YC*060-SF-2D

SERVICE FACTS

Customer Property — Contains wiring and service information. Please retain.

Library	Service Literature
Product Section	Unitary
Product	Rooftop
Model	YC*
Literature Type	Service Facts
Sequence	2D
Date	January 1996
File No.	SV-UN-RT-YC*060-SF-2D 1/96
Supersedes	New

Models:

YCD/YCH060C3L0BE, C3LBBE. C3LFBE, C3H0BE, C3HBBE, C3HFBE
YCD060C3LABE, C3LCBE, C3LGBE, C3HABE, C3HCBE, C3HGBE

Packaged Cooling/Gas Heat 5 Tons-Downflow & Horizontal Micro-Electronic Controls

IMPORTANT NOTE: *This unit is equipped with advanced electronic controls which provide convenient service functions significantly different from conventional units. Refer to your service literature carefully when performing service or maintenance.*

Table 1 - Contents

Table 2 - Product Specifications

RATED VOLTS / PH / HZ	208-230 / 3 / 60
A.R.I. RATINGS	
Cooling (1)	
Net Capacity (BTUH)	60.000
Indoor Air Flow (CFM)	2.000
System Power (KW)	6.7
SEER (2)	10
Heating (3)	
Input BTUH (Low Heat / High Heat Models)	90.000 / 135.000
Output BTUH (Low Heat / High Heat Models)	73.000 / 109.000
Temp. Rise-Min. °F (L / H Models)	35 / 50
Temp. Rise-Max. °F (L / H Models)	65 / 80
Type of Gas (4)	Natural
POWER CONNS.-V / PH / HZ	208-230 / 3 / 60
Min. Cir. Ampacity Standard / Oversized	31.3 / 32.6
Fuse Size-Max. (Amps)	45 / 50
COMPRESSOR	
No. Used	1
Volts / Ph / Hz	200-230 / 3 / 60
R.L. AMPS	18.6
L.R. AMPS	118
OUTDOOR COIL-Type	Hi-Performance
Rows / F.P.I.	2/16
Face Area (Sq. Ft.)	9.76
Tube Size (In.)	0.375
INDOOR COIL-Type	Hi-Performance
Rows / F.P.I.	2 / 15
Face Area (Sq. Ft.)	6.33
Tube Size (In.)	0.375
Refrigerant Control	Short Orifice
Drain Conn. Size (In.)	3/4" NPT

OUTDOOR FAN-Type	Propeller
CFM	4270
No. Used / Dia. (In.)	1 /24
Type Drive / No. Speeds	Direct / 1
No. Motors / HP	1 / 0.40
Motor Speed R.P.M	1075
Volts / Ph / Hz	208-230 / 1 / 60
F.L. Amps / L.R. Amps	2.7 / 7.8
INDOOR FAN-Type	FC Centrifugal
Dia. x Width (In.)	12.6 x 9.5
No. Used	1
Type Drive / No. of Speeds Standard / Oversize	Direct / 2
No. Motors / HP	1 / 0.60 / 0.75
Motor Speed R.P.M.	850 / 1040
Volts / Ph / Hz	208-230 / 1 / 60
F.L. Amps	5.3 / 6.6
L.R. Amps	11.1 / 13.5
COMBUSTION FAN-Type	Centrifugal
No. Used	1
Drive / No. of Speeds	Direct / 1
Motor HP / RPM	1/20 / 3350
Volts / Ph / Hz	208-230 / 1 / 60
F.L. Amps / L.R. Amps	0.4 / 1.0
FILTER	Furnished
Type	Throwaway
Filter Size (In.)	20 x 25 x 1
Quantity	2
REFRIGERANT Charge (Lbs. of R-22) (5)	7.9
GAS PIPE SIZE (In.)	1/2
DIMENSIONS Crated (In.)	H x W x L 38 x 52 x 86
WEIGHT (Approx. Lbs.) Shipping / Net	831 / 659

Footnotes:

1. Cooling Performance is rated at 95 F ambient. 80 F entering dry bulb. 67 F entering wet bulb and nominal cfm listed. ARI capacity is net and includes the effect of fan motor heat. Rated in accordance with ARI Standard 210.
2. Rated at ARI conditions and in accordance with DOE test procedures.
3. Heating performance limit settings and rating data were established and approved under laboratory test conditions using American National Standards Institute standards. Ratings shown are for elevations up to 2000 feet.
4. Convertible to LP gas with orifice change.
5. Refrigerant charge shown is a nominal value: for a more precise value see the unit nameplate.

⚠ WARNING: HAZARDOUS VOLTAGE-DISCONNECT POWER BEFORE SERVICING

Failure to **DISCONNECT POWER** before servicing could lead to severe personal injury or death.

SAFETY NOTICE

This information is intended for use by individuals possessing adequate backgrounds of electrical and mechanical experience. Any attempt to repair a central air conditioning product may result in personal injury and/or property damage. The manufacturer of seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

RE-CONNECT ALL GROUNDING DEVICES

All parts of this product capable of conducting electrical current are grounded. If grounding wires, screws, straps, clips, nuts or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

Table 3 - Optional Equipment

Manual Change-over T'stat - Single Stage	ASYSTAT661B
Auto Change-over T'stat - 2 stage	ASYSTAT663B
Programmable T'stat	ASYSTAT666A
Stand Alone Unoccupied Timer	BAYCLCK001A
Conventional T'stat Interface - Field Installed	BAYCTHI001C
Roof Curb	BAYCURB021B
Clogged Filter Switch	BAYDFPS001A
Fan Failure Switch	BAYDFPS002A
I/O Expansion Board	BAYDIAG001A
Manual Outside Air Damper	BAYDMPR029B
Economizers - Downflow	BAYECON067B
Horizontal	BAYECON069B
Without Controls for YCD	BAYECON071B
Reference Enthalpy Control	BAYENTH003A
Comparative Enthalpy Control	BAYENTH004A
High Temperature Sensor	BAYFRST001A
Coil Guard	BAYGARD033A
High Static Motor	BAYHSMT053A
TCI Accessory	BAYICSI001B
Horizontal Insulation Kit	BAYINSL101A
Quick Start Kit	BAYKSKT007B
Propane Conversion Kit	BAYLPKT023B
Sensor Mounting Plate	BAYMTPL002A
Zone Sensor - Single Stage Manual T'stat	BAYSENS006B
Zone Sensor - 2 Stage Auto T'stat	BAYSENS008B
Zone Sensor w/LED - 2 Stage Auto T'stat	BAYSENS010B
Zone Sensor w/Button	BAYSENS013B
Zone Sensor w/Button and Setpoint	BAYSENS014B
Temperature Sensor	BAYSENS016A
Remote Sensor for Auto Change-over T'stat	BAYSENS017B
Zone Sensor - Programmable	BAYSENS019A
Digital Dual Man/Auto	BAYSENS022A
Service Tester - Selective Resistance	BAYSERV001A
Remote Sensor for Programmable T'stat	BAYSTAT021
Remote Rheostat	BAYSTAT023

SEQUENCE OF OPERATION (YC - Micros)

These units are equipped with an electronic control board **"Unit Control Processor (UCP)"** which is the brain of the unit control system. This board contains powerful control logic information that manages the functioning of the unit and system.

Note: *The time delays mentioned below are controlled by the UCP, and are present to increase system reliability. They protect the compressor and maximize efficiency of unit performance.*

1) Unit Start-Up

Each time power is applied to the system, the **UCP** performs internal self-diagnostic checks. It determines the system configuration (including installed options), and prepares for control of this configuration. It also checks itself for proper internal functioning. Within one second of start-up, the **UCP** system indicator (a red light on the **UCP** board) glows if programming is intact and functional.

