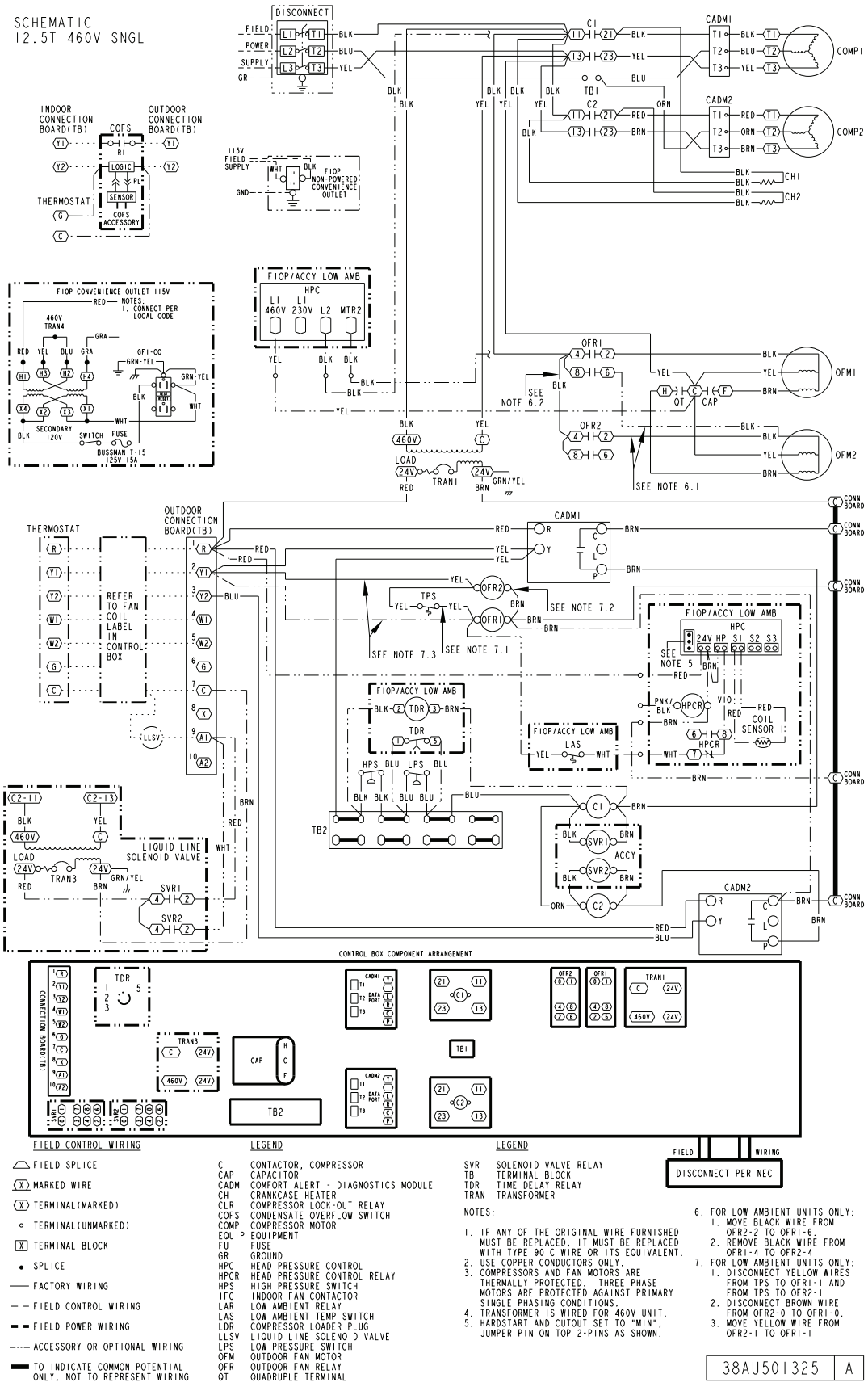
Typical piping and wiring (cont)

Typical Single Circuit/Two-Stage Wiring Diagram, 12.5 Ton — 460-3-60 Units



FIELD CONTROL WIRING

- FIELD SPLICE
- MARKED WIRE
- TERMINAL(MARKED)
- TERMINAL(UNMARKED)
- TERMINAL BLOCK
- SPLICE
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- ACCESSORY OR OPTIONAL WIRING
- TO INDICATE COMMON POTENTIAL ONLY, NOT TO REPRESENT WIRING

LEGEND

C	CONTACTOR, COMPRESSOR
CAP	CAPACITOR
CADM	COMFORT ALERT - DIAGNOSTICS MODULE
CH	CRANKCASE HEATER
CLR	COMPRESSOR LOCK-OUT RELAY
COFS	CONDENSATE OVERFLOW SWITCH
COMP	COMPRESSOR MOTOR
EQUIP	EQUIPMENT
FU	FUSE
GR	GROUND
HPC	HEAD PRESSURE CONTROL
HPCR	HEAD PRESSURE CONTROL RELAY
HPS	HIGH PRESSURE SWITCH
IFC	INDOOR FAN CONTACTOR
LAR	LOW AMBIENT RELAY
LAS	LOW AMBIENT TEMP SWITCH
LDR	COMPRESSOR LOADER PLUG
LLSV	LIQUID LINE SOLENOID VALVE
LPS	LOW PRESSURE SWITCH
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
QT	QUADRUPLE TERMINAL

