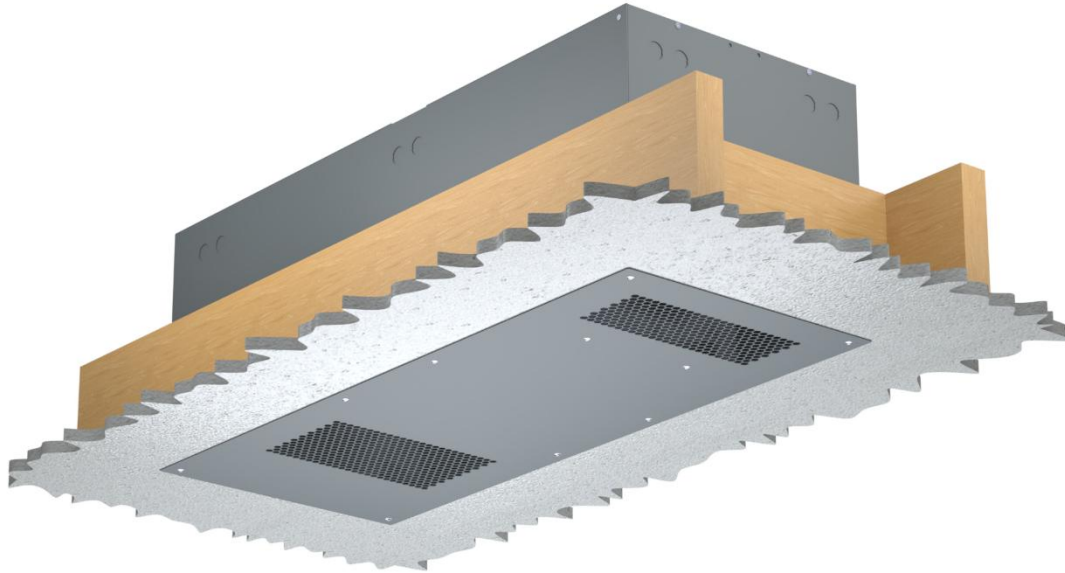




Control the Elements



*Split Recessed Ceiling Mount
Refrigeration Systems*
Owner's Manual

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CONGRATULATIONS!

Thank you for purchasing a new CellarPro cooling system. Please take a minute to read this Owner's Manual before you unpack, install and turn on your Cooling Unit.

STEP 1:

Please look through the boxes to make sure you have received all of the components that you ordered with your system, and that everything is functioning properly.

STEP 2:

THE INSTALLING TECHNICIAN MUST COMPLETE AND SUBMIT OUR WARRANTY ACTIVATION CHECKLIST BEFORE WE CAN ACTIVATE YOUR WARRANTY. If we find any issue(s) after reviewing the checklist, the issue(s) must be resolved before we activate the warranty. If the unit malfunctions before the checklist is submitted, we will not be able to provide assistance until we receive a completed checklist. If the unit is damaged because of improper installation, repair services will be provided on a time and materials basis.



To activate the warranty on a split system, the installing technician must complete the Warranty Activation Checklist, which can be found on the last page of this Owner's Manual, or by scanning the QR code at left.

Once the Checklist is completed, it should be scanned and emailed to info@cellarpro.com, or faxed to 707.794.8005.

YOUR WARRANTY WILL NOT BE ACTIVATED UNTIL WE RECEIVE THE COMPLETED CHECKLIST AND INSTALLATION ISSUES (IF ANY) HAVE BEEN RESOLVED. If the unit malfunctions, we cannot assist you unless/until we receive the completed checklist. If the unit is damaged because of improper installation, repair services will be provided on a time and materials basis.

STEP 4:

If you still have questions, please don't hesitate to contact your dealer, or reach us directly at:

CellarPro Cooling Systems

1445 N. McDowell Blvd

Petaluma, CA 94954

877.726.8496

Email: info@cellarprocoolingsystems.com

Website: www.cellarprocoolingsystems.com



Table of Contents

I. Package Contents	5
II. Specifications, Cut Sheets, and Cellar Construction	6
III. Installation Instructions	12
IV. Operating Instructions	37
V. Troubleshooting	44
VI. Limited Warranty	49
VII. Appendices A-O: Wiring Diagrams	50
VIII. Warranty Activation Checklist	65

I. Package Contents

3000Scmr-EC / 4000Scmr-EC

BOX 1:

DESCRIPTION	QTY
EVAPORATOR	1
MTG BRACKET WOOD SCREWS	16
MTG BRACKET SHEET METAL SCREWS	12
DRAIN TUBING	25 FT.
OWNERS MANUAL	1
REMOTE DISPLAY KIT	1
REMOTE DISPLAY LEADWIRE	20 FT.
OPTIONAL NETWORKABLE THERMOSTAT LEADWIRE	20 FT.
SIGHT GLASS	1
FILTER DRIER	1

6000Scmr-EC / 8000Scmr-EC

BOX 1:

DESCRIPTION	QTY
PRIMARY EVAPORATOR	1
MTG BRACKET WOOD SCREWS	32
MTG BRACKET SHEET METAL SCREWS	24
DRAIN TUBING	25 FT.
OWNERS MANUAL	1
REMOTE DISPLAY KIT	1
REMOTE DISPLAY LEADWIRE	20 FT.
OPTIONAL NETWORKABLE THERMOSTAT LEADWIRE	20 FT.
SIGHT GLASS	1
FILTER DRIER	1

BOX 2:

DESCRIPTION	QTY
SECONDARY EVAPORATOR	1
DRAIN TUBING	25 FT.

BOX 2:

DESCRIPTION	QTY
CONDENSING UNIT	1

BOX 3 (OPTIONAL):

DESCRIPTION	QTY
CONDENSING UNIT OUTDOOR COVER	1 SET
COVER ASSEMBLY HARDWARE	1 SET

BOX 3:

DESCRIPTION	QTY
CONDENSING UNIT	1

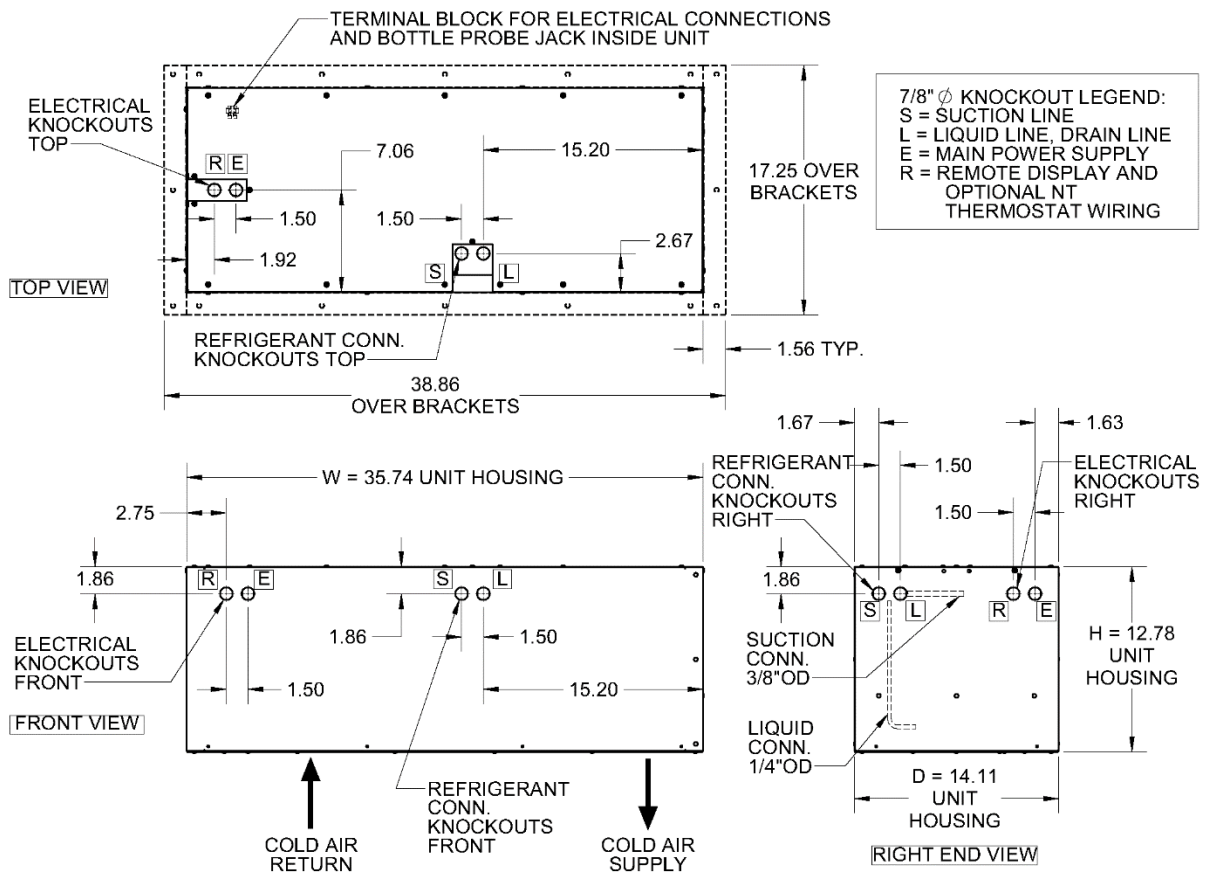
BOX 4 (OPTIONAL):

DESCRIPTION	QTY
CONDENSING UNIT OUTDOOR COVER	1 SET
COVER ASSEMBLY HARDWARE	1 SET

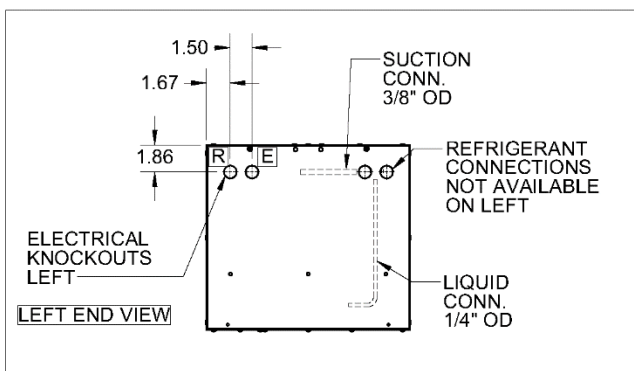
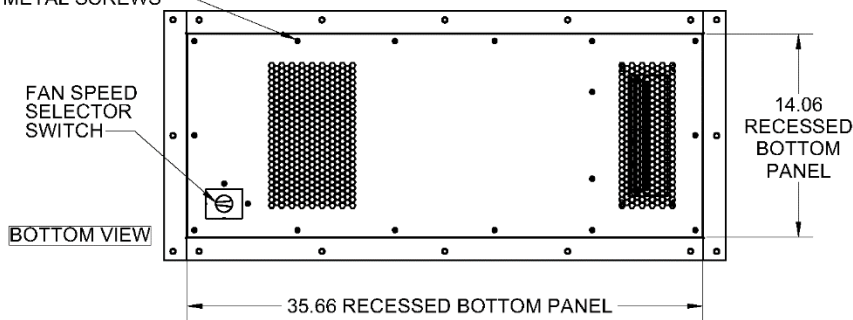
II. Specifications, Cut Sheets and Cellar Construction

	Evaporator		
Model	Dimensions W x D x H (inches)	Weight (lbs.)	Running Amps (with fan on "high")
3000Scmr-EC	35.8 x 14.2 x 12.8	60	5.7
4000Scmr-EC	35.8 x 14.2 x 12.8	60	8.0
6000Scmr-EC	(2) @ 35.8 x 14.2 x 12.8	120	12.1
8000Scmr-EC	(2) @ 35.8 x 14.2 x 12.8	120	13.6

	Condensing unit - Indoor		Condensing unit - Outdoor	
Model	Dimensions W x D x H (inches)	Weight (lbs.)	Dimensions W x D x H (inches)	Weight (lbs.)
3000Scmr-EC	13.5 x 18.9 x 9.1	42	19.4 x 23.3 x 18.8 (with cover)	73
4000Scmr-EC	13.5 x 18.9 x 10.3	45		76
6000Scmr-EC	13.9 x 18.9 x 11.9	54		85
8000Scmr-EC	16.8 x 20.8 x 14	76		107