On units with the optional economizer, the damper(s) is driven open for 15-20 seconds, and then closed for approximately 90 seconds. This assures proper damper calibration.

2) Cooling Operation/Mechanical Compressor Cycle

(For cooling without economizer operation)

Note: *The compressor is controlled to a minimum run time of three minutes, and once shut off will not start again for three minutes.*

Cooling Sequence—When mechanical cooling is required, the **UCP** energizes the Compressor Contactor **(CC1)** coil. When the **CC1** contacts close, the Compressor **CPR1** and Outdoor Fan Motor **(ODM)** start. **CPR1** cycles on and off as required by cooling demands, but within the time minimums mentioned above.

Defrost Cycle in Cooling Mode

During periods of low outdoor air temperature, the **UCP** performs an evaporator defrost cycle. This cycle is performed at temperatures below 55° F after each 10 minutes of accumulated compressor run time. During the defrost cycle the compressor(s) is turned off and the supply fan stays energized. After completion of the defrost cycle, which lasts approximately three minutes, the compressor is allowed to operate as required.

Indoor Fan Operation

If the indoor fan is set to **"AUTO"**, the **UCP** energizes the Indoor Fan Contactor **(F)** coil approximately one second after energizing the compressor contactor. The Indoor Fan Motor **(IDM)** starts when contacts of **F** close. When the cooling cycle is complete and **CC1** is de-energized, the **UCP** keeps the **F** coil energized for 60 seconds of additional **IDM** operation to enhance unit efficiency.

3) Cooling Operation/Economizer Cycle

The economizer option allows cooling with outdoor air when outdoor ambient is below 60(±2)° F. (This setting is field adjustable to 55 or 65° F). This air is drawn into the unit through modulating dampers. When cooling is required and economizing is possible, the **UCP** signals the Unitary Economizer Module **(UEM)** to open/close the ventilation damper(s) by energizing the Economizer Actuator **(ECA)**. The **UCP** tries to cool the space to slightly below the cooling set-point. If the Supply Air Sensor **(SAS)** senses that supply air is below 50° F, the dampers modulate closed until supply air temperature rises, or until dampers close to their minimum position.

If a power exhaust accessory is present, the power exhaust fan motor is energized whenever the economizer damper is at a position greater than 25% of the actuator stroke.

During simultaneous economizing and mechanical compressor cooling, the **UCP** continues to modulate the **ECA** to keep the supply air temperature in the 50-55° F range. When economizing is not possible, dampers go to minimum position.

Settings - The economizer is opened to minimum ventilation position by the **UCP** every time **F** is energized. The amount of ventilation air required is set by adjusting the minimum position potentiometer located on the Unitary Economizer Module **(UEM)**.

4) Continuous Fan Operation

If the indoor fan switch is set to **"ON"**, the **UCP** keeps the **F** coil energized for continuous fan operation. On units with an optional economizer, the **UCP** also causes the Economizer Actuator **(ECA)** to move to its proper operating position at minimum position or greater.

5) Heating Operation/Gas Heat

When the space temperature falls below the heating set-point, the **UCP** initiates a heating cycle by energizing the relay **(K5)** coil, the heat relay **(H)** coil, the Ignition Control Module **(IGN)**., and relay **(S)** coil when present. The **H** contacts close to energize the Combustion Fan Motor **(CFM)**. On units with 2-speed switching fans (3 & 4 ton high heat models), the **K5** (for 208/230V units) or **S** relay (for 460/575V units) also energize the high speed windings of the Indoor Motor **(IDM)**. On two stage units, the **K5** contacts close to energize the high speed windings of **CFM**. (After a 60 second delay, **K5** is de-energized to revert the **CFM** to its low speed windings.)

The **IGN** starts the ignition process by preheating the hot surface Ignition Probe **(IP)** for 30 seconds. After preheat of the **IP**, the Gas Valve **(GV)** is energized up to 7 seconds to ignite the burner. When the gas lights, the **IP** is de-energized and then functions as a flame sensor.

If the burner fails to ignite, the ignition module will attempt two retries. At the start of each ignition retry, the green LED will flash and the red LED will flash for five seconds before locking out. An **IGN** lockout can be reset by;

1. Opening and closing the main power disconnect switch,

2. By switching the "Mode" switch on the zone sensor to "OFF" and then to the desired position.

3. Allowing the ignition control module to reset automatically after one hour. Refer to the "Ignition Control Diagnostics" section for the LED diagnostic diffinitions.

If the fan is set to **"AUTO"**, the **UCP** energizes the Fan Contactor **(F)** 30 seconds after initiation of the heat cycle. When the **F** contacts close, the **IDM** starts. For units with automatic 2-speed fan switching, the fan runs in high speed.

For 2-stage Gas Heat units only
If the space temperature remains below the heating set-point with *stage 1* heat operating, the **UCP** energizes the **K5** coil. This activates the high speed windings of **CFM** supplying *stage 2* heat capacity.

When the space temperature rises above the heating set-point, the **UCP** de-energizes **K5**, **H**, and **IGN**, and **S** if present, turning off the heat functions. The **F** coil remains energized for 90 seconds after which it is de-energized, provided the fan mode is **AUTO**. If the fan mode is **"ON"** and automatic 2-speed fan switching is present, the fan returns to low speed.

To reset an **IGN** lockout, power must be removed from **IGN** by switching the unit mode on the zone sensor to **"OFF"** and then to the desired position.

Limit Controls
High Limit **(TCO1)** and Fan Fail Limit **(TCO2)** protect against overheating if the **IDM** fails to operate. **(TCO2)** will signal the **UCP** that a failure has occurred. The **UCP** will de-energize **K5**, **H**, and **IGN**, and energize the **F** coil. The **UCP** also signals the heat failure by flashing the **"HEAT"** LED on the zone sensor.

TCO1 is located in the bottom right corner of the gas valve/burner compartment. This automatic reset control protects against abnormally high leaving air temperature.

TCO2 is located in the upper middle section of the indoor fan panel. This automatic reset control protects against abnormally high heat build up, which could be caused by extended cycling of **TCO1**, or failure of the **IDM** to operate.

Ignition Control Module Diagnostic

There are two LED's located on the Ignition Control Module. The Table below list the diagnostics and the status of the LED's during the various operating states.

Diagnostic	Green LED	Red LED
1. Powered with no call for heat	Off	Off
2. Call for heat - no fault detected	Flashing (1)	Off
3. No Flame signal on try for ignition or flame signal established and lost prior to a lockout condition.	Off	Flashing (2)
4. Gas Valve miswired or flame signal present at a call for heat	Continuous	Flashing (1)
5. Internal Fault - anytime.	Off	Continuous

Notes:
1. Flash at a 50% duty cycle.
2. At the start of each retry for ignition the red LED will flash for five seconds along with the green LED

Table 4

Static Pressure Drops Through Economizers (Inches Water Column)

CFM	Full Return*	Full Outside
1000	0.01	0.05
1200	0.01	0.06
1300	0.01	0.06
1450	0.01	0.07
1600	0.02	0.08
2000	0.03	0.1
2400	0.06	0.12

*For Power Fresh Air, "Full Return" is zero.

Table 5
Evaporator Fan Performance

YCD Low Heat Models

1600	0.72	0.58	0.67	0.46	1.36	0.82
1700	0.68	0.59	0.60	0.48	1.28	0.86
1800	0.62	0.61	0.53	0.50	1.20	0.90
1900	0.56	0.63	0.46	0.52	1.11	0.93
2000	0.50	0.66	0.37	0.55	1.02	0.96
2100	0.42	0.69	0.28	0.59	0.93	1.01
2200	0.33	0.71	0.16	0.62	0.83	1.05
2300	0.24	0.73			0.70	1.09
2400	0.16	0.76			0.54	1.13

Note:
Data includes pressure drop due to filters and wet coils.