LEGEND

SVR	SOLENOID VALVE RELAY
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY
TRAN	TRANSFORMER

FIELD WIRING — DISCONNECT PER NEC

NOTES:

1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. USE COPPER CONDUCTORS ONLY.
3. COMPRESSORS AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. TRANSFORMER IS WIRED FOR 460V UNIT.
5. HARDSTART AND CUTOUT SET TO "MIN", JUMPER PIN ON TOP 2-PINS AS SHOWN.
6. FOR LOW AMBIENT UNITS ONLY:
   1. MOVE BLACK WIRE FROM OFR2-2 TO OFRI-6.
   2. REMOVE BLACK WIRE FROM OFRI-4 TO OFR2-4
7. FOR LOW AMBIENT UNITS ONLY:
   1. DISCONNECT YELLOW WIRES FROM TPS TO OFRI-I AND FROM TPS TO OFR2-I
   2. DISCONNECT BROWN WIRE FROM OFR2-0 TO OFRI-0.
   3. MOVE YELLOW WIRE FROM OFR2-I TO OFRI-I

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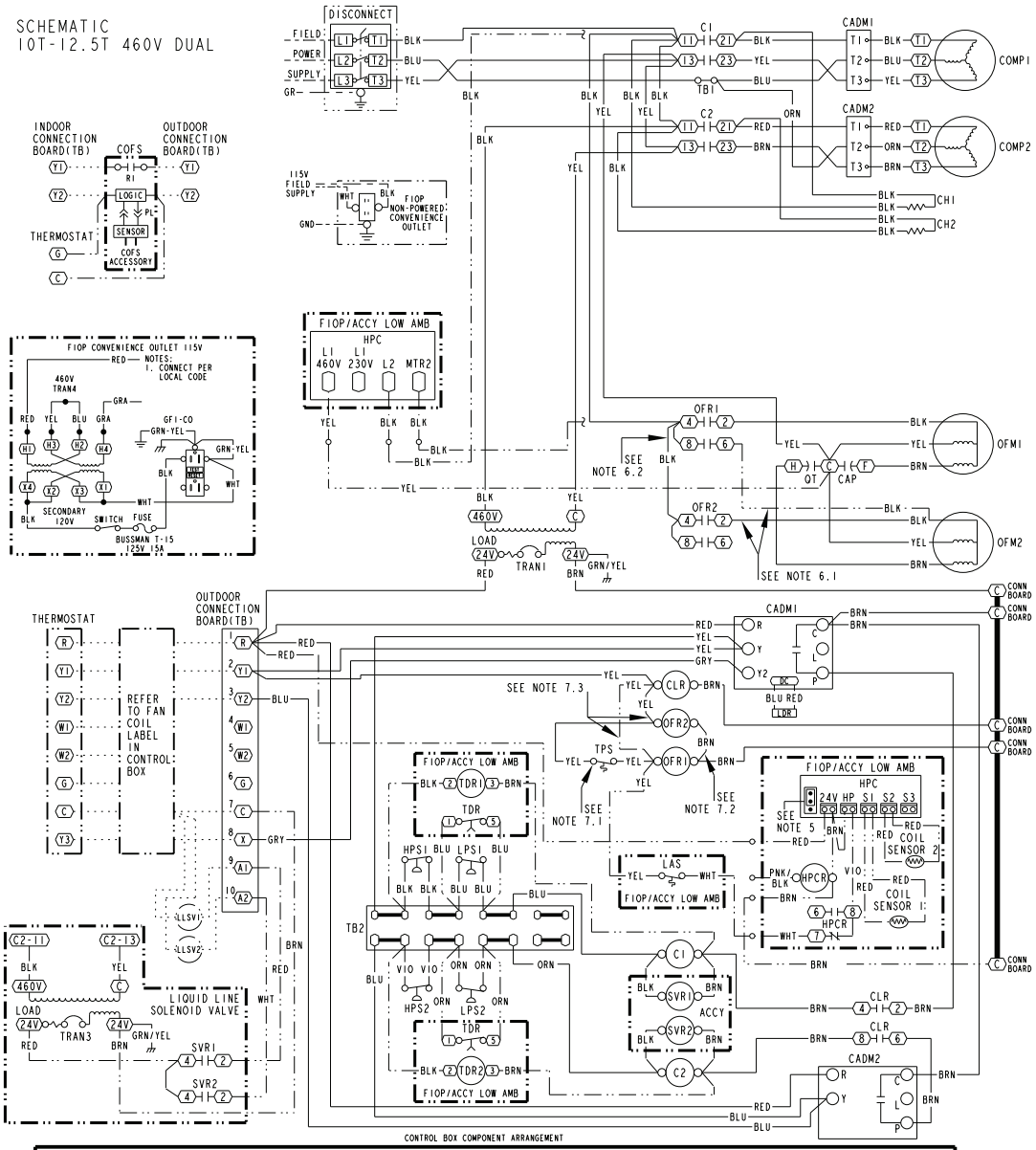
Typical piping and wiring (cont)