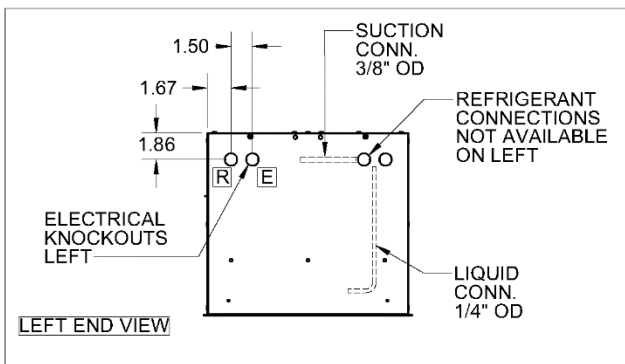
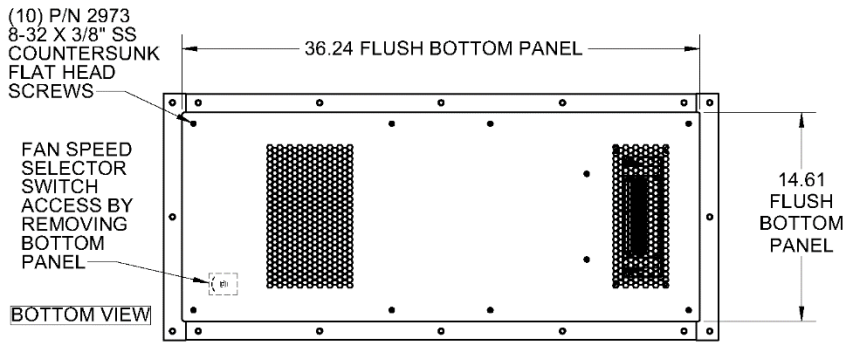
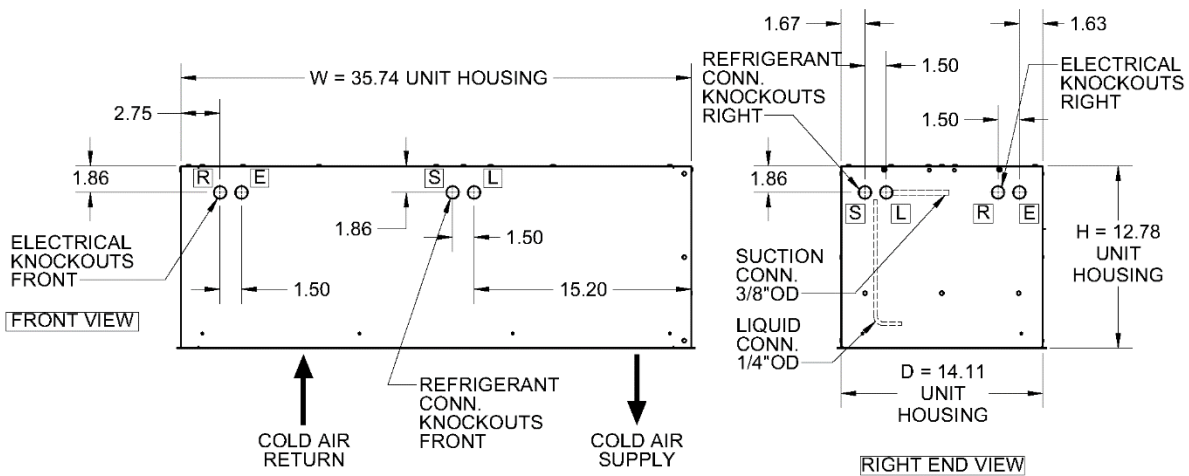
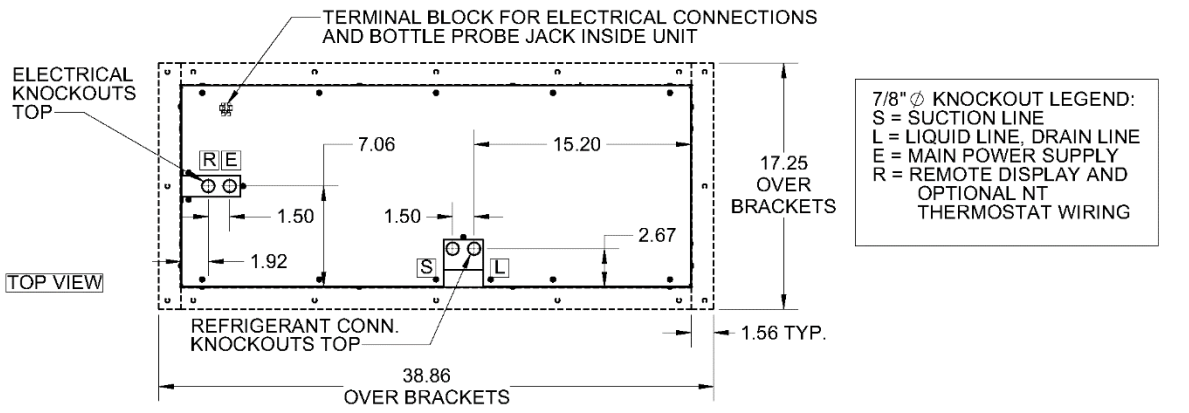
(18) P/N 2020
 #8 X 3/8" SHEET
 METAL SCREWS



NOTES:

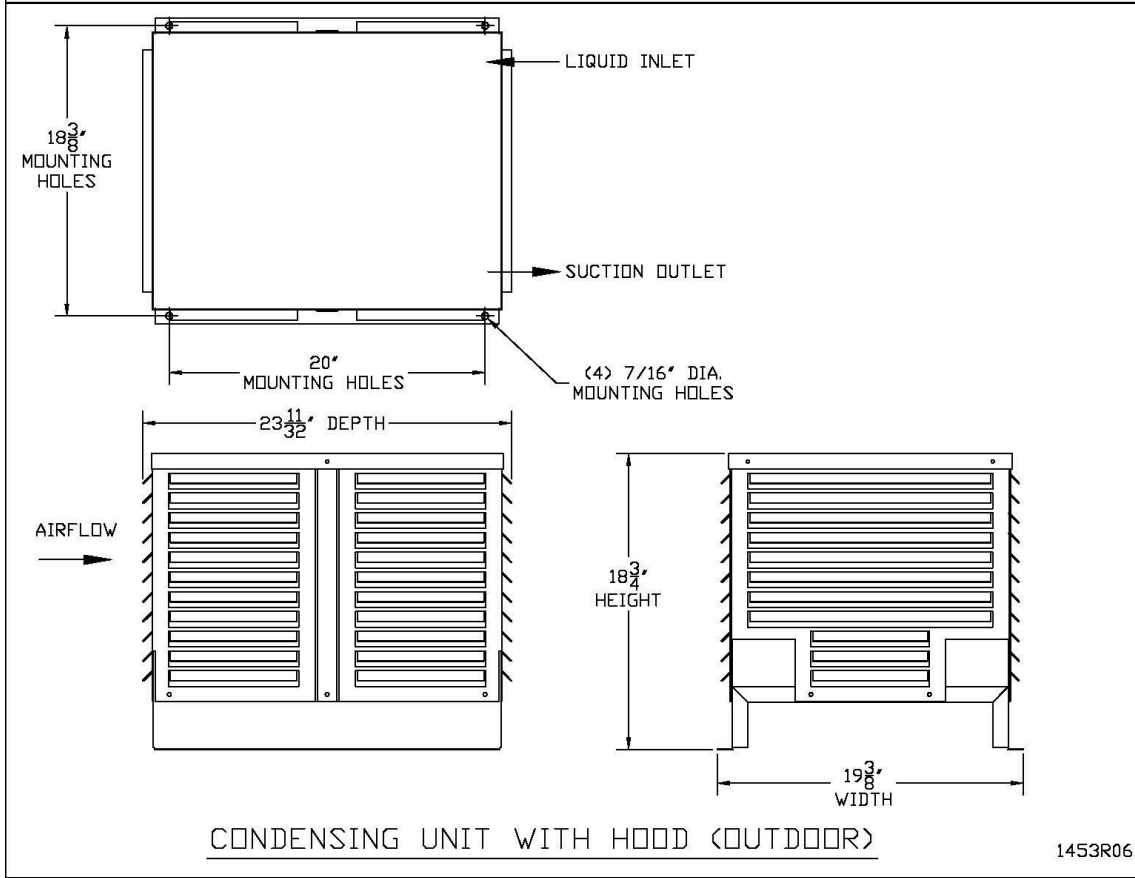
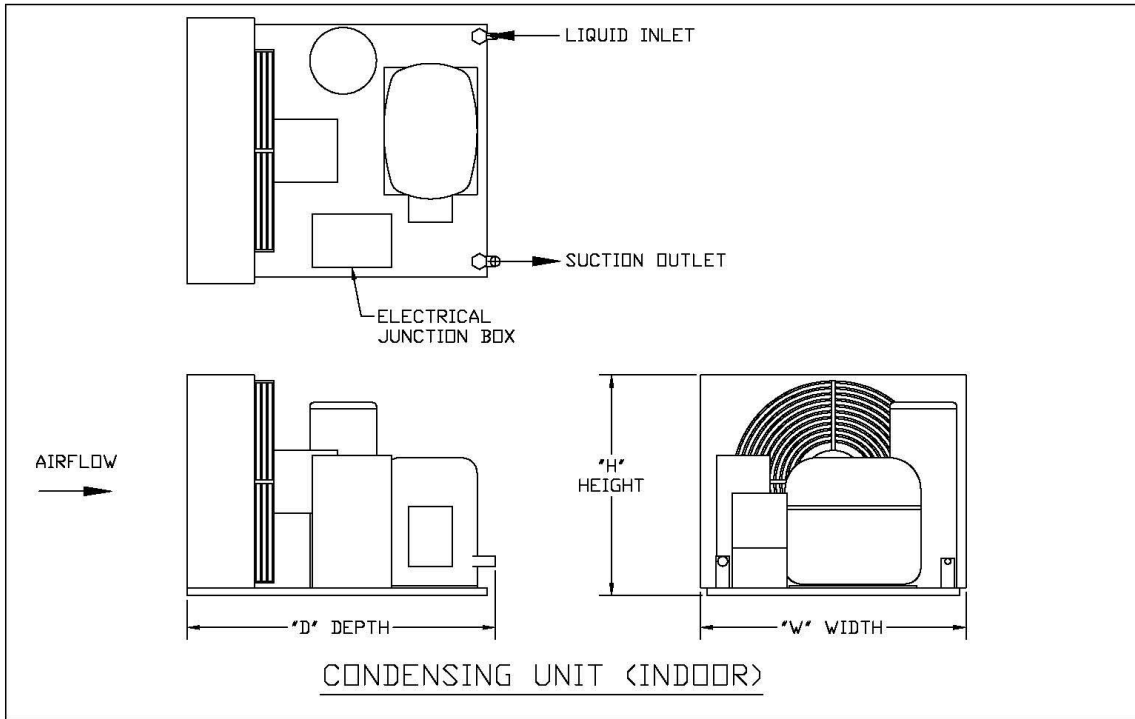
- MODELS 3000-4000Scmr SINGLE COOLING UNIT
- MODELS 6000-8000Scmr REQUIRE (2) COOLING UNITS.
- SEE FRAMING DETAIL FOR MOUNTING BRACKET AND RECESSED/FLUSH CEILING MOUNT INSTALLATION OPTIONS.
- SERVICE ACCESS IS FROM THE TOP, BOTTOM, OR BOTH. ALLOW AT LEAST 24" CLEARANCE FOR SERVICE ACCESS.

Flush Evaporator Cut Sheet



- NOTES:
- MODELS 3000-4000Scmr SINGLE COOLING UNIT
 - MODELS 6000-8000Scmr REQUIRE (2) COOLING UNITS.
 - SEE FRAMING DETAIL FOR MOUNTING BRACKET AND RECESSED/FLUSH CEILING MOUNT INSTALLATION OPTIONS.
 - SERVICE ACCESS IS FROM THE TOP, BOTTOM, OR BOTH. ALLOW AT LEAST 24" CLEARANCE FOR SERVICE ACCESS.

Condensing Unit Cut Sheet



1453R06

Insulation

CellarPro cooling units are designed to be installed inside wine cellars that have proper insulation, moisture barriers and an airtight seal from the environment outside the cellar. Interior walls and floor should have a minimum of R-11 insulation, and a vapor barrier on the warm side of the insulation. The ceiling should have a minimum of R-19 insulation and a vapor barrier on the warm side of the insulation. Doors also should be insulated and tightly sealed with weather stripping around the perimeter of the door. Surface-mounted fixtures are recommended over recessed lighting, which can allow air to leak into the cellar.

It is important that all walls, joints, doors and windows, electrical outlets and/or switches, pipes, vents and light fixtures be sealed to prevent air and moisture from entering the cellar. If there is a leak in the cellar, the cooling unit will build up excess condensation.



The condensate pump drain line must be routed to an appropriate water drain.

Fan Speeds

Your fan speed setting will depend on the thermal load on the wine cellar, and the resulting BTU that is required to cool and maintain your wine cellar at the desired temperature.

Ventilation

Adequate ventilation is critically important for the proper operation of your CellarPro cooling unit.

Outside the Cellar

Condensing Unit Air Exhaust. Condensing units create significant hot air which must be exhausted into an appropriately-sized space in order for the heat to dissipate. If the space is constrained and/or too small, the heat will not dissipate. In this event, the cooling unit will be forced to re-circulate its hot air exhaust and/or the static pressure will back up the cooling unit. If this happens, the cooling unit's ability to create cold air inside the cellar will be compromised.

Condenser Air Intake. The condenser coils require access to cool air in order for the cooling unit to produce cold air. In addition, the cooling unit must be installed so that, after its installation, the condenser coils are accessible for periodic cleaning.

The Condensing unit cannot be ducted.

Inside the Cellar

Evaporator Air Intake. When the warm air passes across the evaporator coils, heat is removed from the air, and the resulting cold air is exhausted into the cellar. To ensure proper airflow, minimum clearance of 12" is required at the air intake of the cooling unit (refer to Evaporator Cut Sheet).

Evaporator Air Exhaust. Cold air is exhausted at the front of the cooling unit. Because CellarPro cooling units are located at the highest point inside wine cellars, the cold air exhaust eventually will drop to the bottom of the cellar. To ensure proper airflow and reduce temperature stratification inside the cellar, the space below the cold air discharge should be clear of any obstructions, including wine bottles, wine racks, etc. A minimum clearance of 12" is required at the air exhaust (refer to Evaporator Cut Sheet).

Baffle. If the evaporator will be recessed in the ceiling, a baffle should be inserted to separate the intake and exhaust airflows from the evaporator to the grill in the ceiling.

Optional Bottle Probe. We offer a bottle probe (10 foot cord) that can be plugged into the cooling unit, as well as 25' and 50' extension cords. The probe jack is located inside the ceiling mounted housing.

III. Installation Instructions

Installation Instructions

Split System piping and wiring must be installed by a qualified Refrigeration Technician in accordance with local and national code requirements.

Condensing Unit Installation

Indoor and Outdoor Units

- The unit is designed to operate in temperatures ranging from -20°F to 110°F when configured with Single Power / Electronic Control, and when configured with our fan cycling switch (sold separately), or +20°F to 110°F when configured with Dual Power / Valve Control. A compressor heater is included in all split systems to protect the compressor temperatures below 40°F and above 20°F, and to prevent off-cycle refrigerant migration to the compressor.

Indoor Units

- Condensing units can be installed remotely from the cellar in an area protected from direct exposure to moisture and sunlight.
- The area must have suitable ventilation to maintain an ambient temperature of 110°F or less.
- If the area does not have adequate ventilation, a vent fan should be added to supply fresh air to the space (suggested 600CFM).
- A minimum of 12" of open air space is required in front of the condenser coils.
- Indoor units can be installed with the optional outdoor hood if additional mechanical protection is desired.
- A minimum of 12" of open air space around the perimeter of the outdoor hood is required.