YCD High Heat Models

1600	0.7	0.58	0.65	0.46	1.34	0.82
1700	0.66	0.59	0.58	0.48	1.26	0.86
1800	0.60	0.61	0.51	0.5	1.18	0.9
1900	0.54	0.63	0.44	0.52	1.09	0.93
2000	0.48	0.66	0.34	0.55	1	0.96
2100	0.4	0.69	0.24	0.59	0.91	1.01
2200	0.31	0.71	0.13	0.62	0.81	1.05
2300	0.22	0.73			0.67	1.09
2400	0.13	0.76			0.51	1.13

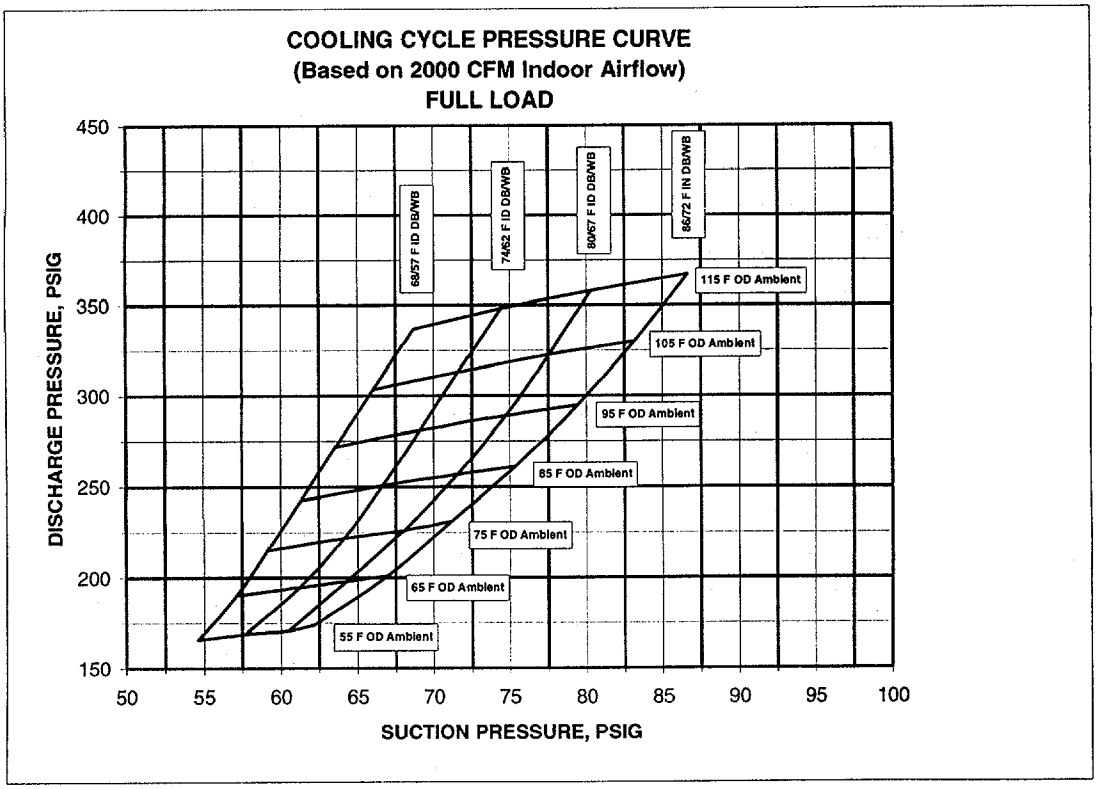
Note:
Data includes pressure drop due to filters and wet coils.

All YCH Models

1600	0.71	0.58	0.65	0.46	1.34	0.83
1700	0.68	0.59	0.58	0.48	1.27	0.86
1800	0.60	0.61	0.50	0.50	1.18	0.90
1900	0.53	0.63	0.43	0.52	1.09	0.93
2000	0.47	0.66	0.34	0.56	1.00	0.97
2100	0.40	0.69	0.24	0.59	0.90	1.01
2200	0.30	0.71	0.12	0.63	0.80	1.05
2300	0.22	0.73			0.68	1.09
2400	0.12	0.76			0.51	1.13

Note:
Data includes pressure drop due to filters and wet coils.

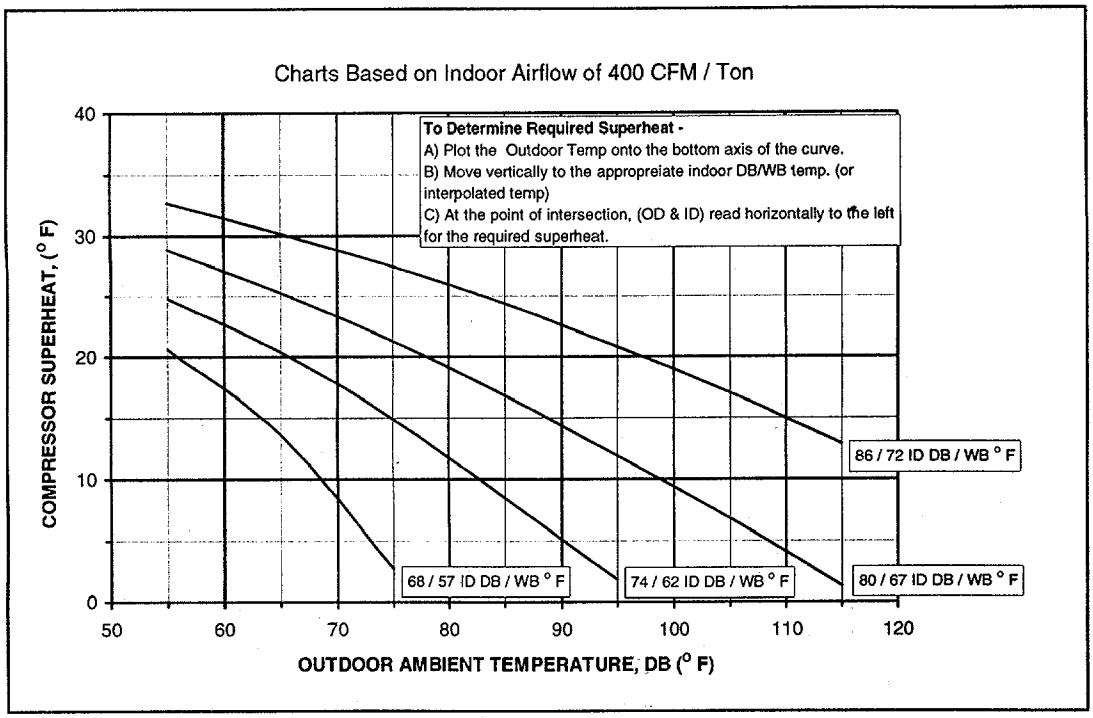
Operating Pressures Curves



To Check Operating Pressures

1. Start the unit and allow the pressures to stabilize.
2. Measure the indoor DB/WB temperature entering the indoor coil.
3. Measure the outdoor air dry bulb temperature
4. Take discharge and suction pressure readings.
5. Plot the outdoor dry bulb and the indoor DB/WB temperature onto the chart.
6. At the point of intersection, read down for the suction pressure and to the left for the discharge pressure.