Typical Dual Circuit/Three-Stage Wiring Diagram, 10-12.5 Ton — 460-3-60 Units



FIELD CONTROL WIRING

- FIELD SPLICE
- MARKED WIRE
- TERMINAL(MARKED)
- TERMINAL(UNMARKED)
- TERMINAL BLOCK
- SPLICE
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- ACCESSORY OR OPTIONAL WIRING
- TO INDICATE COMMON POTENTIAL ONLY, NOT TO REPRESENT WIRING

LEGEND

C	CONTACTOR, COMPRESSOR
CAP	CAPACITOR
CADM	COMFORT ALERT - DIAGNOSTICS MODULE
CH	CRANKCASE HEATER
CLR	COMPRESSOR LOCK-OUT RELAY
COFS	CONDENSATE OVERFLOW SWITCH
COMP	COMPRESSOR MOTOR
EQUIP	EQUIPMENT
FU	FUSE
GR	GROUND
HPC	HEAD PRESSURE CONTROL
HPCR	HEAD PRESSURE CONTROL RELAY
HPS	HIGH PRESSURE SWITCH
IFC	INDOOR FAN CONTACTOR
LAR	LOW AMBIENT RELAY
LAS	LOW AMBIENT TEMP SWITCH
LDR	COMPRESSOR LOADER PLUG
LLSV	LIQUID LINE SOLENOID VALVE
LPS	LOW PRESSURE SWITCH
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
QT	QUADRUPLE TERMINAL

LEGEND

SVR	SOLENOID VALVE RELAY
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY
TRAN	TRANSFORMER

NOTES:

1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. USE COPPER CONDUCTORS ONLY.
3. COMPRESSORS AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. TRANSFORMER IS WIRED FOR 460V UNIT.
5. HARDSTART AND CUTOUT SET TO "MIN", JUMPER PIN ON TOP 2-PINS AS SHOWN.
6. FOR LOW AMBIENT UNITS ONLY:
   1. MOVE BLACK WIRE FROM OFR2-2 TO OFR1-6.
   2. REMOVE BLACK WIRE FROM OFR1-4 TO OFR2-4
7. FOR LOW AMBIENT UNITS ONLY:
   1. DISCONNECT YELLOW WIRES FROM TPS TO OFR1-1 AND FROM TPS TO OFR2-1
   2. DISCONNECT BROWN WIRE FROM OFR2-0 TO OFR1-0.
   3. MOVE YELLOW WIRE FROM OFR2-1 TO OFR1-1.

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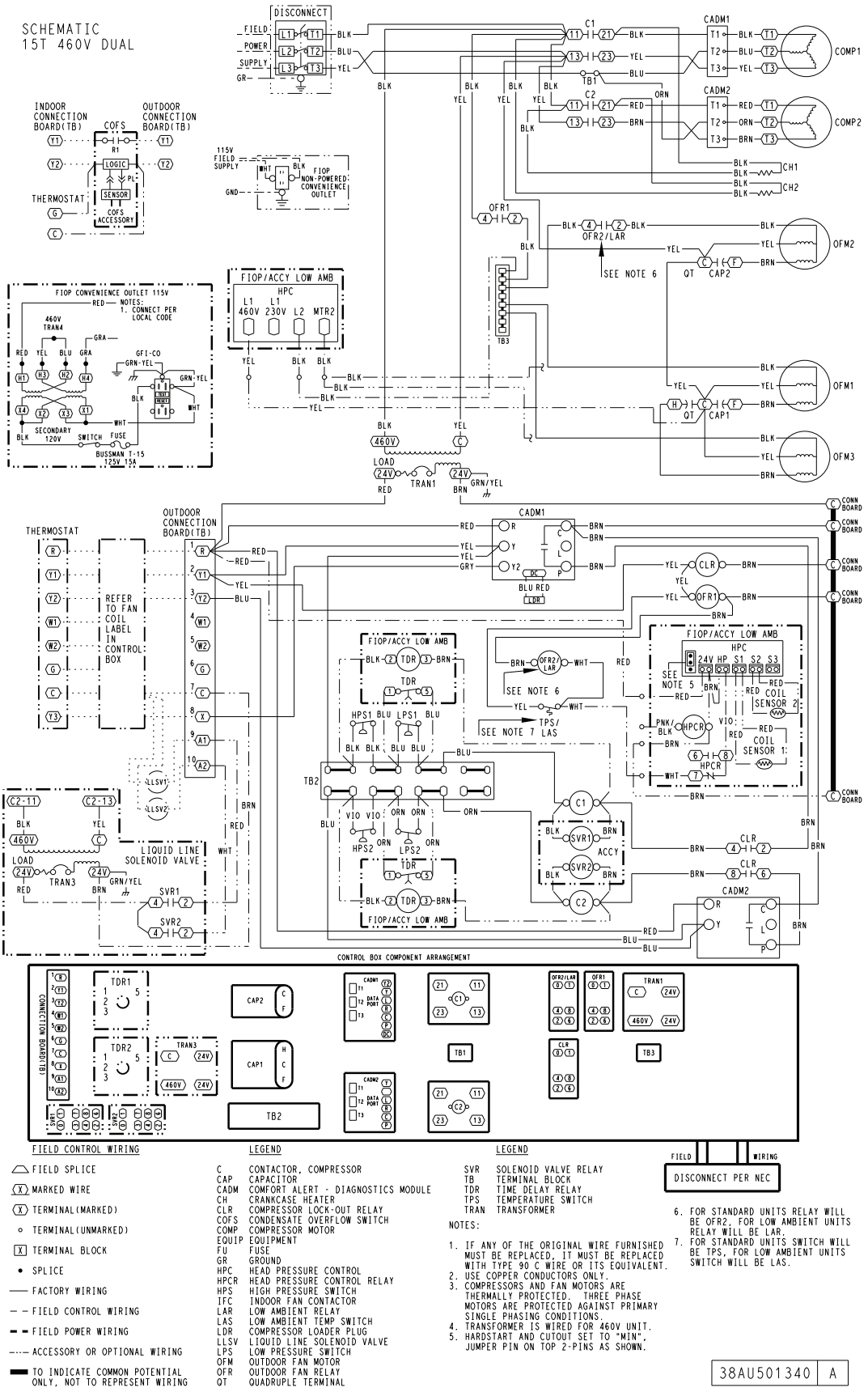
Typical piping and wiring (cont)