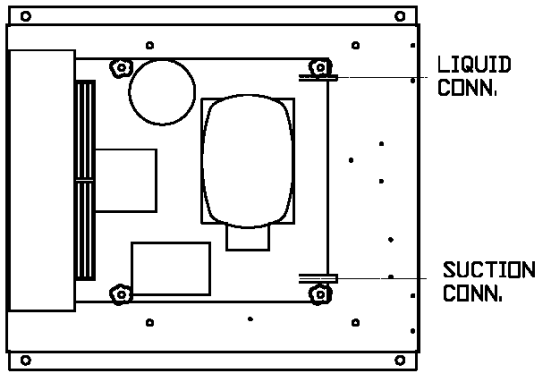
Outdoor Units

- Condensing units must be installed with the outdoor hood if the unit will be located outdoors. **PLEASE NOTE:** Our units were not designed for, and our warranty does not cover damage from, marine exposure (within 5 miles of the ocean). In these environments, you will need an applied coating, such as Insitu®, to protect against corrosion that is common in coastal regions.
- A minimum of 12" of open air space around the perimeter of the outdoor hood is required.
- **During startup and the initial pulldown phase, the ambient air temperature around the condensing unit must remain below 100°F.** A cooling unit works harder until the cellar reaches its target temperature, commonly referred to as the "initial pulldown phase". For this reason, in hot climates, startups should be initiated in the evening or early morning, when ambient temperatures start and remain below 100°F through the initial pulldown phase.
- The condensing unit must be mounted on the base with the holes aligned, as shown below:

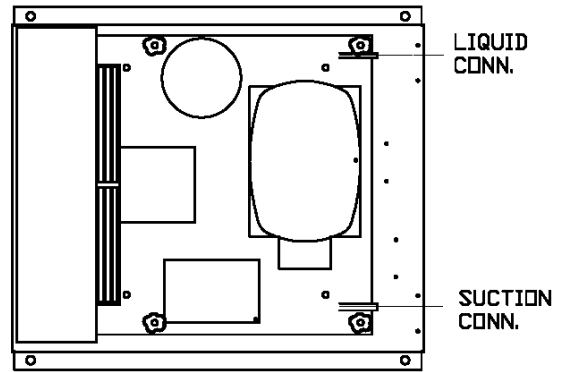
OUTDOOR HOOD - BASE ATTACHMENT INSTRUCTIONS

CORRECT CONDENSING UNIT POSITIONING ON OPTIONAL OUTDOOR HOOD BASE:

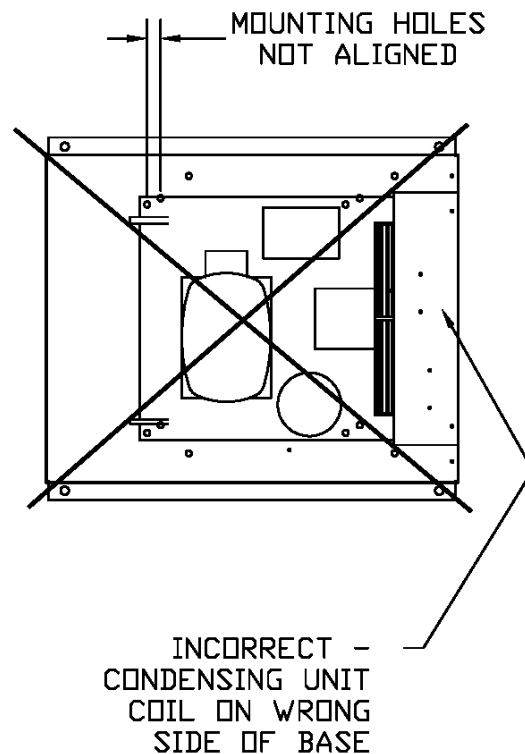
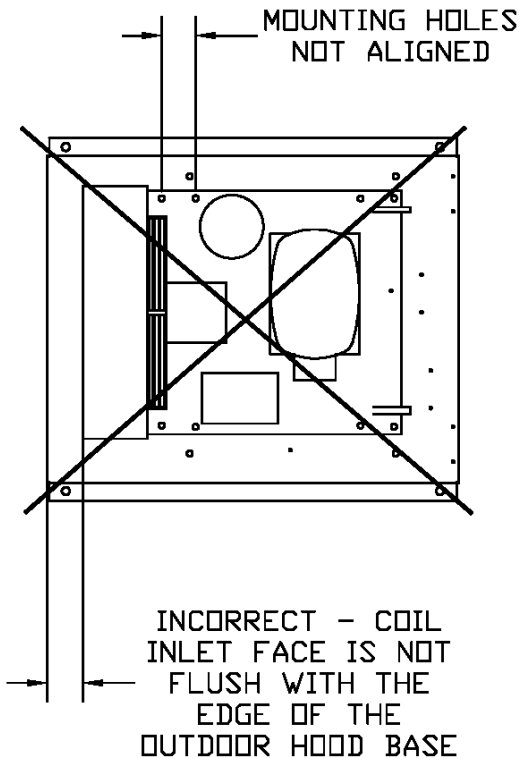
1. POSITION THE CONDENSING UNIT ON THE BASE AS SHOWN (TOP VIEW).
2. MATCH MOUNTING HOLES IN THE CONDENSING UNIT BASE (☉ SYMBOL) TO THE MATCHING HOLES IN THE OUTDOOR HOOD BASE.
3. SECURE CONDENSING UNIT TO THE BASE USING (4) 1/4-20x1" BOLTS AND 1/4-20 SERATED LOCKNUTS (PROVIDED IN PARTS BOX)



3000S/4000S/6000S
CONDENSING UNIT



8000S CONDENSING UNIT

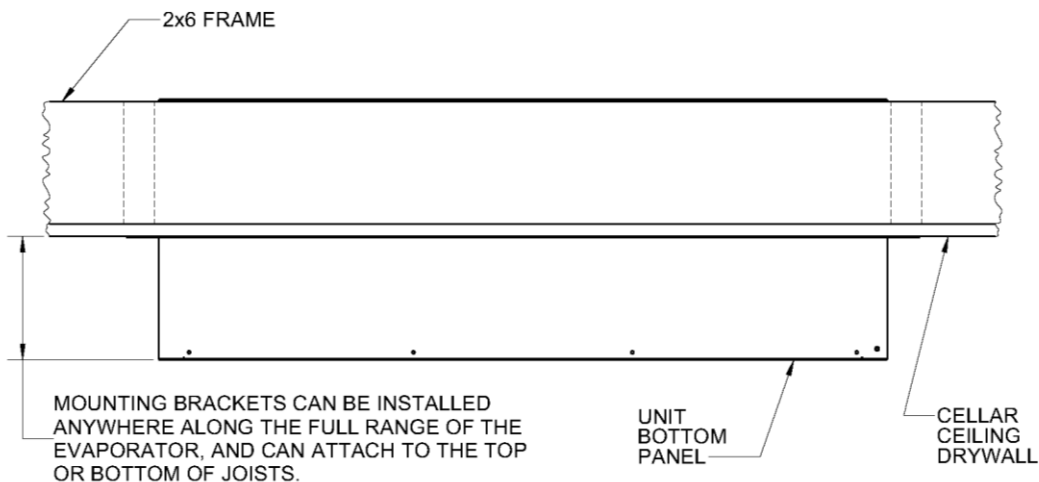


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Evaporator Unit Installation

As warm air rises to the top of the cellar, the cooling unit pushes the warm air through the evaporator coil and removes the heat from the warm air. Once cooled, the cold air is discharged from the bottom of the cooling unit and circulates through the cellar. Therefore, **we recommend mounting the evaporator in the center of the cellar ceiling, with the evaporator air exhaust closest to the cellar door.**

The evaporator is designed to be recessed into the ceiling. Mounting brackets are provided with location holes in the bottom perimeter of the cooling unit for full-recessed ceiling mount. However, the brackets may be located anywhere along the unit housing to provide the desired level of ceiling recess. Locating holes must be drilled for alternate locations, using a 1/8" dia drill with a drill stop of 1/2" maximum. **IMPORTANT:** A drill stop must be used to avoid damage to internal tubing and wiring.



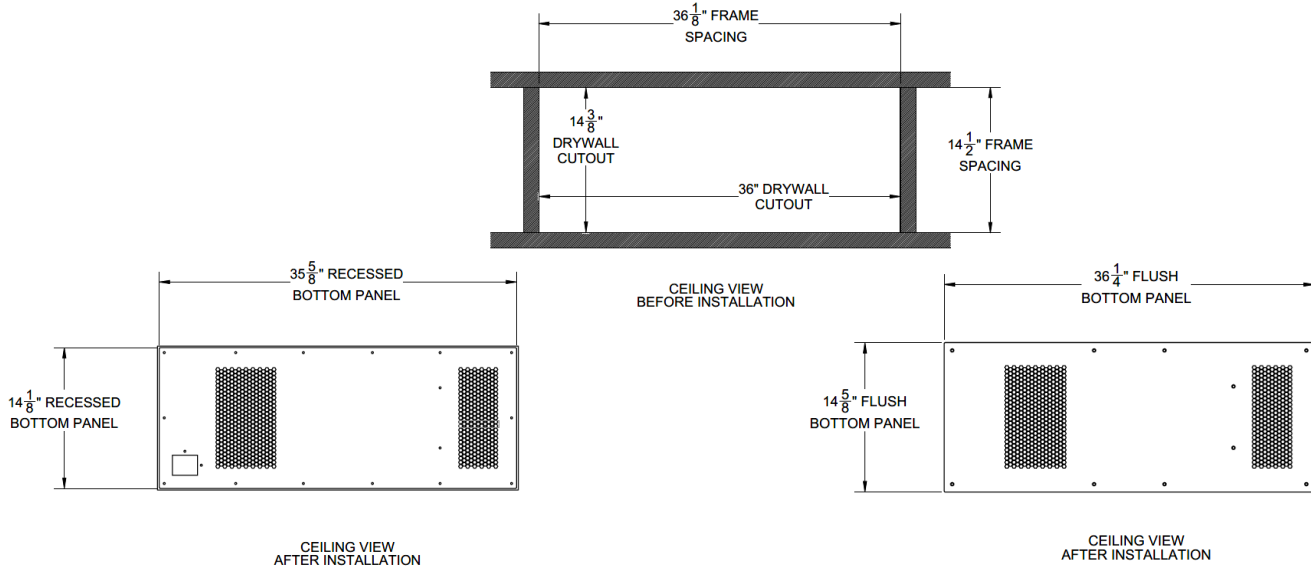
Access for the refrigerant and electrical connections is from the top, bottom, or both. The access will be easiest from the top. Knockouts are provided for both the refrigerant lines and electrical at the top of the unit, or optionally out the front or sides. However, please note that the left side knockouts are for electrical only. It is recommended that the refrigerant lines, electrical, and condensate pump drain line are stubbed out in advance of installing into the ceiling so that the final connections can be more easily accessed outside of the unit.

For top access, remove the top panel and blue insulating foam. When finished routing the connections, make sure to fully insulate around the knockouts and replace the blue foam. For bottom access, remove the bottom panel and drain pan.

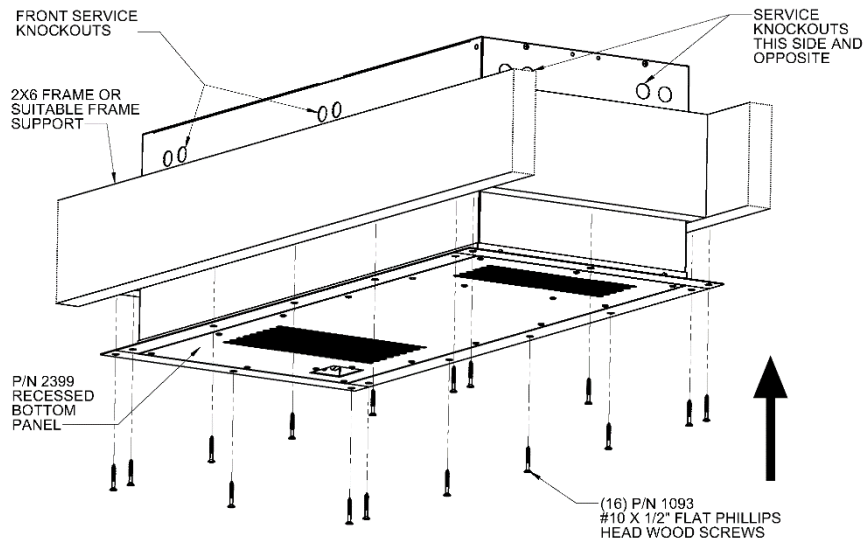
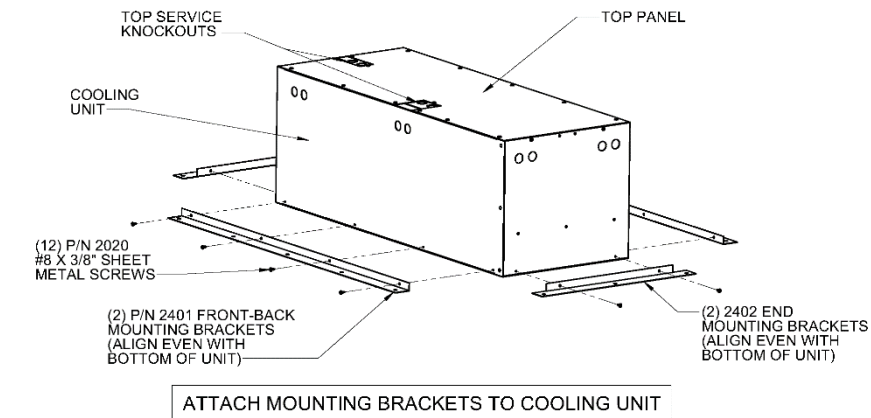
After installing through the ceiling, it is critical to seal the perimeter of the unit so that air cannot infiltrate through the gaps. Any exposed sheet metal that is not inside the cellar must be insulated with a minimum of 1" closed cell foam firmly attached to the sheet metal, and all insulation seams sealed. Uninsulated sheet metal exposed to ambient air will develop condensation which will damage the cellar ceiling.

The evaporator housing comes with a gray powdercoat 40% gloss primer which can be painted to match the ceiling.