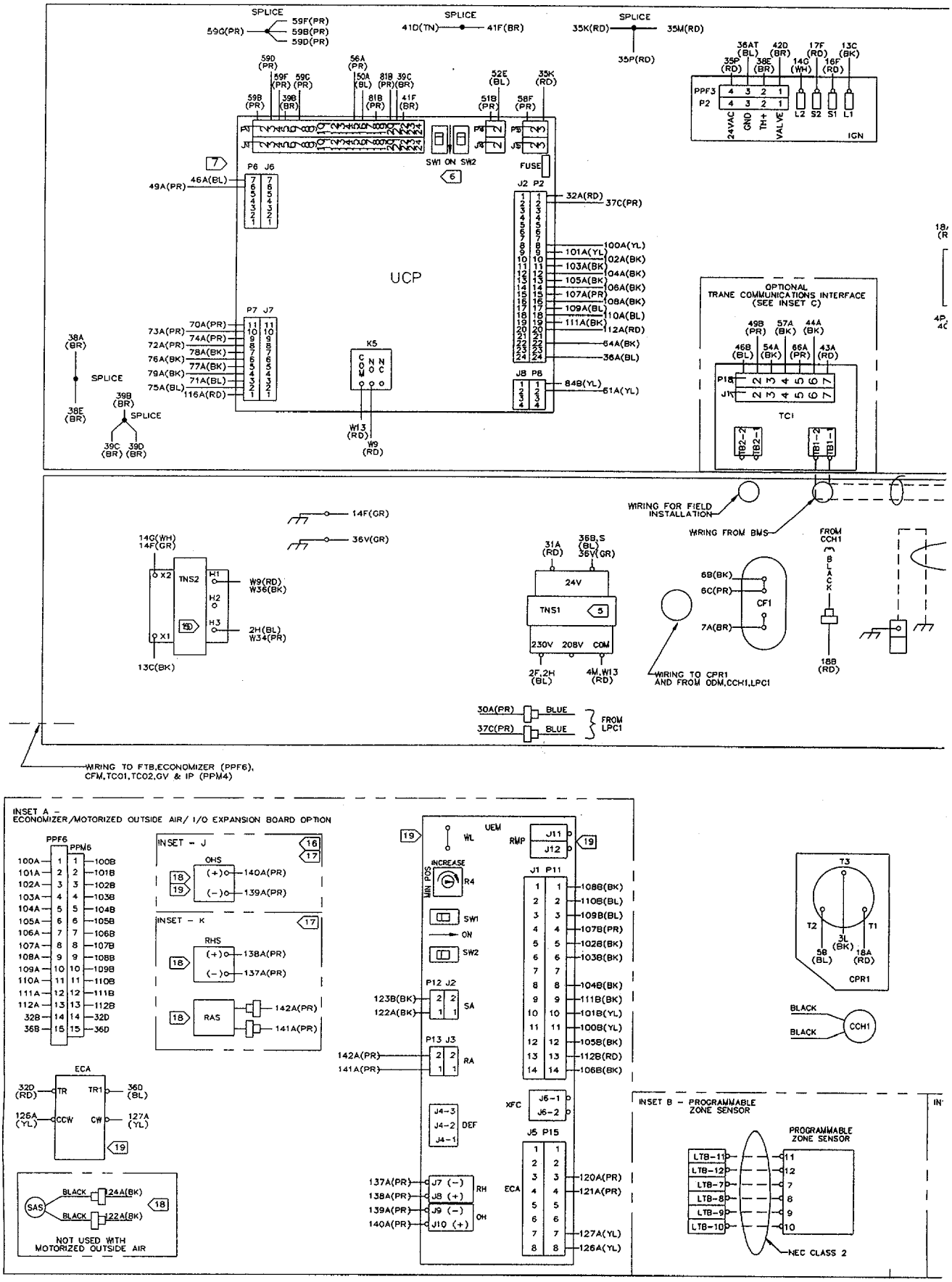
Superheat Charging Chart

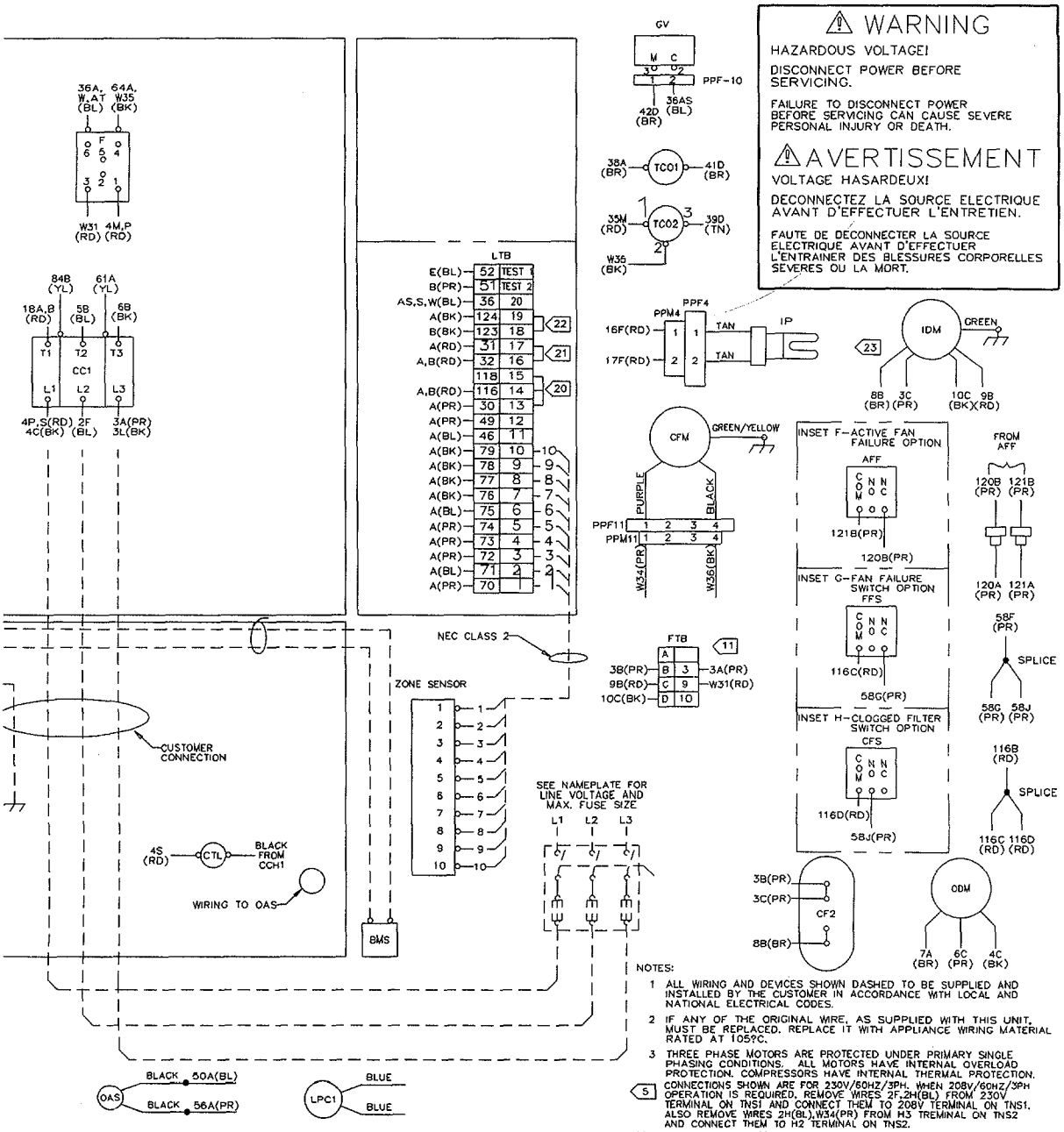


1) REFRIGERANT CHARGE - ADD if the superheat is more than 5° above curve value.
   - REDUCE if the superheat is more than 5° below curve value.
   - OK if the superheat is within 5° of curve value.
2) Do not add refrigerant if the superheat is less than 5° F
3) Curves are based on 400 CFM/Ton Indoor Airflow @ 50% R.H.
4) system must be running at stablized conditions before measuring superheat.