Typical Dual Circuit/Three Stage Wiring Diagram, 15 Ton — 460-3-60 Unit



FIELD CONTROL WIRING

- FIELD SPLICE
- MARKED WIRE
- TERMINAL(MARKED)
- TERMINAL(UNMARKED)
- TERMINAL BLOCK
- SPLICE
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- ACCESSORY OR OPTIONAL WIRING
- TO INDICATE COMMON POTENTIAL ONLY, NOT TO REPRESENT WIRING

LEGEND

C	CONTACTOR, COMPRESSOR
CAP	CAPACITOR
CADM	COMFORT ALERT - DIAGNOSTICS MODULE
CH	CRANKCASE HEATER
CLR	COMPRESSOR LOCK-OUT RELAY
COFS	CONDENSATE OVERFLOW SWITCH
COMP	COMPRESSOR MOTOR
EQUIP	EQUIPMENT
FU	FUSE
GR	GROUND
HPC	HEAD PRESSURE CONTROL
HPCR	HEAD PRESSURE CONTROL RELAY
HPS	HIGH PRESSURE SWITCH
IFC	INDOOR FAN CONTACTOR
LAR	LOW AMBIENT RELAY
LAS	LOW AMBIENT TEMP SWITCH
LDR	COMPRESSOR LOADER PLUG
LLSV	LIQUID LINE SOLENOID VALVE
LPS	LOW PRESSURE SWITCH
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
QT	QUADRUPLE TERMINAL

LEGEND

SVR	SOLENOID VALVE RELAY
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY
TPS	TEMPERATURE SWITCH
TRAN	TRANSFORMER

NOTES:

1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. USE COPPER CONDUCTORS ONLY.
3. COMPRESSORS AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. TRANSFORMER IS WIRED FOR 460V UNIT.
5. HARDSTART AND CUTOUT SET TO "MIN". JUMPER PIN ON TOP 2-PINS AS SHOWN.
6. FOR STANDARD UNITS RELAY WILL BE OFR2, FOR LOW AMBIENT UNITS RELAY WILL BE LAR.
7. FOR STANDARD UNITS SWITCH WILL BE TPS, FOR LOW AMBIENT UNITS SWITCH WILL BE LAS.