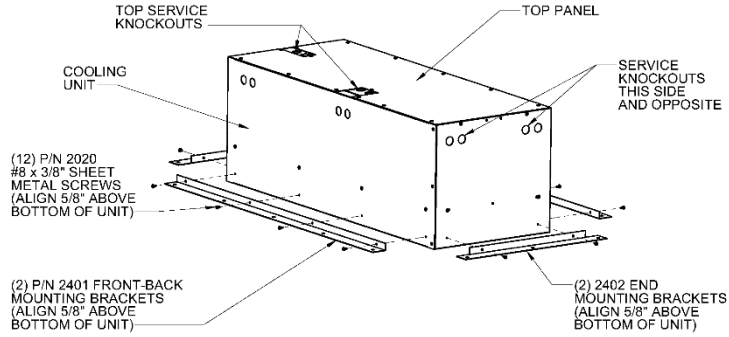
Evaporator 2x4 Framing Detail



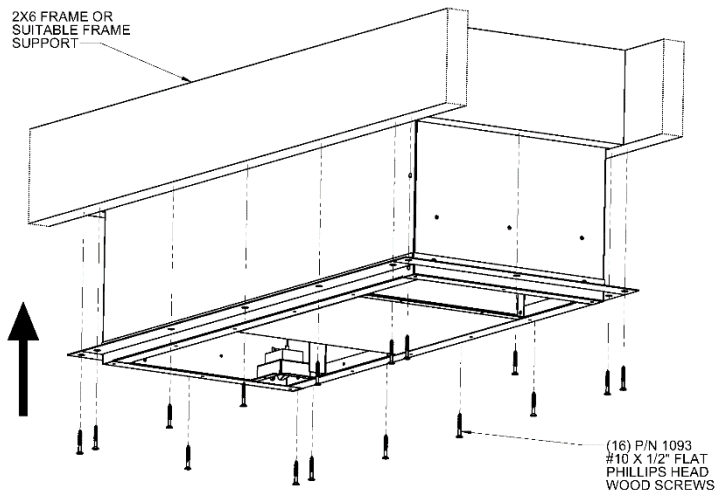
Evaporator Recessed Ceiling Mounting Detail



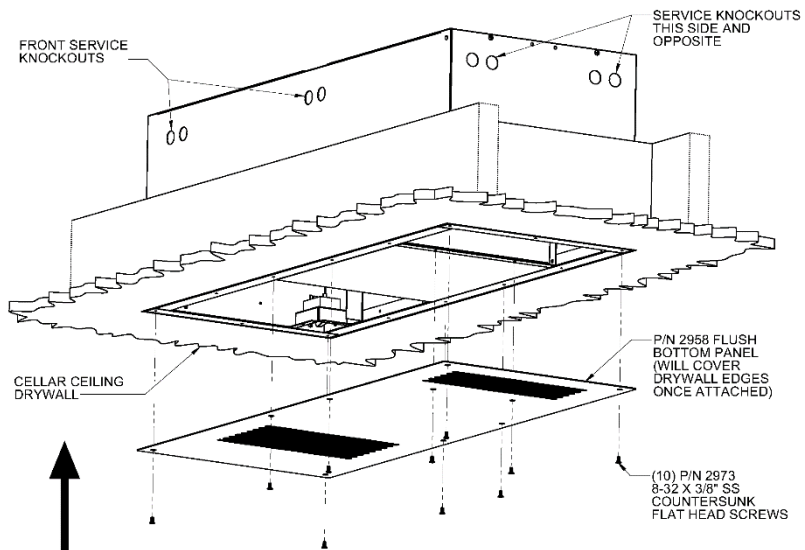
Evaporator Flush Ceiling Mounting Detail



ATTACH MOUNTING BRACKETS TO COOLING UNIT

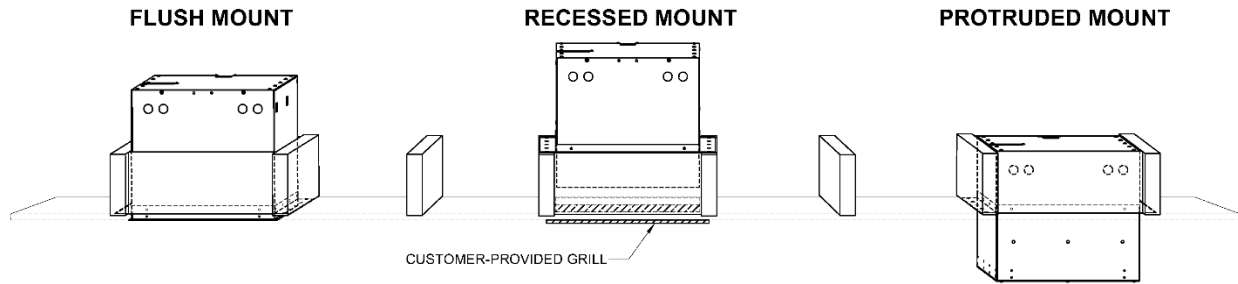


ATTACH COOLING UNIT/BRACKET ASSEMBLY TO CEILING



ATTACH BOTTOM PANEL TO MOUNTED COOLING UNIT

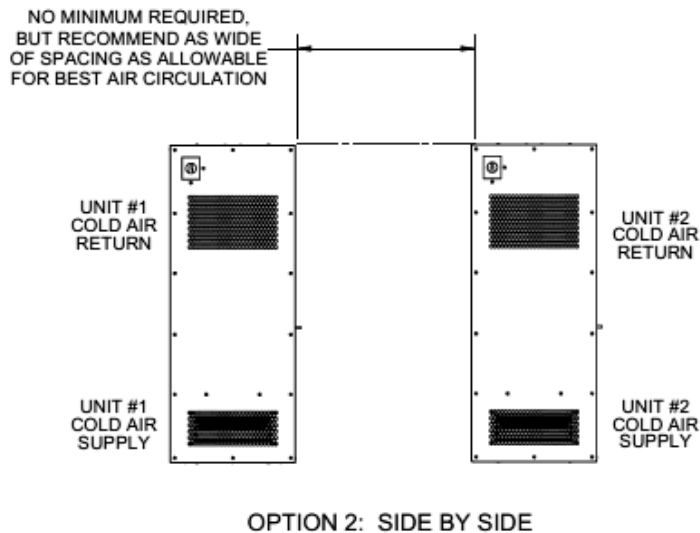
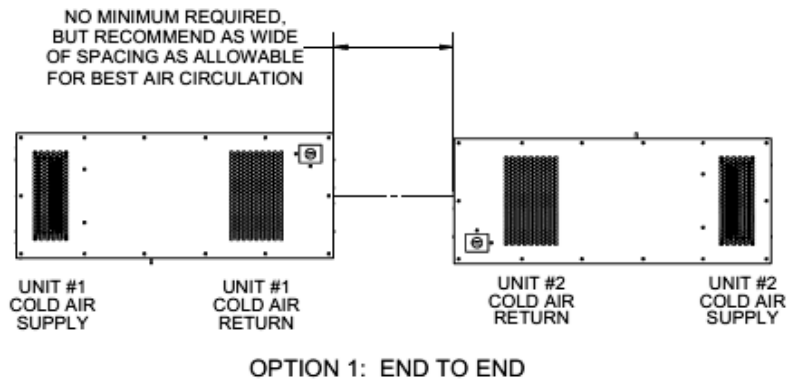
SCMR MOUNTING OPTIONS SIDE VIEW



If the evaporator will be recessed (Recessed Mount), a baffle should be inserted to separate the intake and exhaust airflows from the evaporator to the grill in the ceiling.

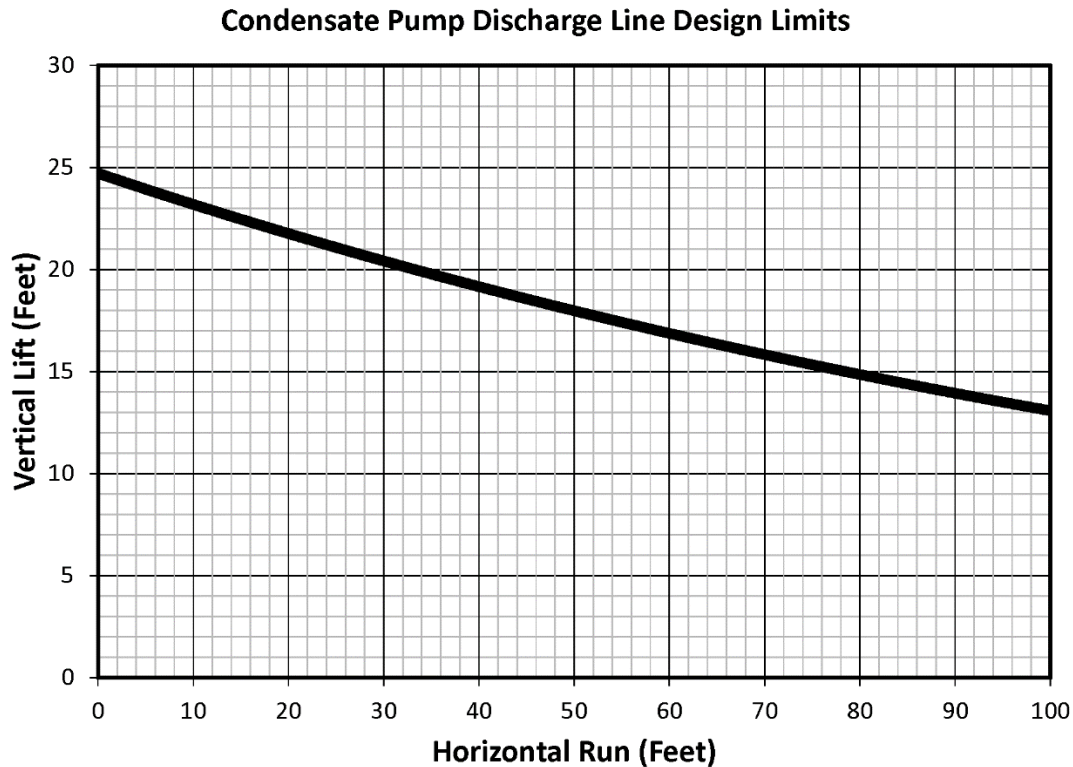
Dual Evaporator Mounting Options

6000Scmr-EC and 8000Scmr-EC models require two evaporators to be mounted in the cellar. They may be mounted in either of the 2 orientation options shown below.



Condensate Drain Line

Each evaporator has an internal integrated condensate pump with 25 feet of 1/4" PVC drain tubing. This tubing should be routed to a suitable drain according to the following design limits:



The condensate pump is self-priming. The pump activates when the water level in the drain pan reaches a depth of 5/8", and shuts off when the water level reaches 3/16". The pump will activate an overflow alarm at a level of 1", indicated by "CA" on the remote controller display. The refrigeration is disabled while this alarm condition persists, but the pump will continue to run until the alarm is cleared.

Over time, the pump sensor may become contaminated by particles in the condensate water causing the pump to run constantly. If this occurs, flush the sensor with clean water through the pump sensor housing vents.

OPTION A: DUAL POWER VALVE CONTROL WIRING OPTION SEPARATE POWER SUPPLIES FOR EVAPORATOR AND CONDENSING UNIT													
EVAPORATOR										CONDENSING UNIT			
SPLIT SYSTEM MODEL	EVAP	EVAP	FAN RATINGS @ 115V/1Ph/60Hz				POWER INPUT WATTS			UNIT AMPS @ 115V/1Ph/60Hz			POWER INPUT WATTS
	MCA	MOP	Fan Amps	HIGH	MED	LOW	HIGH	MED	LOW	MCA	LRA	MOP	
3000Scmr-EC	0.65	15	0.52	0.52	0.29	0.16	31	17	9	6.33	28.2	15	442
4000Scmr-EC	0.65	15	0.52	0.52	0.29	0.16	31	17	9	9.20	40.0	15	591
6000Scmr-EC	1.17	15	1.04	1.04	0.58	0.32	62	33	18	13.50	53.0	20	922
8000Scmr-EC	1.17	15	1.04	1.04	0.58	0.32	62	33	18	15.35	51.0	25	1028

NOTES:

- 1) Separate 115V / 1Ph / 60Hz power supplies are required for the Evaporator and the Condensing Unit.
- 2) 6000Scmr-EC and 8000Scmr-EC systems are configured with dual evaporators, wired Primary and Secondary. Main power supply connection is to the Primary Unit, with interconnect wiring to the Secondary Unit.
- 3) A 15 amp circuit breaker is recommended for all Evaporator models.
- 4) A 15 amp dedicated circuit breaker (non GFI) is recommended for 3000-4000Scmr-EC Condensing Units.
- 5) A 20 amp dedicated circuit breaker (non GFI) is recommended for the 6000Scmr-EC Condensing Unit.
- 6) A 25 amp dedicated circuit breaker (non GFI) is recommended for the 8000Scmr-EC Condensing Unit.

OPTION B: SINGLE POWER ELECTRONIC CONTROL WIRING OPTION (CONDENSING UNIT POWERED FROM EVAPORATOR)											
SYSTEM POWER SUPPLY 115V/1Ph/60Hz						EVAPORATOR				CONDENSING UNIT	
SPLIT SYSTEM MODEL	System	System	POWER INPUT WATTS			Evap Fan	Fan Speed			Comp	Comp
	MCA	MOP	HIGH	MED	LOW	Amps	HIGH	MED	LOW	LRA	RLA
3000Scmr-EC	6.85	15	473	459	451	0.52	0.52	0.29	0.16	28.2	4.70
4000Scmr-EC	9.72	15	622	608	600	0.52	0.52	0.29	0.16	40.0	7.00
6000Scmr-EC	14.54	25	984	955	940	1.04	1.04	0.58	0.32	53.0	10.00
8000Scmr-EC	16.39	25	1090	1061	1046	1.04	1.04	0.58	0.32	51.0	11.20

NOTES:

- 1) A 15 amp dedicated circuit breaker (non GFI) is recommended for 3000-4000Scmr-EC systems.
- 2) 6000Scmr-EC and 8000Scmr-EC systems are configured with dual evaporators, wired Primary and Secondary. Main power supply connection is to the Primary Unit, with interconnect wiring to the Secondary Unit.
- 3) A 25 amp dedicated circuit breaker (non GFI) is recommended for 6000-8000Scmr-EC systems.

3000/4000Scmr-EC System Wiring – Option A: Dual Power / Valve Control *

Under this configuration the Evaporator and Condensing units are separately powered, and the Condensing unit turns on and off based on suction pressure, as follows:

- The Evaporator includes a factory installed liquid line solenoid valve (LLSV), which is controlled by the Evaporator temperature controller. The Condensing unit is controlled by a low pressure switch which reacts to the suction pressure and senses whether the LLSV is open or closed.
- When the Evaporator temperature set-point is reached and the Evaporator turns off, the LLSV closes, causing the system to pump down until the low pressure switch shuts off the Condensing unit.
- When the Evaporator turns on, the LLSV opens, causing the suction pressure to rise and activate the Condensing unit.