CONNECTION DIAGRAM

2307-5587





⚠ WARNING

HAZARDOUS VOLTAGE!

DISCONNECT POWER BEFORE SERVICING.

FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.

⚠ AVERTISSEMENT

VOLTAGE HASARDEUX!

DECONNECTEZ LA SOURCE ELECTRIQUE AVANT D'EFFECTUER L'ENTRETIEN.

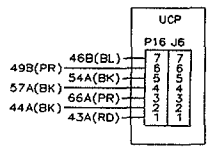
FAUTE DE DECONNECTER LA SOURCE ELECTRIQUE AVANT D'EFFECTUER L'ENTRAINER DES BLESSURES CORPORELLES SEVERES OU LA MORT.

WIRE COLOR DESIGNATION			
ABBR	COLOR	ABBR	COLOR
BK	BLACK	PR	PURPLE
BL	BLUE	RD	RED
BR	BROWN	WH	WHITE
GR	GREEN	YL	YELLOW
OR	ORANGE	TN	TAN

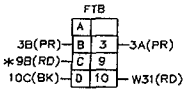
NOTES:

1. ALL WIRING AND DEVICES SHOWN DASHED TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER IN ACCORDANCE WITH LOCAL AND NATIONAL ELECTRICAL CODES.
2. IF ANY OF THE ORIGINAL WIRE, AS SUPPLIED WITH THIS UNIT, MUST BE REPLACED, REPLACE IT WITH APPLIANCE WIRING MATERIAL RATED AT 105°C.
3. THREE PHASE MOTORS ARE PROTECTED UNDER PRIMARY SINGLE PHASING CONDITIONS. ALL MOTORS HAVE INTERNAL OVERLOAD PROTECTION. COMPRESSORS HAVE INTERNAL THERMAL PROTECTION.
5. CONNECTIONS SHOWN ARE FOR 230V/60HZ/3PH. WHEN 208V/60HZ/3PH OPERATION IS REQUIRED, REMOVE WIRES 2F,2H(BL) FROM 230V TERMINAL ON TNS1 AND CONNECT THEM TO 208V TERMINAL ON TNS1. ALSO REMOVE WIRES 2H(BL),W34(PR) FROM H3 TREMINAL ON TNS2 AND CONNECT THEM TO H2 TERMINAL ON TNS2.
6. CONTROL ADJUSTMENT SWITCHES- SEE INSTALLATION LITERATURE FOR ADJUSTMENT.
7. WHEN TCI IS INSTALLED, REMOVE EXISTING PLUG. THIS PLUG WILL NOT BE USED BUT SHOULD NOT BEREMOVED FROM WIRE HARNESS. COMMUNICATION WIRES FROM BMS TO TCI ARE TO BE WIRE TIED TO BOTTOM OF THE CONTROL BOX.
11. CONNECTIONS SHOWN ARE FOR LOW SPEED. SEE INSET M FOR HIGH SPEED AND OVERSIZE MOTOR CONNECTIONS.
16. REQUIRED FOR OPTIONAL REFERENCE ENTHALPY CONTROL.
17. REQUIRED FOR OPTIONAL COMPARATIVE ENTHALPY CONTROL.
18. OPTIONAL SAS, RAS, RHS, OHS AND ASSOCIATED WIRING NOT USED WITH MOTORIZED OUTSIDE AIR.
19. OPTIONAL REMOTE MINIMUM POSITION POTENTIOMETER, WL, OHS, ECA, AND ASSOCIATED WIRING NOT USED WITH I/O EXPANSION BOARD.
20. TO DISABLE COMPRESSORS, REMOVE JUMPERS AND CONNECT FIELD SUPPLIED CONTROL DEVICE.
21. TO SHUT DOWN THE UNIT FOR EMERGENCY STOP, REMOVE JUMPER AND INSTALL FIELD SUPPLIED DEVICE.
22. TO CONNECT SAS TO LTB, REMOVE JUMPER BETWEEN LTB-18 AND 19 AND JUMPER WIRES 122A AND 124A TOGETHER. CONNECT SAS BETWEEN LTB-18 AND 19.
23. TERMINALS MAY NOT BE PRESENT.

INSET C - WIRING FOR UCP WHEN OPTIONAL TCI IS INSTALLED (SEE NOTE 7)