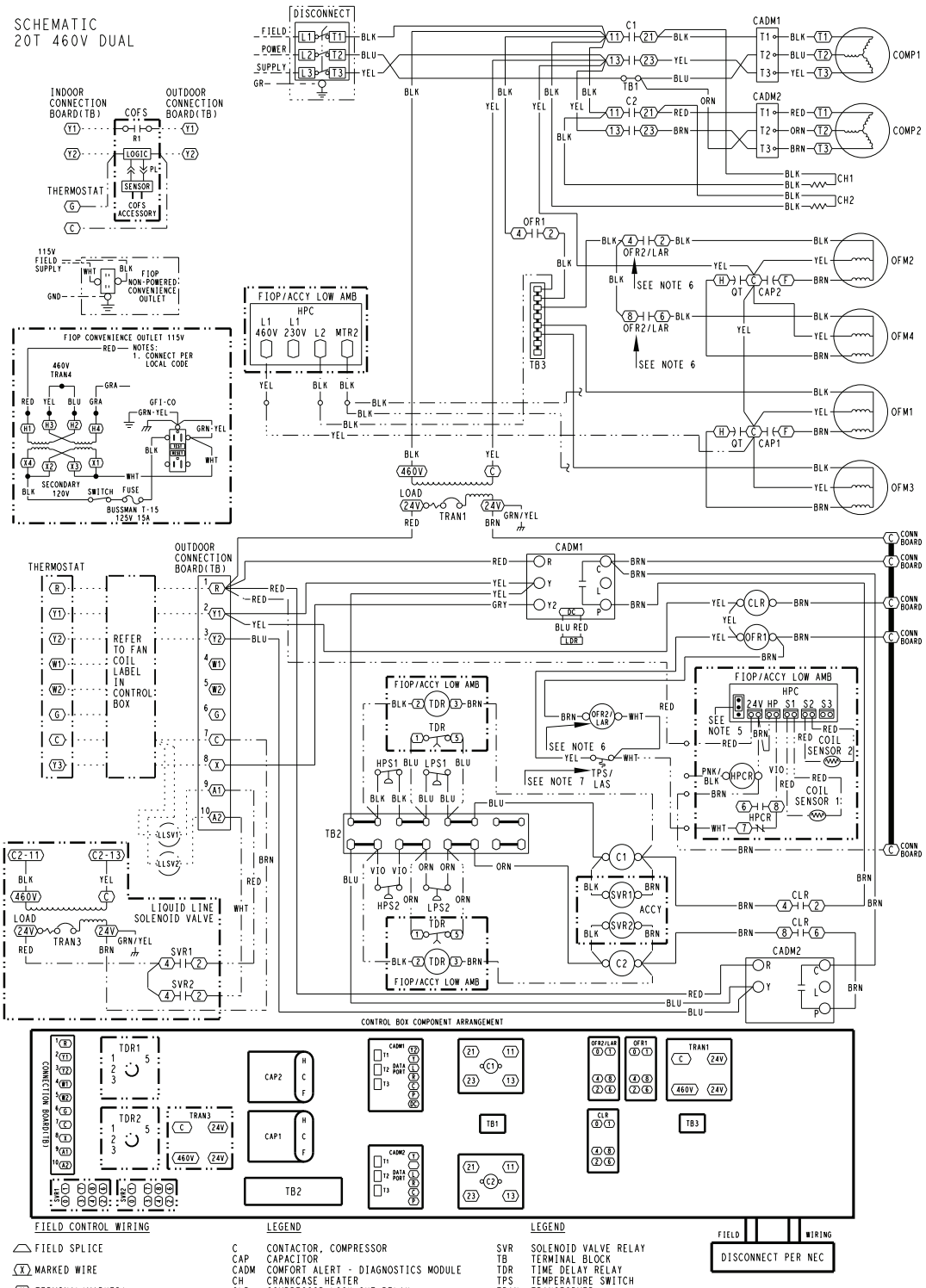
FIELD WIRING

DISCONNECT PER NEC

38AU501340 | A

Typical piping and wiring (cont)

Typical Dual Circuit/Three Stage Wiring Diagram, 20 Ton (460-3-60 Unit Shown)



FIELD CONTROL WIRING

- FIELD SPLICE
- MARKED WIRE
- TERMINAL(MARKED)
- TERMINAL(UNMARKED)
- TERMINAL BLOCK
- SPLICE
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- ACCESSORY OR OPTIONAL WIRING
- TO INDICATE COMMON POTENTIAL ONLY, NOT TO REPRESENT WIRING

LEGEND

C	CONTACTOR, COMPRESSOR
CAP	CAPACITOR
CADM	COMFORT ALERT - DIAGNOSTICS MODULE
CH	CRANKCASE HEATER
CLR	COMPRESSOR LOCK-OUT RELAY
COFS	CONDENSATE OVERFLOW SWITCH
COMP	COMPRESSOR MOTOR
EQUIP	EQUIPMENT
FU	FUSE
GR	GROUND
HPC	HEAD PRESSURE CONTROL
HPCR	HEAD PRESSURE CONTROL RELAY
HPS	HIGH PRESSURE SWITCH
IFC	INDOOR FAN CONTACTOR
LAR	LOW AMBIENT RELAY
LAS	LOW AMBIENT TEMP SWITCH
LDR	COMPRESSOR LOADER PLUG
LLSV	LIQUID LINE SOLENOID VALVE
LPS	LOW PRESSURE SWITCH
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
QT	QUADRUPLE TERMINAL

LEGEND

SVR	SOLENOID VALVE RELAY
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY
TPS	TEMPERATURE SWITCH
TRAN	TRANSFORMER

NOTES:

1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. USE COPPER CONDUCTORS ONLY.
3. COMPRESSORS AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. TRANSFORMER IS WIRED FOR 460V UNIT.
5. HARDSTART AND CUTOUT SET TO "MIN", JUMPER PIN ON TOP 2-PINS AS SHOWN.
6. FOR STANDARD UNITS RELAY WILL BE OFR2, FOR LOW AMBIENT UNITS RELAY WILL BE LAR.
7. FOR STANDARD UNITS SWITCH WILL BE TPS, FOR LOW AMBIENT UNITS SWITCH WILL BE LAS.