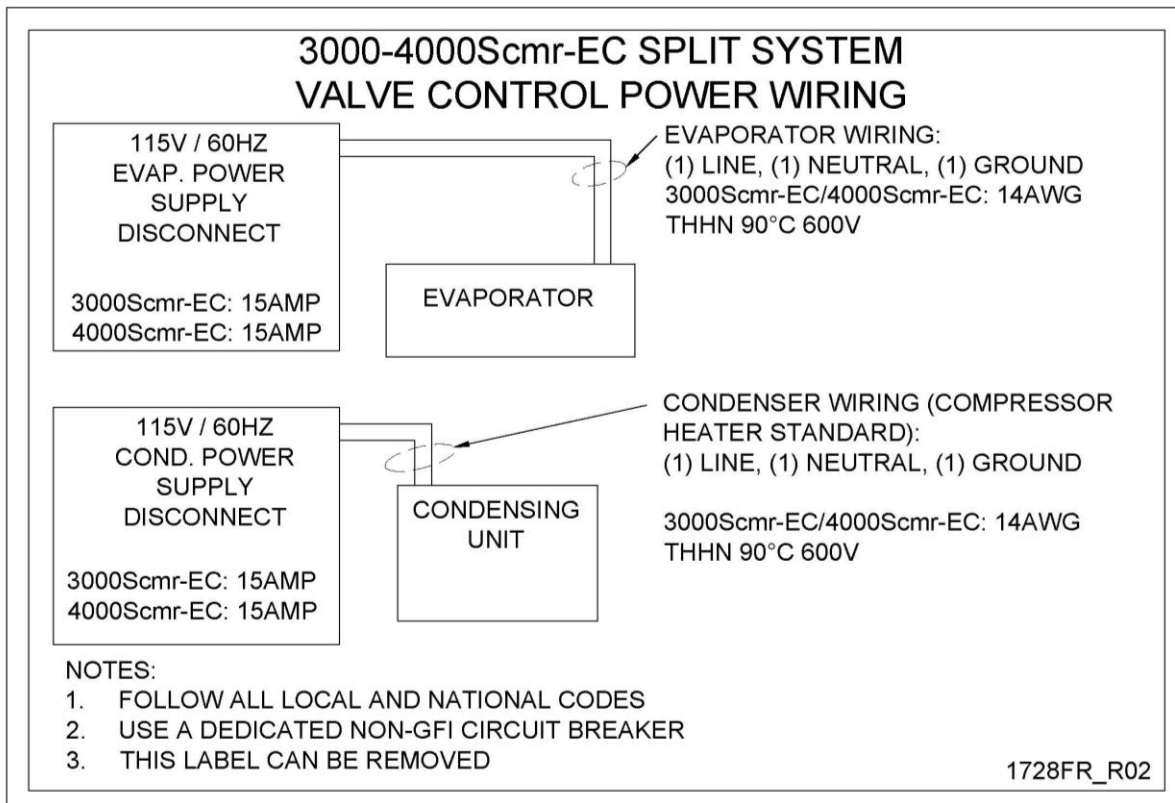
Field power wiring is connected to both the Evaporator and Condensing units, no interconnecting wiring is needed between the Evaporator and Condensing unit.

Evaporator Field Power Wiring:

- Connect line lead to Evaporator terminal "L"
- Connect neutral lead to Evaporator terminal "N"
- Connect power ground to grounding lug on Evaporator

Condensing Unit Field Power Wiring:

- Connect line lead to Condensing unit terminal "L1"
- Connect neutral lead to Condensing unit terminal "L2"
- Connect power ground to grounding lug on Condensing unit.



6000/8000Scmr-EC System Wiring – Option A: Dual Power / Valve Control *

Under this configuration the Primary Evaporator and Condensing units are separately powered, the Secondary Evaporator is powered from the Primary Evaporator, and the Condensing unit turns on and off based on suction pressure, as follows:

- Both the Primary and Secondary Evaporators include a factory installed liquid line solenoid valve (LLSV), which is controlled by the Evaporator temperature controller in the Primary Evaporator. The Condensing unit is controlled by a low pressure switch which reacts to the suction pressure and senses whether the LLSV is open or closed.
- When the controller temperature set-point is reached, both of the LLSV close, causing the system to pump down until the low pressure switch shuts off the Condensing unit.
- When the controller calls for cooling, both of the LLSV open, causing the suction pressure to rise and activate the Condensing unit.

Field power wiring is connected to the Primary Evaporator and Condensing units, and interconnect wiring between the Primary and Secondary Evaporators. No interconnecting wiring is needed between the Evaporator and Condensing unit.

Primary Evaporator Field Power Wiring:

- Connect line lead to Primary Evaporator terminal "L"
- Connect neutral lead to Primary Evaporator terminal "N"
- Connect power ground to grounding lug on Primary Evaporator

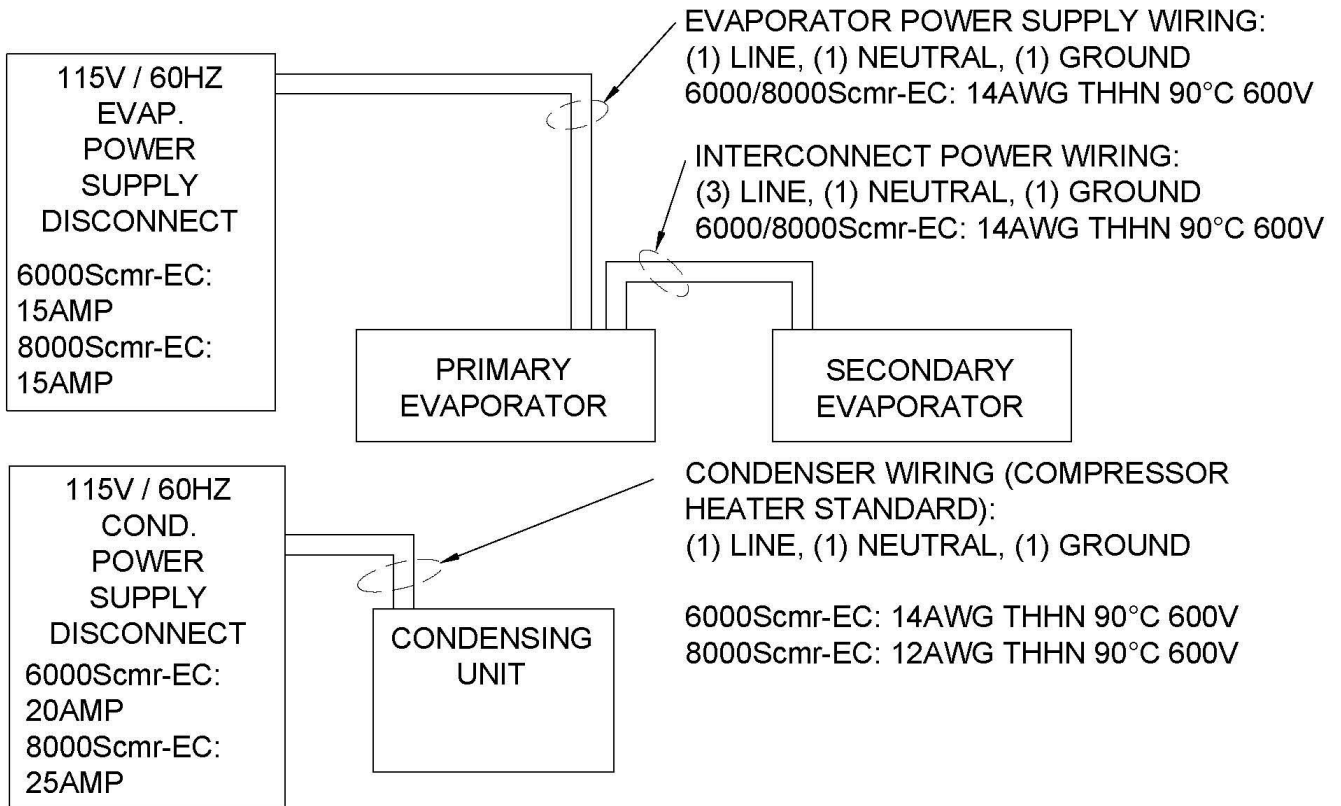
Secondary Evaporator Field Interconnect Wiring from Primary Evaporator:

- Interconnect power leads to terminals "18", "20", "22", and "26"
- Interconnect 18/2 thermostat wiring to terminals "8" and "9"
- Connect power ground to grounding lug on Secondary Evaporator

Condensing Unit Field Power Wiring:

- Connect line lead to Condensing unit terminal "L1"
- Connect neutral lead to Condensing unit terminal "L2"
- Connect power ground to grounding lug on Condensing unit.

6000-8000Scmr-EC SPLIT SYSTEM VALVE CONTROL POWER WIRING



NOTES:

1. FOLLOW ALL LOCAL AND NATIONAL CODES
2. USE A DEDICATED NON-GFI CIRCUIT BREAKER
3. THIS LABEL CAN BE REMOVED

1728HR_R02

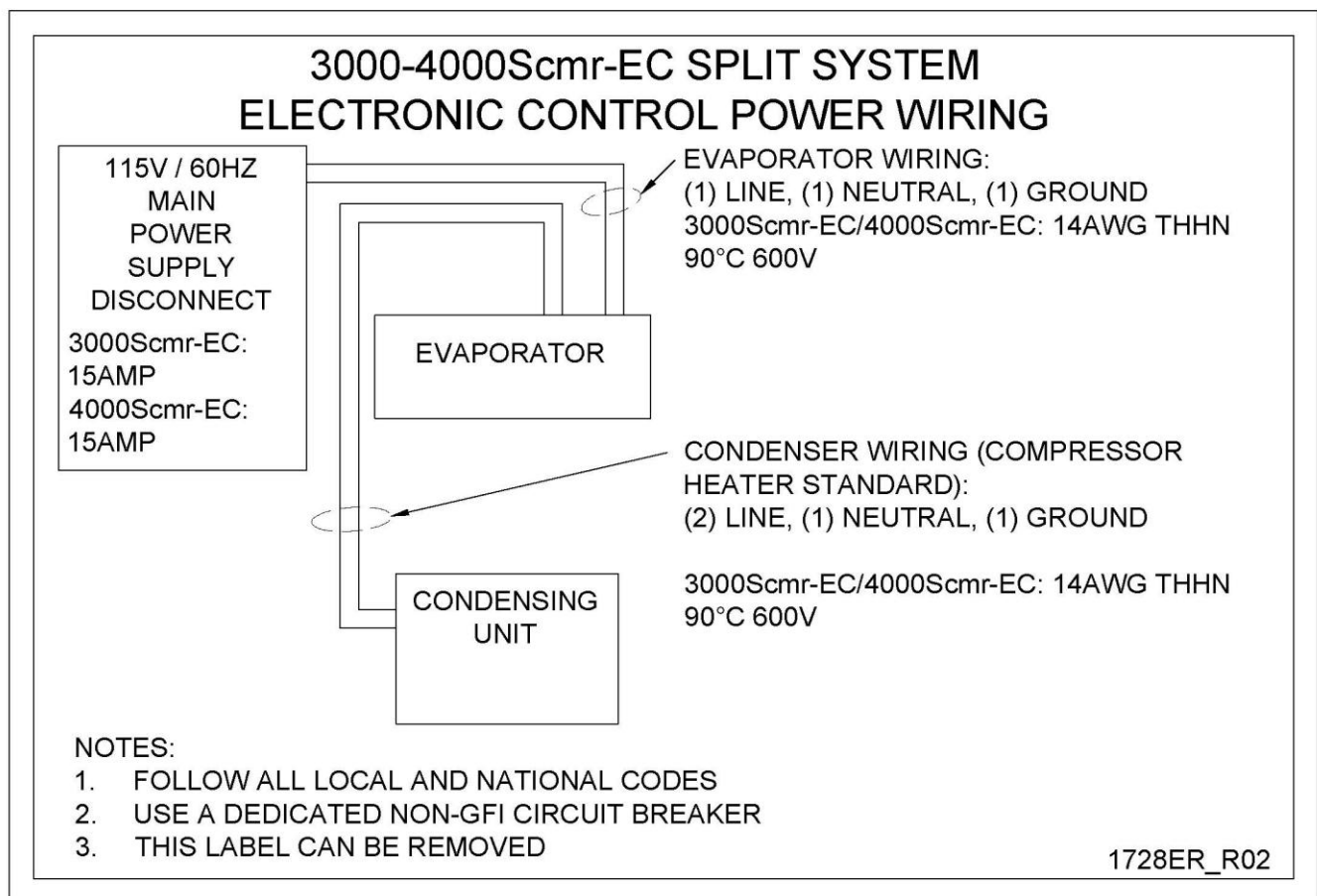
3000/4000Scmr-EC System Wiring – Option B: Single Power / Electronic Control *

Under this configuration, only the Evaporator is powered by the Field Power Wiring, as follows:

- Connect line lead to Evaporator terminal "L"
- Connect neutral lead to Evaporator terminal "N"
- Connect power ground to grounding lug on Evaporator

The Condensing Unit is powered by connecting it to the Evaporator, is follows:

- "3" on the Evaporator to "L1" on the Condensing unit
- "5" on the Evaporator to "L2" on the Condensing unit
- Ground lug on the Evaporator to the grounding stud on the Condensing unit.
- REQUIRED: For compressor heater, run a separate lead connecting "L" on Evaporator to "C" on Condensing Unit.