INSET M - HIGH SPEED AND OVERSIZE MOTOR CONNECTIONS



* MAY NOT BE PRESENT ON OVERSIZE MOTORS

USE COPPER CONDUCTORS ONLY
UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT ANY OTHER WIRING

IMPORTANT!
DO NOT ENERGIZE UNIT UNTIL CHECK-OUT AND START-UP PROCEDURE HAS BEEN COMPLETED

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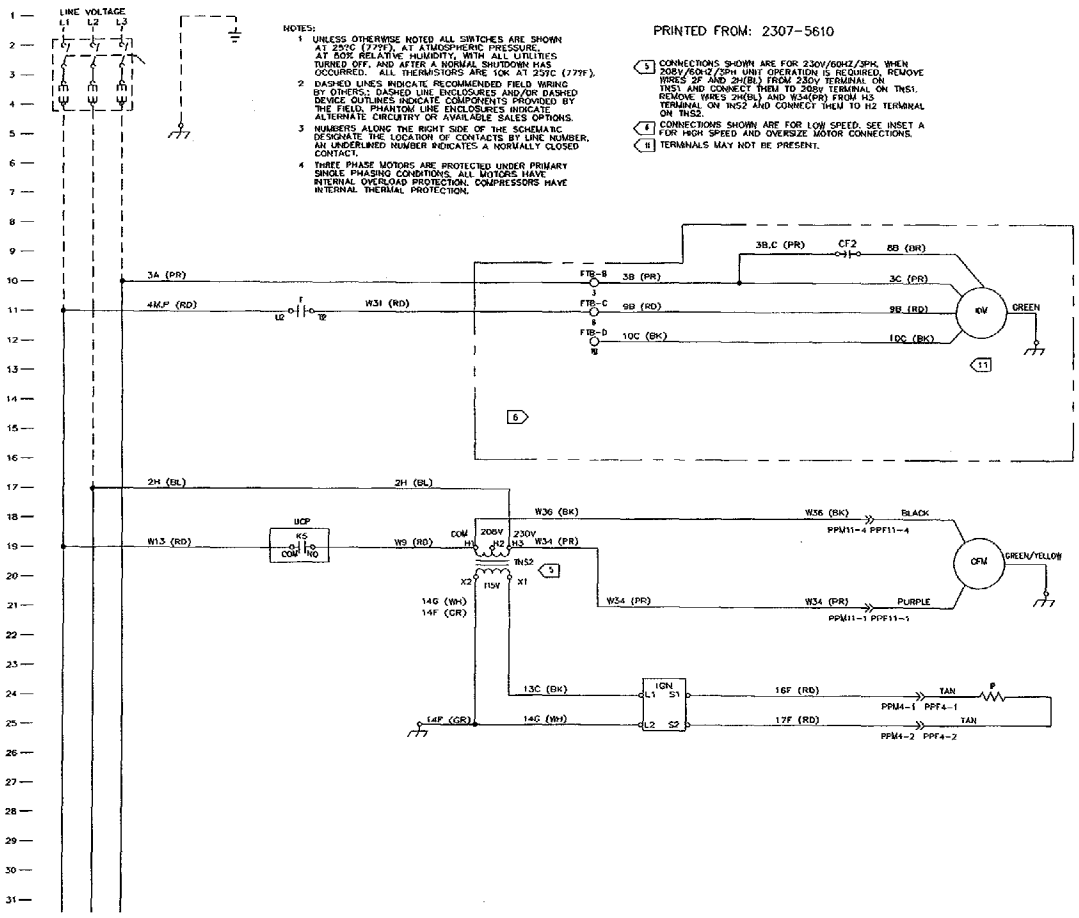
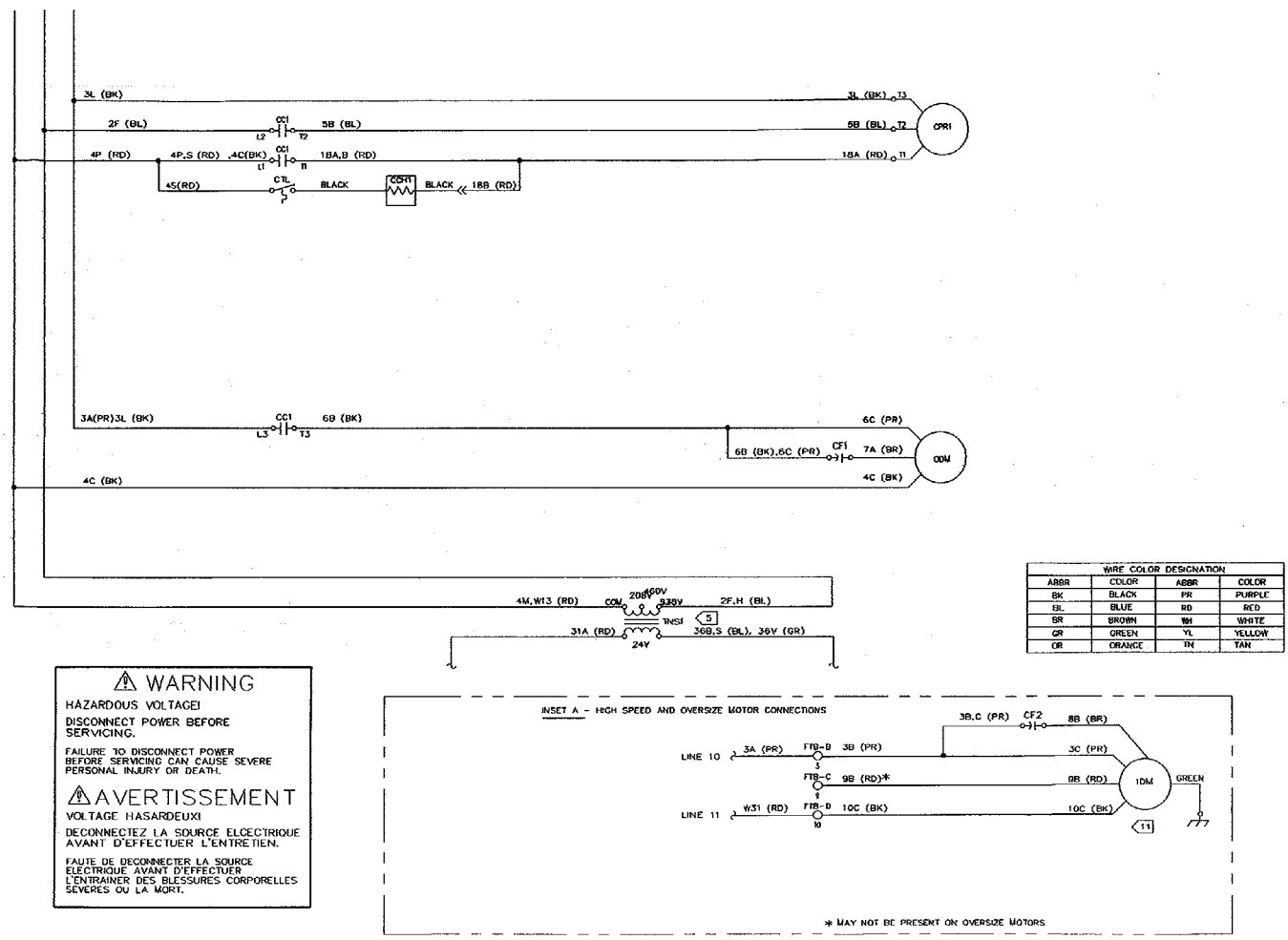


LEGEND		
DEVICE DESIGNATION	DESCRIPTION	LINE NUMBER
AFF	ACTIVE FAN FAILURE SWITCH	85
BMS	BUILDING MANAGEMENT SYSTEM	71
CC1	COMPRESSOR CONTACTOR	64
CCH1	CRANKCASE HEATER	36
CF1	OUTDOOR MOTOR CAPACITOR	45
CF2	INDOOR MOTOR CAPACITOR	9,55
CFM	COMBUSTION FAN MOTOR	20
CFS	CLOGGED FILTER SWITCH	85
CPR1	COMPRESSOR	34
CTL	COIL TEMPERATURE LIMIT	36
ECA	ECONOMIZER ACTUATOR	96
F	INDOOR FAN CONTACTOR	53
FFS	FAN FAILURE SWITCH	82
FTB	FAN TERMINAL BLOCK	10-13
F1	UCP FUSE	53
GV	GAS VALVE	76
IDM	INDOOR FAN MOTOR	11,56
IGN	IGNITION CONTROL MODULE	24,75
IP	IGNITION PROBE	24
K5	UCP HEAT RELAY	19
LTB	LOW VOLTAGE TERM BLOCK	
LPC1	LOW PRESSURE CONTROL 1	79
OAS	OUTDOOR AIR SENSOR	80
ODM	OUTDOOR FAN MOTOR	45
OHS	OUTDOOR HUMIDITY SENSOR	94
RAS	RETURN AIR SENSOR	90
RHS	RETURN HUMIDITY SENSOR	92
RHT	RETURN HIGH TEMPERATURE	73
RMP	REMOTE MINIMUM POSITION	85
SAS	SUPPLY AIR SENSOR	88
SHT	SUPPLY HIGH TEMPERATURE	73
TCI	TRANE COMMUNICATION INTERFACE	64
TCO1	HIGH LIMIT CUTOUT	74
TCO2	FAN FAILURE LIMIT	69
TNS1	CONTROL POWER TRANSFORMER	50
TNS2	IGNITION TRANSFORMER	19
UEM	UNITARY ECONOMIZER MODULE	82
UCP	UNITARY CONTROL PROCESSOR	62
ZSM	ZONE SENSOR MODULE	89
PPF3	IGNITION CONTROL PLUG	24,74
PPF4,PPM4	IGNITER PLUG	24
PPF6,PPM6	ECONOMIZER PLUG	88-102
PPF11,PPM11	COMBUSTION FAN MOTOR PLUG	18,21



WIRE COLOR DESIGNATION			
ABBR	COLOR	ABBR	COLOR
BK	BLACK	PR	PURPLE
BL	BLUE	RD	RED
BR	BROWN	WH	WHITE
GR	GREEN	YL	YELLOW
OR	ORANGE	TN	TAN