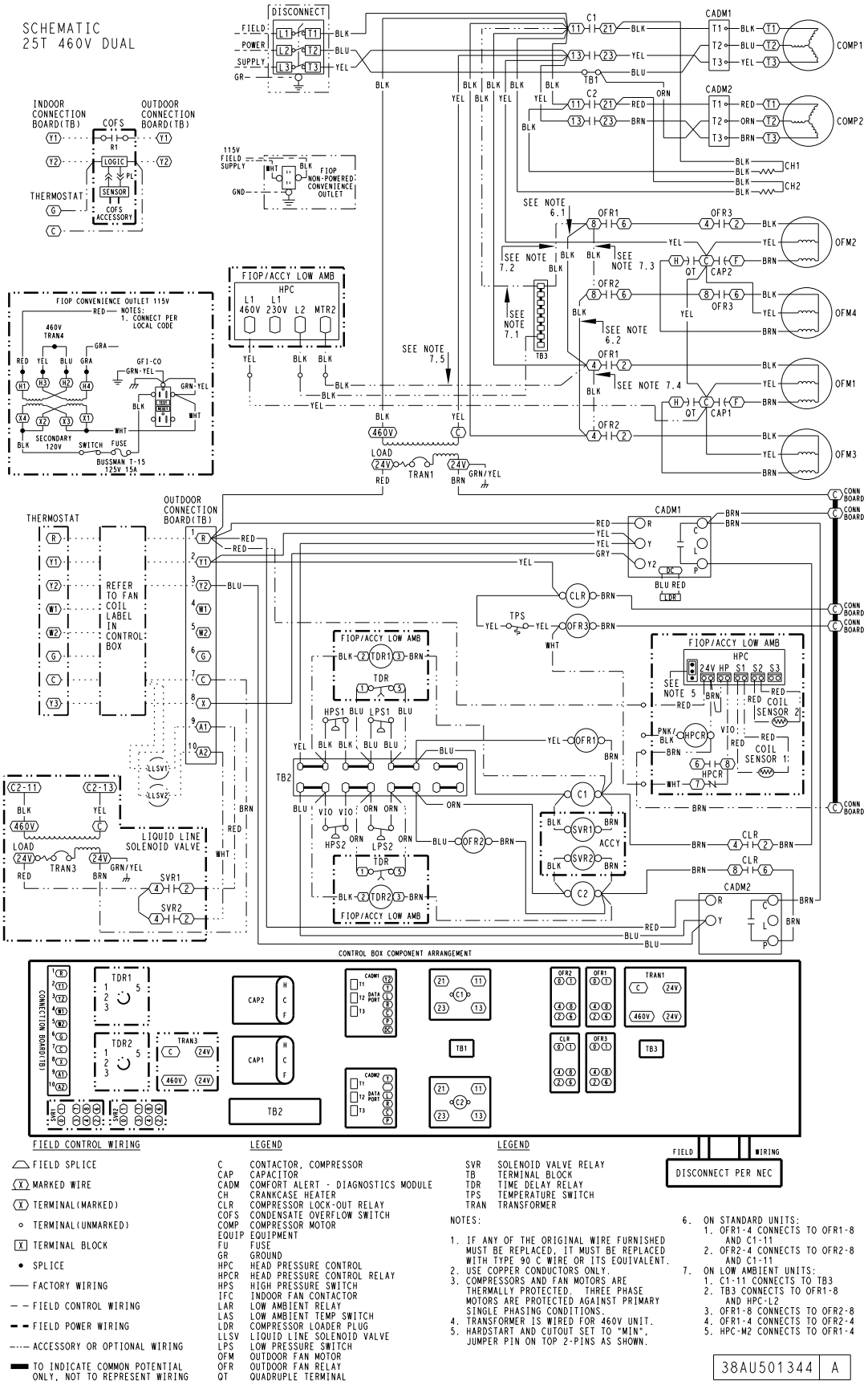
FIELD WIRING

DISCONNECT PER NEC

38AU501336 | A

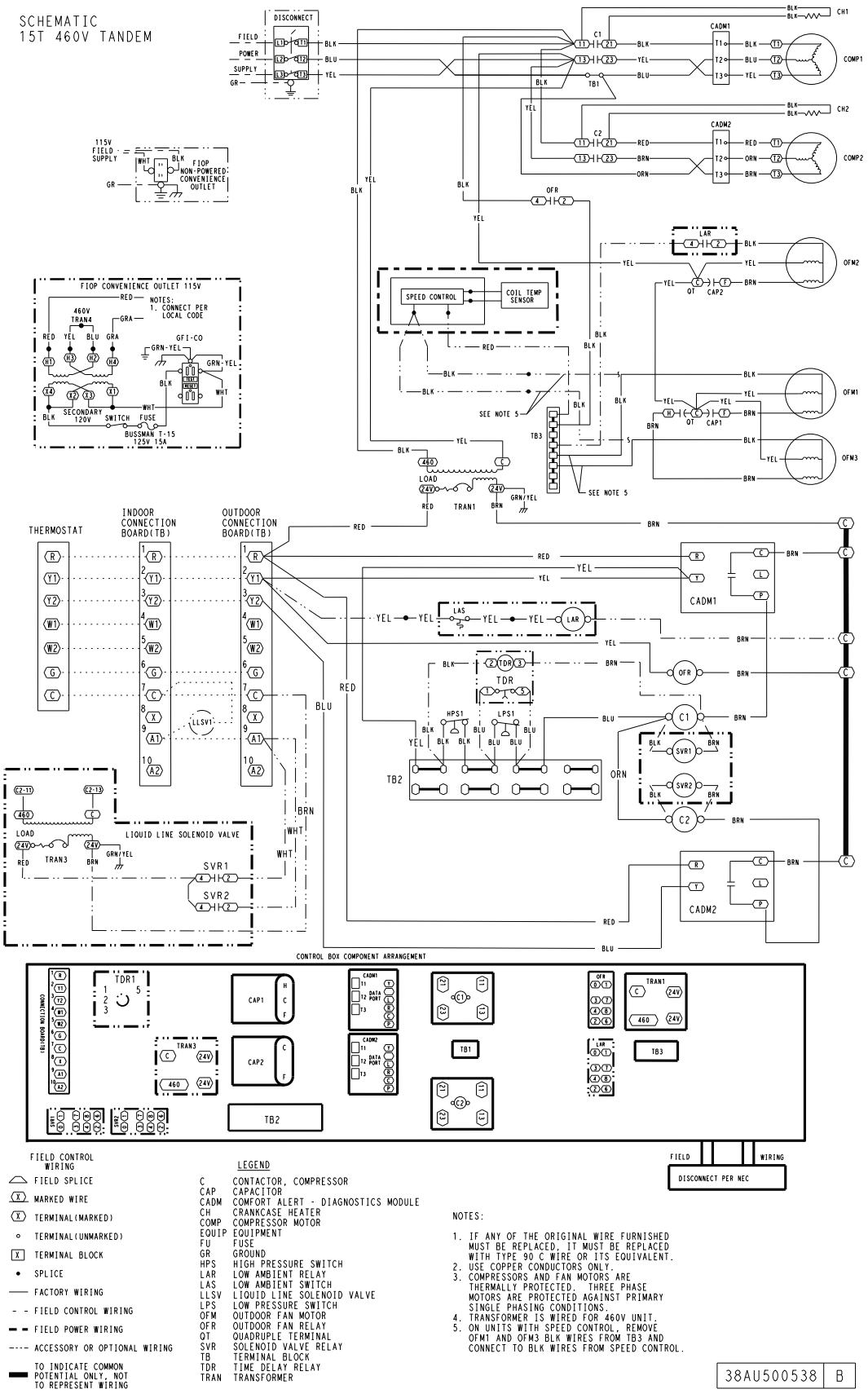
Typical piping and wiring (cont)

Typical Dual Circuit/Three Stage Wiring Diagram, 25 Ton (460-3-60 Unit Shown)



Typical piping and wiring (cont)

Typical Single Circuit/Two Stage Wiring Diagram, 15 Ton (460-3-60 Unit Shown)



FIELD CONTROL WIRING

- FIELD SPLICE
- MARKED WIRE
- TERMINAL(MARKED)
- TERMINAL(UNMARKED)
- TERMINAL BLOCK
- SPLICE
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- ACCESSORY OR OPTIONAL WIRING
- TO INDICATE COMMON POTENTIAL ONLY, NOT TO REPRESENT WIRING

LEGEND

C	CONTACTOR, COMPRESSOR
CAP	CAPACITOR
CADM	COMFORT ALERT - DIAGNOSTICS MODULE
CH	CRANKCASE HEATER
COMP	COMPRESSOR MOTOR
EQUIP	EQUIPMENT
FU	FUSE
GR	GROUND
HPS	HIGH PRESSURE SWITCH
LAR	LOW AMBIENT RELAY
LAS	LOW AMBIENT SWITCH
LLSV	LIQUID LINE SOLENOID VALVE
LPS	LOW PRESSURE SWITCH
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
QT	QUADRUPLE TERMINAL
SVR	SOLENOID VALVE RELAY
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY
TRAN	TRANSFORMER