6000/8000Scmr-EC System Wiring – Option B: Single Power / Electronic Control *

Under this configuration, only the Primary Evaporator is powered by the Field Power Wiring, as follows:

- Connect line lead to Primary Evaporator terminal "L"
- Connect neutral lead to Primary Evaporator terminal "N"
- Connect power ground to grounding lug on Primary Evaporator

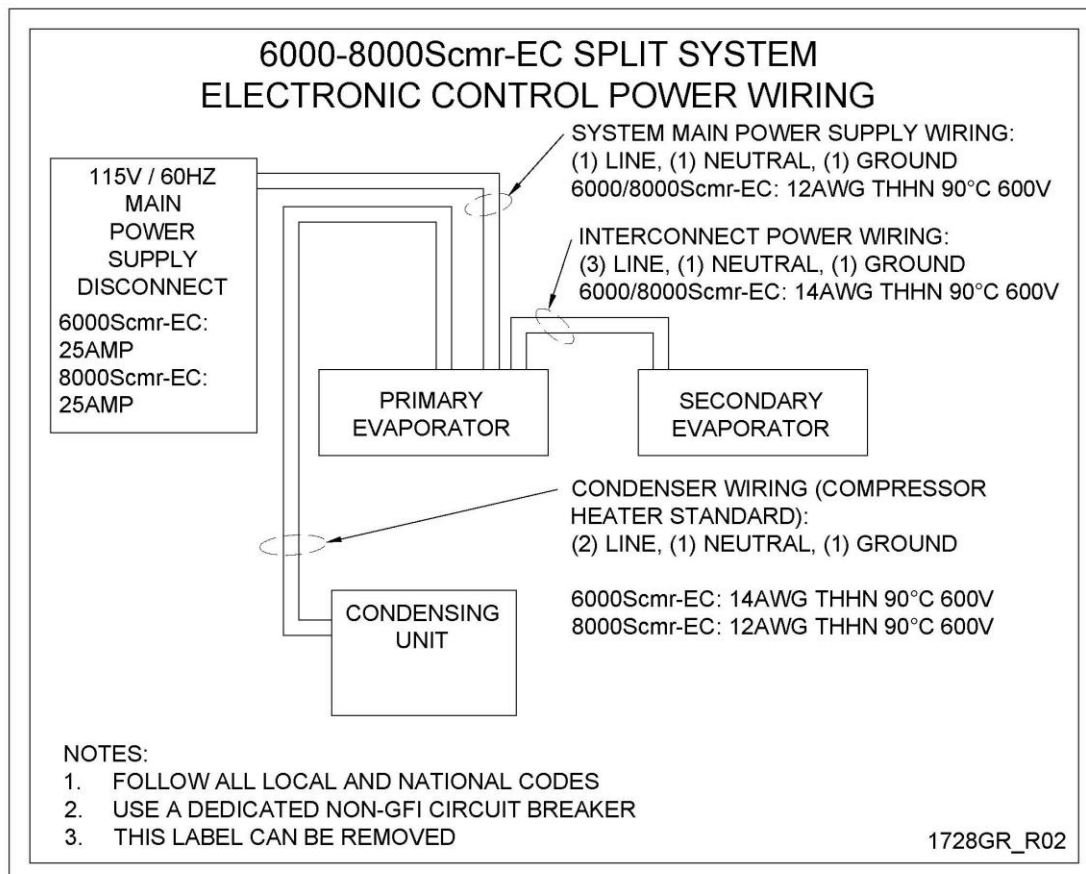
The Secondary Evaporator and Condensing Unit are powered by connecting from the Primary Evaporator as follows:

Secondary Evaporator Field Interconnect Wiring from Primary Evaporator:

- Interconnect power leads to terminals "18", "20", "22", and "26"
- Interconnect 18/2 thermostat wiring to terminals "8" and "9"
- Connect power ground to grounding lug on Secondary Evaporator

Condensing Unit Interconnect Wiring from Primary Evaporator:

- "3" on the Primary Evaporator to "L1" on the Condensing unit
- "5" on the Primary Evaporator to "L2" on the Condensing unit
- Ground lug on the Primary Evaporator to the grounding stud on the Condensing unit.
- **REQUIRED:** For compressor heater, run a separate lead connecting "L" on Evaporator to "C" on Condensing Unit.



Please refer to the wiring diagram for your configuration in the table below. Note the difference between 1. Your model, 2. Your choice of wiring configuration and 3. Your choice of Controller/Thermostat.

System Wiring Configuration	3000Scmr-EC	4000Scmr-EC	6000Scmr-EC	8000Scmr-EC
Remote Controller – Evaporator Wiring Diagram				
Dual Power / Valve Control	Appendix A 2558A_R01	Appendix A 2558A_R01	Appendix B 2558B_R01	Appendix B 2558B_R01
Single Power / Electronic Control	Appendix C 2554C_R02	Appendix C 2554C_R02	Appendix D 2554D_R02	Appendix D 2554D_R02
Networkable Thermostat – Evaporator Wiring Diagram				
Dual Power / Valve Control	Appendix E 2560ECE_R00	Appendix E 2560ECE_R00	Appendix F 2560ECF_R00	Appendix F 2560ECF_R00
Single Power / Electronic Control	Appendix G 2559ECG_R01	Appendix G 2559ECG_R01	Appendix H 2559ECHS_R01	Appendix H 2559ECHS_R01
Remote or Networkable Thermostat – Condensing Unit Wiring Diagram				
Dual Power / Valve Control	Appendix I 2558K_R01	Appendix I 2558K_R01	Appendix J 2558L_R01	Appendix K 2558N_R01
Single Power / Electronic Control	Appendix L 2554K_R01	Appendix L 2554K_R01	Appendix M 2554L_R01	Appendix N 2554N_R01

*** Important Wiring Notes**

If your system is equipped with a compressor heater, **make sure it is wired to be energized even when the system is idle.**

If the system has been sitting idle without the compressor heater energized for more than 24 hours, or if starting up the system in a cold ambient, **it is critical to warm the bottom shell of the compressor above the ambient temperature for 30 minutes before running the system** to drive excess refrigerant out of the compressor oil.

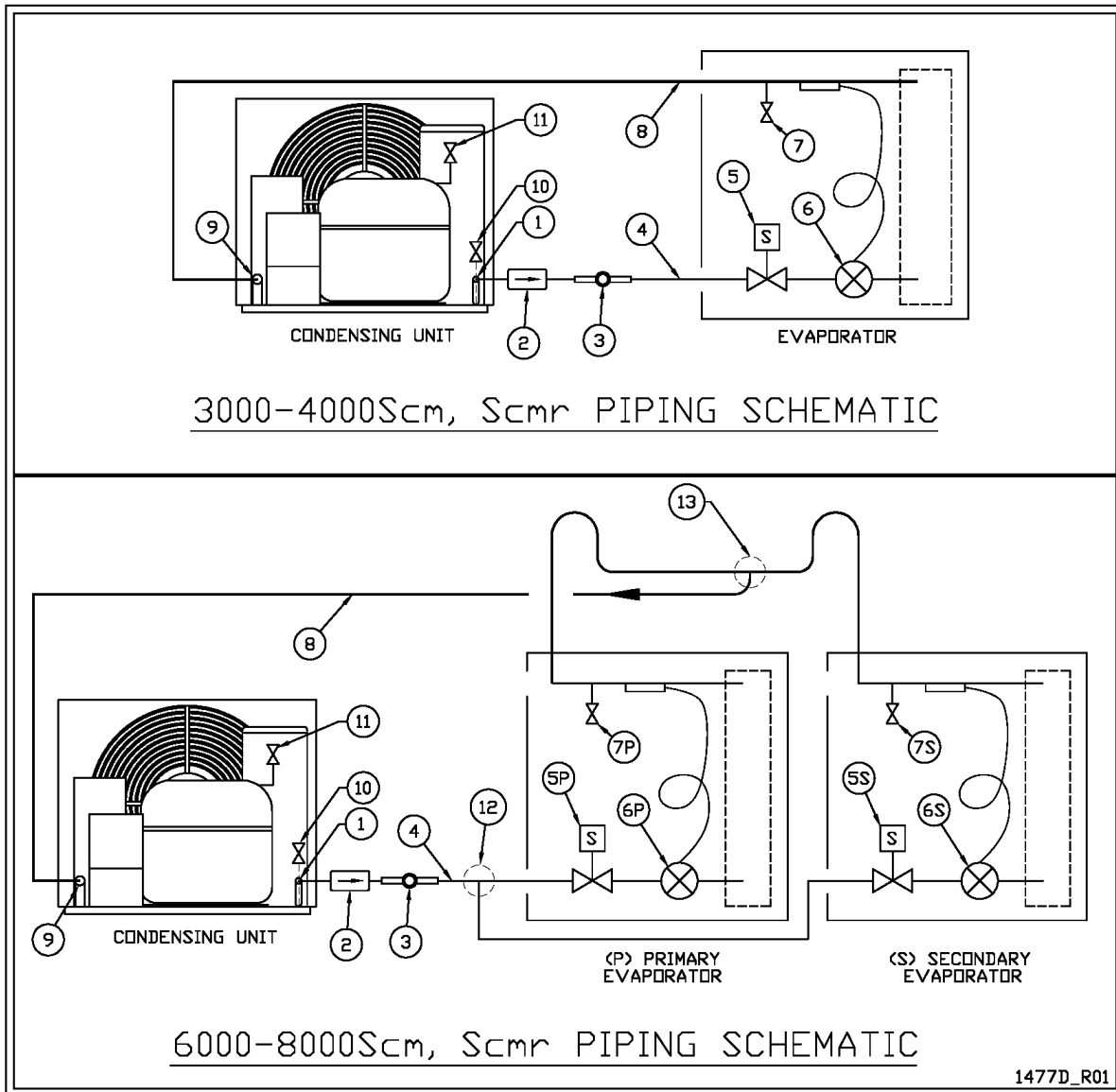
For units configured with a single power source / electronic control, the compressor heater requires a dedicated line power wire from the evaporator to the compressor heater. If the power line does not exist, the compressor heater will need to be wired to an external constant power supply.

A **low pressure control** is included standard on all split system condensing units. In both Dual Power / Valve Control and Single Power / Electronic Control configurations, the low pressure control will cycle the compressor off in the event that the system experiences a major loss of refrigerant, thereby protecting the compressor from damage.

In Dual Power / Valve Control configurations, the low pressure control is required and works in conjunction with the liquid solenoid valve to turn the condensing unit off and on. In Single Power / Electronic Control configurations, the low pressure control is optional. In rare instances, when climates drop below 20F, the low pressure control may prevent the compressor from activating during a normal call for cooling. In these cases, you may choose to disable the low pressure control by installing a jumper wire to electrically bypass the control from the circuit.

Installing Refrigeration Lines

The Evaporator(s) and Condensing Unit should be piped according to the following piping schematic:



Piping Legend

1. Liquid connection location.
2. Hermetic liquid line filter drier (shipped loose). Install with directional flow arrow as shown.
3. Liquid line sight glass with moisture indicator (shipped loose).
4. Liquid line refrigeration piping in accordance with Line Sizing Chart in Owner's Manual.
5. Factory installed liquid line solenoid valve (normally closed). 6000-8000Scmr-EC have two solenoid valves, 5S and 5P. (Dual Power/Valve Control configurations only).
6. Factory installed thermostatic expansion valve. 6000-8000Scmr-EC have two expansion valves, 6S and 6P.
7. Factory installed ¼" evaporator suction access valve. 6000-8000Scmr-EC have two access valves, 7S and 7P.
8. Insulated suction line refrigeration piping (refer to Line Sizing Chart in Owner's Manual).
9. Suction connection location.
10. Condensing unit ¼" liquid access valve. The position of the access valve varies by model, trace the liquid line back from the connection through the receiver to the condenser coil bottom outlet to locate the valve.
11. Condensing unit ¼" suction access valve located off a tee on the compressor shell process tube.
12. Field provided dual evaporator liquid line tee. Required on 6000-8000Scmr-EC only.
13. Field provided dual evaporator suction line tee. Required on 6000-8000Scmr-EC only.

Line Sizing Chart

Refer to the Line Sizing Chart below for selecting the appropriate tubing size for the length of the piping run. Note that the recommended line size may not match the connection ports on the Condensing unit and the Evaporator. Refrigeration grade fittings must be supplied by the installing technician to make the necessary transitions. **Transitions**

should be made as close to the unit as possible. Suction line routing must be designed to ensure oil return to the Condensing unit and prevent refrigerant migration in the off cycle. To route the piping out of the evaporator to connect to the line set, it is acceptable to use ¼” tubing on the liquid line and 3/8” on the suction line. Transition as near as possible to match the line set size once the lines leave the evaporator. On the dual evaporator models 6000Scmr-EC and 8000Scmr-EC, the lines may be reduced at the liquid tee and suction tee. Locate these tees as close as possible to the dual evaporators.

Split System Line Sizing Chart

Model	Liquid Line Size ("ODS) Up to 100 feet	Minimum Suction Line Insulation Thickness (in)	Suction Line Size by Length ("ODS)		
			Up to 25 feet	Over 25 feet up to 50 feet	Over 50 feet up to 100 feet
3000S/Sh/Scm/Scmr-EC	1/4	1/2	1/2	1/2	1/2
4000S/Sh/Scm/Scmr-EC	3/8	1/2	1/2	1/2	1/2
6000S/Scm/Scmr-EC	3/8	1/2	1/2	5/8	5/8
8000S/Scm/Scmr-EC	3/8	5/8	5/8	5/8	7/8