⚠ WARNING

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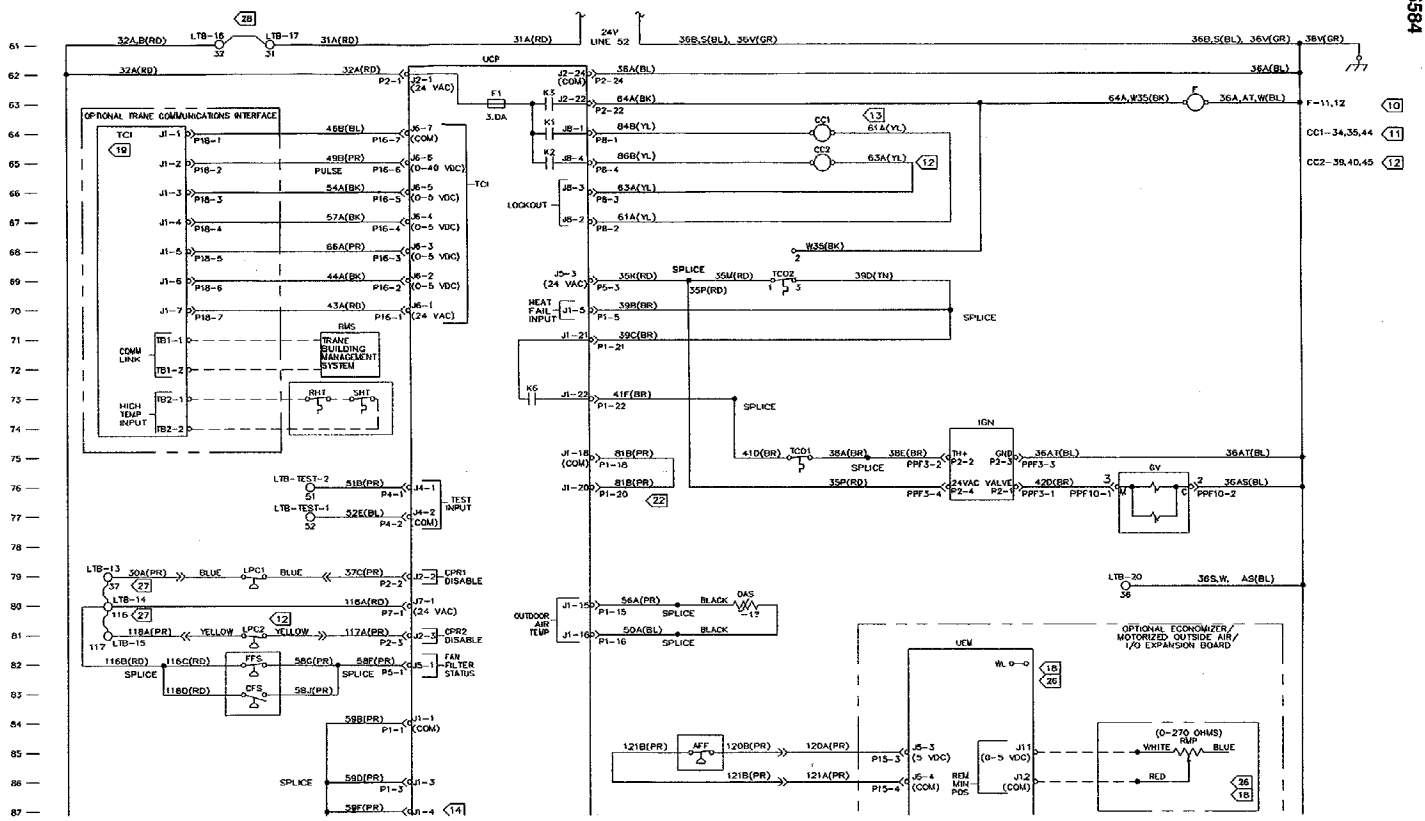
FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.

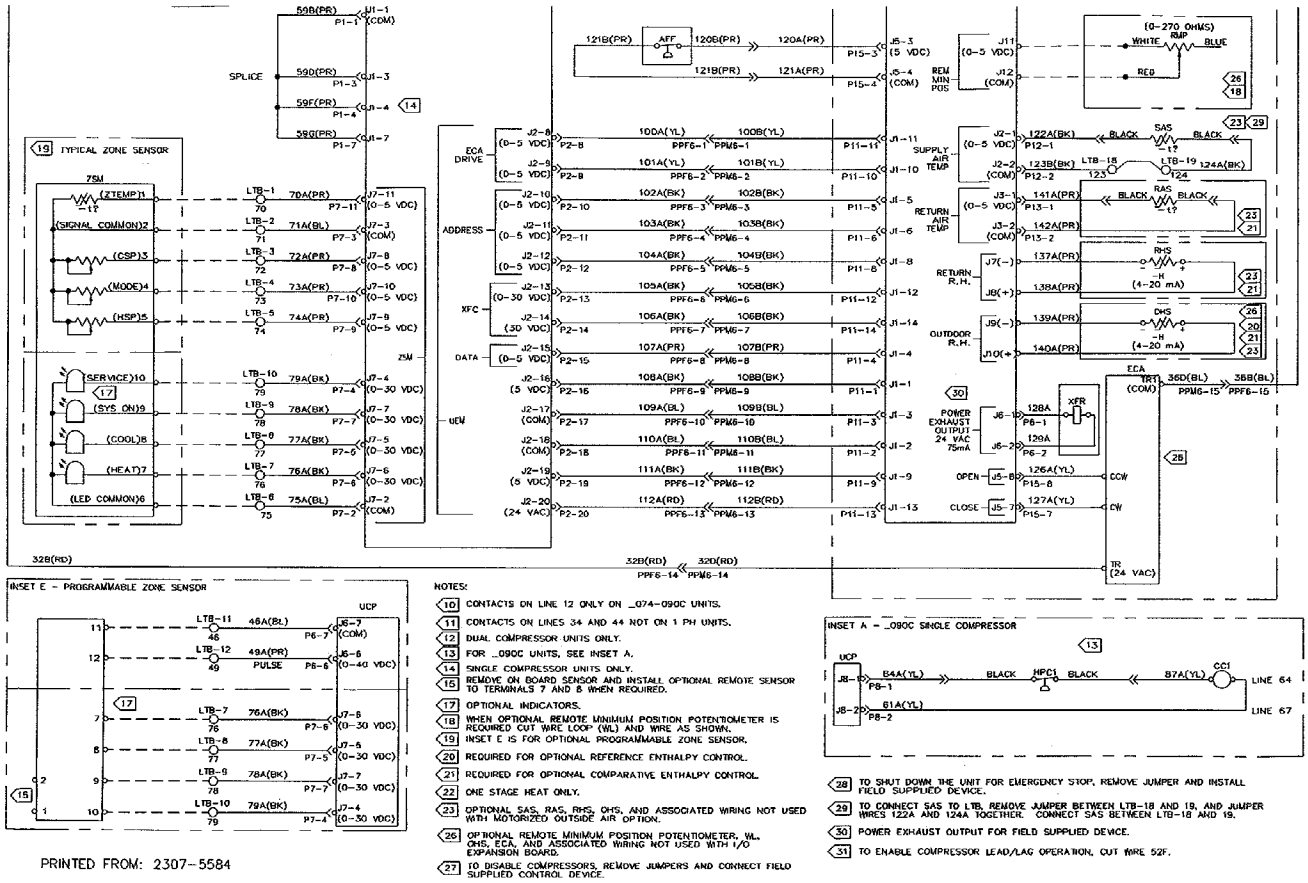
⚠ AVERTISSEMENT

VOLTAGE HASARDEUX!

DECONNECTEZ LA SOURCE ELCECTRIQUE AVANT D'EFFECTUER L'ENTRETIEN.

FAUTE DE DECONNECTER LA SOURCE ELECTRIQUE AVANT D'EFFECTUER L'ENTRAINER DES BLESSURES CORPORELLES SEVERES OU LA MORT.