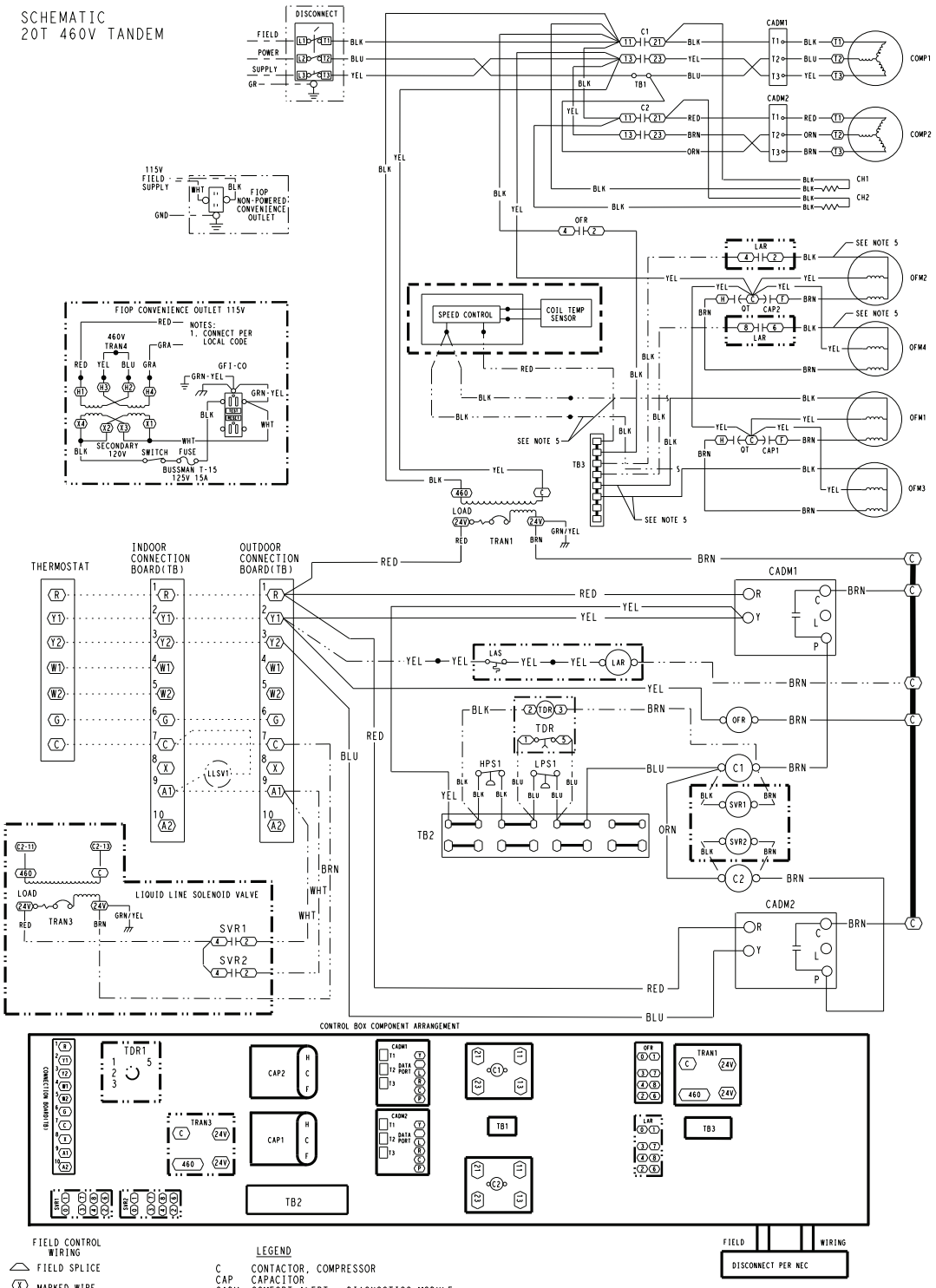
NOTES:

1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. USE COPPER CONDUCTORS ONLY.
3. COMPRESSORS AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. TRANSFORMER IS WIRED FOR 460V UNIT.
5. ON UNITS WITH SPEED CONTROL, REMOVE OFM1 AND OFM3 BLK WIRES FROM TB3 AND CONNECT TO BLK WIRES FROM SPEED CONTROL.

38AU500538 | B

Typical piping and wiring (cont)

Typical Single Circuit/Two Stage Wiring Diagram, 20 Ton (460-3-60 Unit Shown)



FIELD CONTROL WIRING

- FIELD SPLICE
- MARKED WIRE
- TERMINAL(MARKED)
- TERMINAL(UNMARKED)
- TERMINAL BLOCK
- SPLICE
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- ACCESSORY OR OPTIONAL WIRING
- TO INDICATE COMMON POTENTIAL ONLY, NOT TO REPRESENT WIRING

LEGEND

C	CONTACTOR, COMPRESSOR
CAP	CAPACITOR
CADM	COMFORT ALERT - DIAGNOSTICS MODULE
CH	CRANKCASE HEATER
COMP	COMPRESSOR MOTOR
EQUIP	EQUIPMENT
FU	FUSE
GR	GROUND
HPS	HIGH PRESSURE SWITCH
LAR	LOW AMBIENT RELAY
LAS	LOW AMBIENT SWITCH
LLSV	LIQUID LINE SOLENOID VALVE
LPS	LOW PRESSURE SWITCH
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
QT	QUADRUPLE TERMINAL
SVR	SOLENOID VALVE RELAY
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY
TRAN	TRANSFORMER

NOTES:

1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. USE COPPER CONDUCTORS ONLY.
3. COMPRESSORS AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. TRANSFORMER IS WIRED FOR 460V UNIT.
5. ON UNITS WITH SPEED CONTROL, CONNECT THE BLACK WIRES FROM OFM1 AND OFM3 TO BLK WIRES FROM SPEED CONTROL MODULE AND CONNECT THE BLACK WIRES FROM OFM2 AND OFM4 TO TERMINALS 2 AND 6 ON THE LOW AMBIENT RELAY (LAR).

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