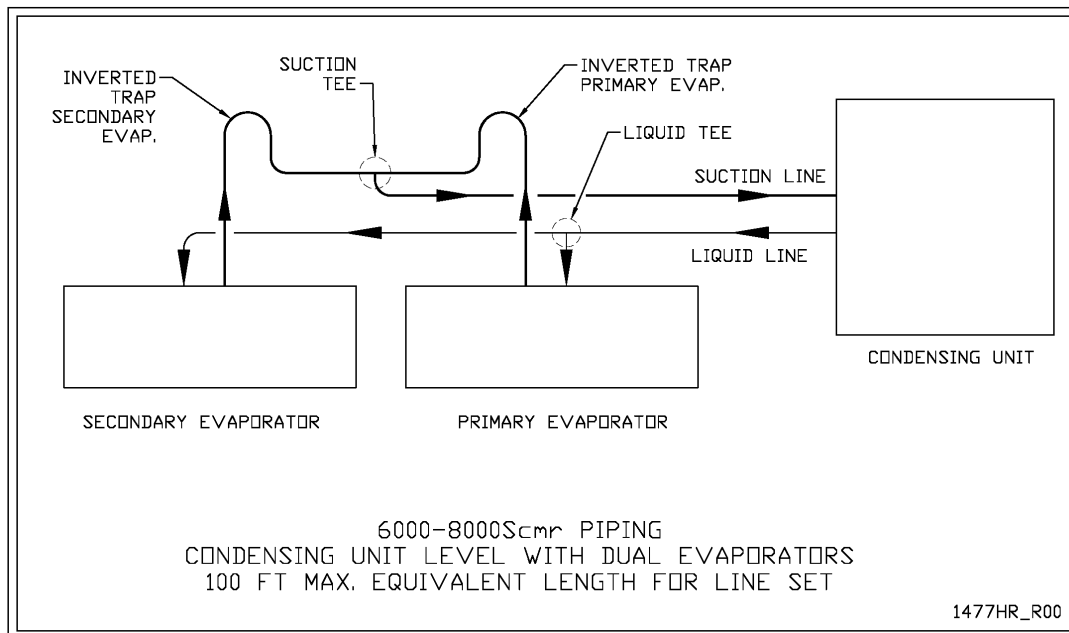
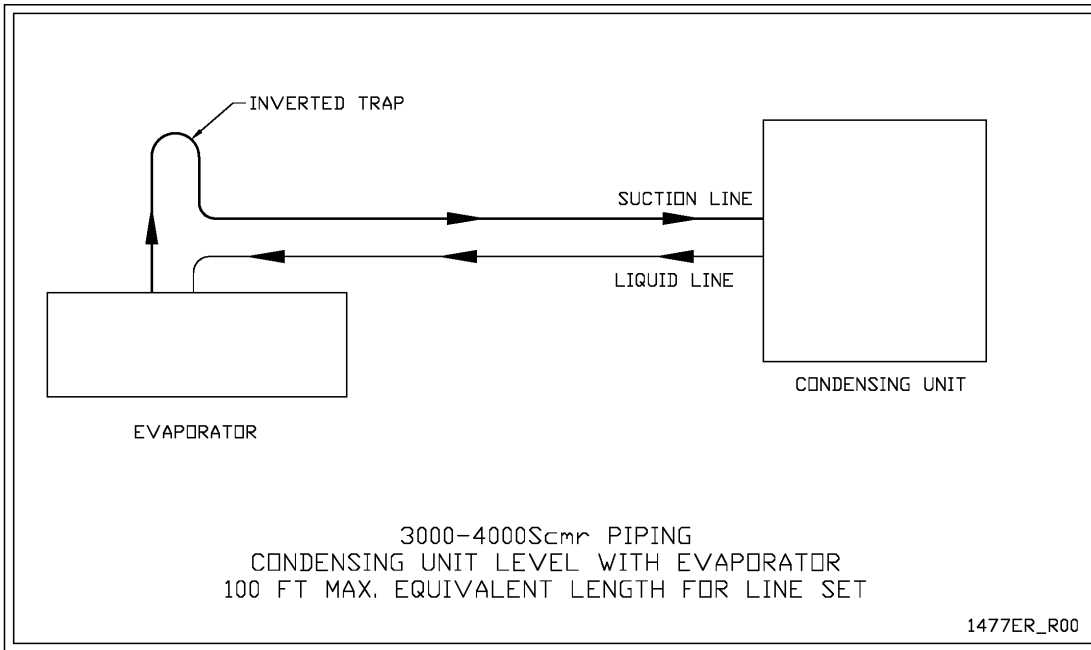
Notes:

- 1) Line lengths are expressed in equivalent feet = actual run length + fitting allowances.
- 2) Chart includes allowances for Fittings, Filter Drier, and Sight Glass.
- 3) Use only dehydrated refrigeration service tubing and refrigeration grade fittings.
- 4) Install refrigeration piping in accordance with local codes and ASHRAE guidelines.

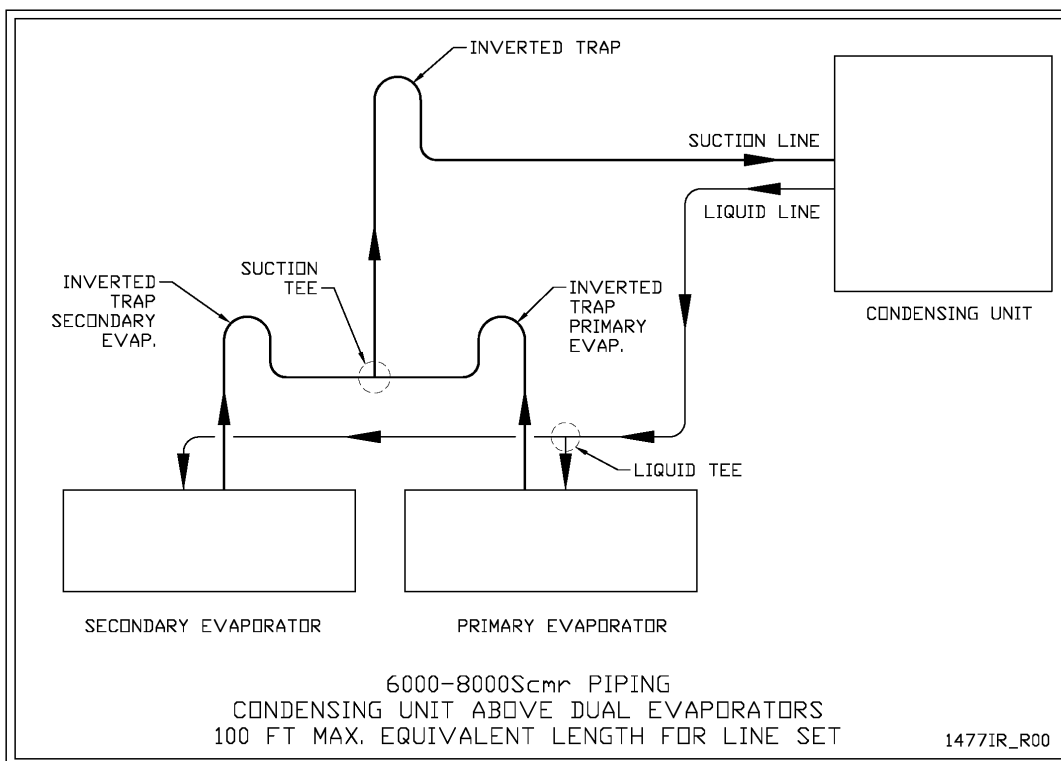
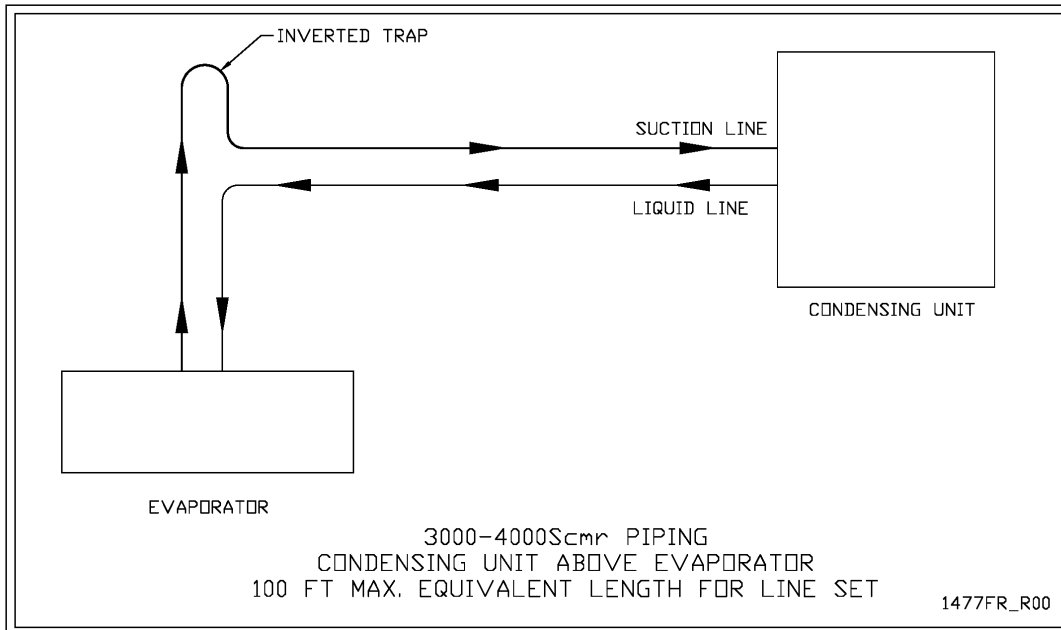
Vertical Piping Guidelines

Piping runs should be kept as short and compact as possible. Low-lying areas (oil “traps”) where oil can accumulate should be avoided. Refer to the following guidelines with regards to the vertical placement of the evaporator and condensing units:

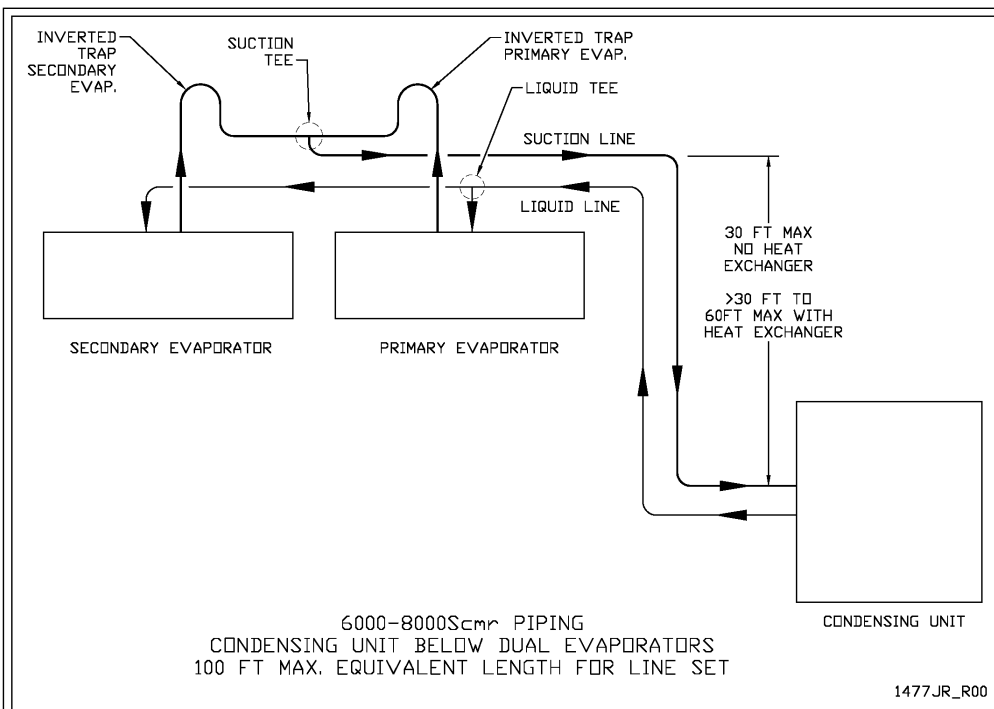
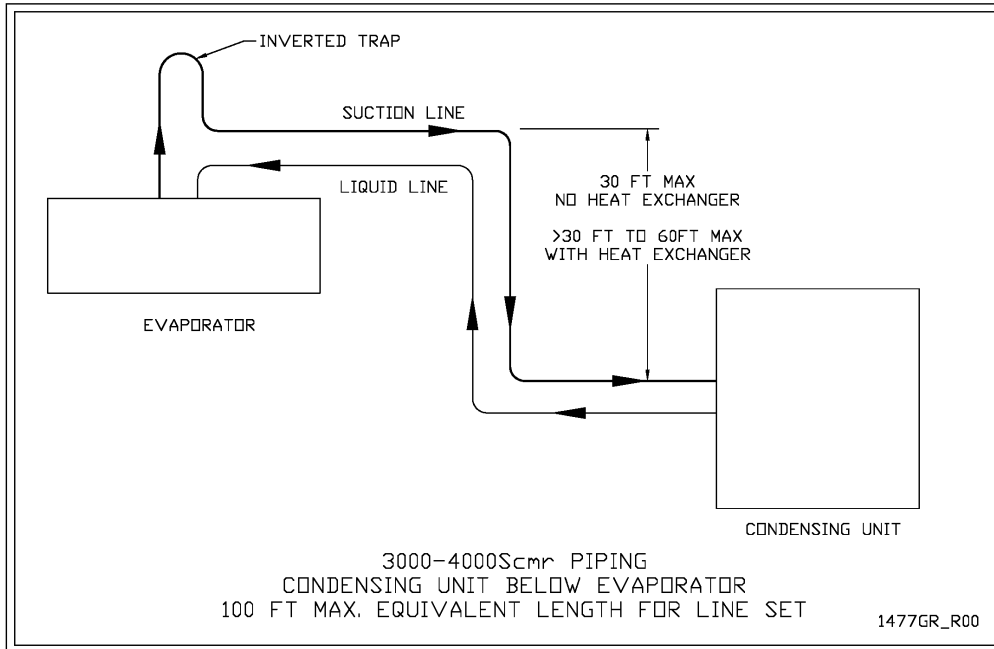
1. **When the evaporator and condensing unit are located on the same level:** For single evaporator systems, pipe the suction line with an inverted trap as shown to prevent liquid migration to the compressor during the off cycle. For dual evaporator system, install inverted suction traps on each evaporator to prevent liquid migration between evaporators while running, and to prevent liquid migration to the compressor during the off cycle. Pitch the suction line **slightly downward** to the condensing unit:



2. **When the evaporator is located below the condensing unit:** For single evaporator systems, pipe the suction line with an inverted trap as shown to prevent liquid migration to the compressor during the off cycle. For dual evaporator system, install inverted suction traps on each evaporator to prevent liquid migration between evaporators while running, and install an inverted trap on the common suction riser to prevent liquid migration to the compressor during the off cycle. Pitch the suction line **slightly downward** to the condensing unit:



3. **When the evaporator is located above the condensing unit:** For single evaporator systems, pipe the suction line with an inverted trap as shown to prevent liquid migration to the compressor during the off cycle. For dual evaporator system, install inverted suction traps on each evaporator to prevent liquid migration between evaporators while running, and to prevent liquid migration to the compressor during the off cycle. Pitch the suction line **slightly downward** to the condensing unit. The vertical lift of the liquid line is limited to 30 feet. The lift may be increased to 60 feet if an optional liquid/suction Heat Exchanger is added to the field piping.



Evacuation, Leak Detection, and Charging

Important note: The condensing unit and evaporator(s) are shipped with a nitrogen holding charge. Please verify positive pressure through the access valve prior to installation. If you cannot verify the holding charge, please contact CellarPro at 707.794.8000.