UCP
OPTIONAL TRANE COMMUNICATIONS INTERFACE
TCI
RMS
TRANE BUILDING MANAGEMENT SYSTEM
COMM LINK
HIGH VOLT INPUT
RHT
SHT
24V LINE 52
SPLICE
HEAT FAIL INPUT
LOCKOUT
OUTDOOR AIR TEMP
OPTIONAL ECONOMIZER/ MOTORIZED OUTSIDE AIR/ I/O EXPANSION BOARD
UEM
(0-270 OHMS) RMP
WHITE
BLUE
RED
OAS
LPC1
LPC2
FFS
CFS
AFF
CC1
CC2
TCO1
TCO2
IGN
GY
CPR1 DISABLE
CPR2 DISABLE
FAN FILTER STATUS
TEST INPUT



NOTES:

10. CONTACTS ON LINE 12 ONLY ON _074-090C UNITS.
11. CONTACTS ON LINES 34 AND 44 NOT ON 1 PH UNITS.
12. DUAL COMPRESSOR UNITS ONLY.
13. FOR _090C UNITS, SEE INSET A.
14. SINGLE COMPRESSOR UNITS ONLY.
15. REMOVE ON BOARD SENSOR AND INSTALL OPTIONAL REMOTE SENSOR TO TERMINALS 7 AND 8 WHEN REQUIRED.
17. OPTIONAL INDICATORS.
18. WHEN OPTIONAL REMOTE MINIMUM POSITION POTENTIOMETER IS REQUIRED CUT WIRE LOOP (WL) AND WIRE AS SHOWN.
19. INSET E IS FOR OPTIONAL PROGRAMMABLE ZONE SENSOR.
20. REQUIRED FOR OPTIONAL REFERENCE ENTHALPY CONTROL.
21. REQUIRED FOR OPTIONAL COMPARATIVE ENTHALPY CONTROL.
22. ONE STAGE HEAT ONLY.
23. OPTIONAL SAS, RAS, RHS, OHS, AND ASSOCIATED WIRING NOT USED WITH MOTORIZED OUTSIDE AIR OPTION.
26. OPTIONAL REMOTE MINIMUM POSITION POTENTIOMETER, WL, OHS, ECA, AND ASSOCIATED WIRING NOT USED WITH I/O EXPANSION BOARD.
27. TO DISABLE COMPRESSORS, REMOVE JUMPERS AND CONNECT FIELD SUPPLIED CONTROL DEVICE.
28. TO SHUT DOWN THE UNIT FOR EMERGENCY STOP, REMOVE JUMPER AND INSTALL FIELD SUPPLIED DEVICE.
29. TO CONNECT SAS TO LTB, REMOVE JUMPER BETWEEN LTB-18 AND 19, AND JUMPER WIRES 122A AND 124A TOGETHER. CONNECT SAS BETWEEN LTB-18 AND 19.
30. POWER EXHAUST OUTPUT FOR FIELD SUPPLIED DEVICE.
31. TO ENABLE COMPRESSOR LEAD/LAG OPERATION, CUT WIRE 52F.

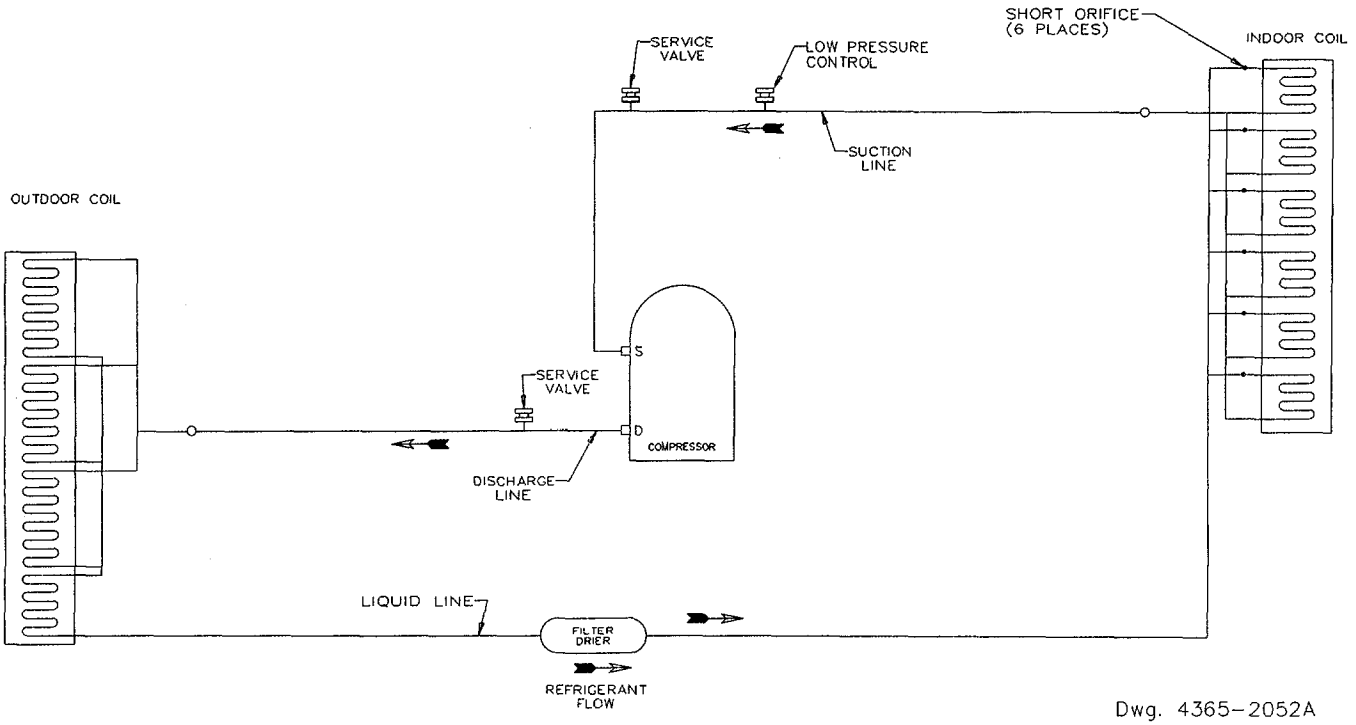
PRINTED FROM: 2307-5584

Table 6
Gas Heating Data

Model: YC060C		LOW HEAT	HIGH HEAT
Heating Input Rate – BTUH		90,000	135,000
Minimum Gas Supply Pressure	Natural	3.5" W.C.	
(Entering Gas Valve)	LP	8.0" W.C.	
Gas Pressure Leaving Gas Valve-Manifold Pressure (See Note 1)		-0.2" W.C.	
Combustion Blower Suction (With Gas Valve Closed)		-2.1 to -3.1" W.C.	
Minimum Flame Sensing Current (See Note 2)		1.0 Microamps D.C.	
Normal Sensing Current Range		1 to 8.0 Microamps D.C.	
Flue Gas Temperature Rise Above Ambient @ Deg. F		350 to 450°	400 to 500°
Flue Gas Content - %CO2	Natural	8.3 to 9.5	8.3 to 9.5
	LP	9.5 to 10.5	9.9 to 10.9
Minimum Supply Air Temperature Across Heat Exchanger		40° F	

Notes:
1. This Unit has a negative regulation gas valve. Never adjust gas manifold pressure to a positive pressure.
2. A voltage reading across pens (V+) & (V-) is equatable to the flame sensing current. One volt equals one micro amp.

Refrigerant Circuit Diagram



Dwg. 4365-2052A