Once the piping is installed, the following steps should be performed to ensure a dry and leak-free system:

1. The Condensing unit is pre-charged with compressor oil. To avoid moisture contamination of the oil, do not leave the system open to atmosphere for more than 15 minutes.
2. Dual Power Source / Valve Control Systems Only: Supply power to the Evaporator only - DO NOT connect power to the Condensing unit. Turn on the temperature controller, which will energize and open the liquid line solenoid valve(s). Verify the solenoid is powered as indicated by the compressor icon ("snowflake") on the temperature controller display.
3. Pressurize the system to a maximum of 150PSIG of dry nitrogen. It is important to add nitrogen through both the high and low side access valves on the condensing unit to make sure the system is fully pressurized. Mark the pressure and hold for a minimum of 1 hour. If the pressure holds, proceed to the next step, otherwise locate and repair the leak and repeat this step.
4. **Evacuate the system to a minimum of 500 microns.** It is important to pull a vacuum through both the high and low side access valves on the condensing unit to make sure the system is fully evacuated. If the vacuum is achieved, proceed to the next step, otherwise locate and repair the leak and repeat from step 4.
5. Disconnect the vacuum pump, but **leave the system under vacuum.** Use a charging scale to accurately weigh in the refrigerant. Charge liquid R-134a refrigerant through the **liquid service valve** according to the charge pounds indicated in the "System R-134a Charge Guidelines" chart below. Additional refrigerant may need to be added, using the steps outlined below. **DO NOT USE REFRIGERANT WITH ADDITIVES.**
6. **Important: The most common causes of compressor failure are refrigerant overcharge, adding liquid refrigerant through the suction access valve, and cold compressor starts.** To mitigate cold compressor starts, do the following: 1. Make sure the compressor heater is wired to be energized even when the system is idle. 2. If starting up the system in a cold ambient, or if the system has been sitting idle without the compressor heater energized for more than 24 hours, it is critical to warm the bottom shell of the compressor above the ambient temperature for 30 minutes before running the system to drive excess refrigerant out of the compressor oil.

7. Connect power to the Evaporator and Condensing unit, and activate the system. **IMPORTANT: If the system does not power up after the start up delay (factory preset is 3 minutes; recommended to be changed to 30 minutes after installation per instructions below), verify field wiring according to the appropriate wiring diagram. If correct, disconnect power from the system and contact Cellarpro at 707.794.8000**

IMPORTANT: During startup and the initial pulldown phase, the ambient air temperature around the condensing unit must remain below 100°F. A cooling unit works harder until the cellar reaches its target temperature, commonly referred to as the “initial pulldown phase”. For this reason, in hot climates, startups should be initiated in the evening or early morning, when ambient temperatures start and remain below 100°F through the initial pulldown phase.

Measure pressures and temperatures to verify the system is within normal operating limits as indicated on the Split System Data Sheet. A loose copy of the Data Sheet is provided with the unit, and an additional copy is included at the end of this manual. The condensing pressure must be above 105 PSIG when taking these measurements. In a low ambient environment, it may be necessary to temporarily block off the condenser air intake to force the condensing pressure higher. Do not run the system if the suction superheat at the condensing unit is below 20°F.

8. It may be necessary to slightly adjust the charge amount after weighing in the recommended initial charge. 1) Not enough refrigerant: If the Evaporator is not providing enough cooling, the system may be undercharged. If liquid subcooling is below 10°F and the suction superheat is well above the minimum of 20°F, slowly add vapor refrigerant through the suction service valve until the subcooling is within specifications. 2) Too much refrigerant: If the suction superheat is below 20°F, remove refrigerant until the superheat is above this minimum limit.
9. (Optional) It should not be necessary to manually adjust the thermostatic expansion valve superheat from the factory default setting. However if desired, the superheat may be adjusted as follows: 1) Remove the cork tape insulation from the expansion valve body to locate the cap on the superheat stem, and unscrew the cap using a 5/32 in. Allen wrench. 2) Using a 5/32 in. Allen wrench, locate the setting spindle inside the superheat stem and make superheat adjustments ¼ turn at a time (¼ turn≈1°F). Turning clockwise increases superheat. Turning counter-clockwise decreases superheat. The target superheat at the evaporator is 10°F +/- 2°F. 3) Reinstall the cap and cork tape insulation.
10. Confirm that the compressor, condenser fan, and evaporator fan(s) are energized. Allow the system to balance for 30 minutes, then record all readings on the Data Sheet and submit to CellarPro for warranty activation review.
11. Observe that the condensing unit turns on when the “snowflake” icon on the temperature display is lit solid (not blinking), and turns off when the “snowflake” icon turns off. It may be necessary to temporarily raise the set point to force the unit to cycle off. If the condensing unit does not cycle on/off in conjunction with the “snowflake” icon, please contact the factory for assistance.

12. Once the system is confirmed to be running properly, enter the following programming change so that the startup delay increases from 3 to 30 minutes:
 - a. On the control panel, press and hold the "SET" and "DOWN ARROW" buttons AT THE SAME TIME for 3 seconds (the display will briefly flash).
 - b. Release when the display starts blinking.
 - c. Quickly repeat the same process – ie press and hold the "SET" and "DOWN ARROW" buttons AT THE SAME TIME, this time for 7 seconds ("Pr2" will briefly flash on the display).
 - d. Using the "UP ARROW" or "DOWN ARROW" button, scroll through the parameters until "odS" is displayed.
 - e. Press "SET" and change the setting to 30.
 - f. Press "SET" to accept the change

Installation Tips and Guidelines

- Make sure all electrical connections are secure.
- Inspect Evaporator and Condensing unit fans to confirm airflow. There shouldn't be any excessive vibration, noise or obstructions to airflow.
- Note system pressures and temperatures during charging and initial operation. This information will be required for the Warranty Activation Checklist.
- Do not overcharge or use refrigerant with additives.
- Remember that bubbles in a sight glass may be caused by a restriction or a shortage of refrigerant. A properly charged system may still have small bubbles visible in the sight glass, so use actual superheat and subcooling readings to charge the system.
- Do not leave unit unattended until the system has reached normal operating conditions, and the system has been observed properly cycling on/off to the desired set point and differential.
- Make sure all access valve caps are in place and tight.
- Make sure the compressor heater is wired to be energized when the system is idle.
- If the system has been sitting idle without the compressor heater energized for more than 24 hours, or starting up the system in a cold ambient, it is critical to warm the bottom shell of the compressor above the ambient temperature for 30 minutes before running the system to drive excess refrigerant out of the compressor oil.

System R-134a Charge Guidelines

System R-134a Charge Guidelines				
Actual Line Length	System Charge (lbs) by Split System Model			
	(ft)	3000Scmr	4000Scmr	6000Scmr
5	0.85	1.00	1.63	2.03
10	0.93	1.20	1.83	2.24
15	1.01	1.40	2.04	2.46
20	1.09	1.60	2.24	2.67
25	1.17	1.80	2.44	2.89
30	1.24	2.00	2.65	3.10
35	1.32	2.20	2.85	3.31
40	1.40	2.40	3.06	3.53
45	1.48	2.60	3.26	3.74
50	1.56	2.80	3.46	3.96
55	1.64	3.00	3.67	4.17
60	1.72	3.20	3.87	4.39
65	1.79	3.40	4.07	4.60
70	1.87	3.60	4.28	4.81
75	1.95	3.80	4.48	5.03
80	2.03	4.00	4.69	5.24
85	2.11	4.20	4.89	5.46
90	2.19	4.40	5.09	5.67

Note:

- 1) Actual charge may vary - follow charging instructions as detailed in Owners Manual.
- 2) Lines sized according to Line Sizing Chart assuming actual line length plus 10 equivalent feet for fittings losses.

Summary

Keep in mind the following guidelines before purchasing a wine cooling unit from CellarPro:

- If the cellar is too large for the cooling unit, the cooling unit will be unable to maintain proper, even temperatures inside the cellar.
- Without proper insulation and an airtight environment, the cooling unit effectively will become a de-humidifier and potentially will produce buckets of water.
- Without access to cool air, either because of improper ventilation or because the environments is too hot, the cooling unit will be unable to maintain proper temperatures inside the cellar.

Under any of the above conditions, the unit's internal components may become damaged, the expected useful life of the wine cooling unit may be adversely affected, and the product's warranty may become null and void.

IV. Operating Instructions

Overview

CellarPro cooling units are designed to maintain optimal conditions for wine storage and aging. These conditions include steady, cool temperatures, high humidity, minimal vibration and light, and clean air.

The settings on your CellarPro cooling unit have been preset and optimized by the factory. Before changing any settings below, we recommend waiting 14 days to allow the cooling unit to “break in.”

The cooling unit is designed to cool the cellar gently without stripping moisture out of the cellar environment. Therefore, it is not uncommon for the cooling unit to run nonstop for up to a week initially, depending on the temperature inside the cellar, the size of the cellar, and the temperature of the ambient environment. Once the cellar has reached equilibrium, it is normal for the cooling unit to run as much as 75 percent of the time.

CellarPro cooling units are designed to maintain optimal temperatures for *storing and aging* fine wine. CellarPro cooling units are not designed to maintain temperatures for *servicing* wine, which tend to be much colder than storage temperatures, especially serving temperatures for white and sparkling wines.

CellarPro cooling units must be used, stored, moved and/or shipped in the upright position. Be careful when turning the unit on its side. The unit NEVER should be turned upside down.

Temperature Control

CellarPro cooling units are designed to turn “on” when the air temperature passing over the evaporator coils inside the cellar exceeds the **Minimum Set Point** plus the **Temperature Differential**, and turn “off” when the temperature drops below the **Minimum Set Point**. For example, if the Minimum Set Point is 58°F and the Temperature Differential is 4°F, the cooling unit will turn on when the temperature rises above 62°F inside the cellar, and it will turn off when the temperature falls below 58°F. In this example, the average temperature inside the cellar will be 60°F.

Basic Operation

The cooling system is programmed with a startup delay to protect its internal components. From the factory, the startup delay is 3 minutes. Upon installation, we provide instructions for the installer to change the delay to 30 minutes.

The temperature inside the cellar can be increased or decreased by changing the Minimum Set Point as summarized below, and detailed later in this chapter.

- Press the “Set” button for three seconds until °F or the snowflake blinks
- Press “Up” or “Down” button
- Press “Set” button to confirm

If the cooling unit runs too much, you can raise the Minimum Set Point to reduce the cycle “on” time. Most wine collectors store their wine in the range of 55 - 60°F.

CellarPro cooling units are designed to maintain appropriate levels of humidity, ranging from 50 to 70 percent, inside wine cellars. In order to increase or decrease humidity inside the cellar, the Fon setting can be changed as described in the “Advanced Operation” section later in this chapter.

1. Fan Speed Selector Switch (Low/Med/High)

The cooling unit fan operates on 3 speed settings: Low, Medium, and High. For optimum sound and energy efficiency, select the lowest fan speed that will maintain the desired cellar temperature. High speed is recommended for initial cellar pull down. Please note that for flush mount configurations, the bottom panel of the unit must be removed to access this switch.

2. Bottle Probe Jack (Bottle Probe)

Plug in the remote bottle probe (sold separately) to control the cellar by liquid temperature rather than air temperature inside the cellar. Disconnecting the probe will automatically return the control to air temperature. When using a bottle probe in liquid, the **Temperature Differential** will need to be adjusted to 1 as shown in the “Advanced Operation” instructions below.

The probe jack is located inside the evaporator near the main power connection terminal. On dual evaporator 6000Scmr-EC and 8000Scmr-EC systems, the bottle probe is plugged into the Primary Evaporator only. Route the bottle probe lead wire out of the appropriate location as indicated on the Knockout Detail drawing.

Remote Control / Display Instructions



Digital Display

The temperature displayed on the control is red instead of blue.

Set Button

The cooling unit is factory preset with a Minimum Set Point of 58°F and a Temperature Differential of 4°F.

This means that the cooling unit will turn on when the display rises above 62°F (58°F + 4°F), and turn off when the display falls below 58°F. In this example, the average temperature inside the cellar will be 60°F. To view the Minimum Set Point, press the “Set” button for one second.

To change the Minimum Set Point,

- Press the “Set” button for three seconds until the snowflake blinks
- Press “Up” or “Down” button
- Press “Set” button to confirm

The “Set” temperature will blink three times to indicate confirmation

The recommended Minimum Set Point range is 53 - 60°F. To change the Temperature Differential, see “Advanced Operation” later in this chapter.

Quick Chill Button

To activate the “Quick Chill” mode, press the “Up” button for 3 seconds

To deactivate “Quick Chill”, press the “Up” button for 3 seconds again

The “Quick Chill” indicator (Row 3) light will turn on when the cooling unit is in “Quick Chill” mode,



Button



Icon

In the “Quick Chill” mode, the cooling unit will run continuously for 6 hours (or until the unit reaches set point.). This mode is useful after loading “warm” bottles in the cabinet.

Auto Defrost Mode

The cooling unit has a factory default defrost cycle that initiates every 16 hours for 20 minutes. When the cooling unit is in auto-defrost mode, the “Defrost” Indicator light (Top row) will turn on, and the evaporator fan will run.

Manual Defrost

Hold the defrost button in for 3 seconds to initiate a manual defrost. The “Defrost” Indicator light (Top row) will turn on for a 20 minute defrost cycle.



Light

The light button function is disabled, however pressing it will turn on/off the light indicator on the display (2nd row).



Energy Saver

The remote display is not configured with an Energy Saver mode. The set point can be raised manually for periods where energy savings is desired.

- **CellarPro Networkable Thermostat Upgrade**

Overview

Cooling units with the Networkable Thermostat (“NT”) Upgrade are configured with 10 feet of 18/5 thermostat wire, which must be connected to a 24VAC Networkable Thermostat (sold separately). **Important note:** Even when using a networkable thermostat, **the cooling unit’s remote display must be wired and connected to the cooling unit**, to provide troubleshooting, operational safety controls and defrost cycles.

Compatible NTs

CellarPro has tested and approved the following NT brands/models:

- Ecobee Pro
- Nest
- Honeywell / Lyric T6
- Any other 24VAC HVAC Thermostat with power consumption less than 4VA

Installation Instructions

Click here for the most up-to-date setup instructions: <https://iwawine.box.com/v/cp-networkable-thermostats>

IMPORTANT

- 1. CONNECT THE REMOTE CONTROL/DISPLAY TO THE COOLING UNIT BEFORE CONNECTING POWER TO THE COOLING UNIT.**
- 2. CONNECT THE THERMOSTAT WIRE TO THE NT BEFORE CONNECTING POWER TO THE COOLING UNIT.**

Install the cooling unit but DO NOT connect power the cooling unit. The temperature on the remote control/display must be blank, indicating no power is connected to the cooling unit. It is now safe to connect the 18/5 thermostat wire to the NT.

If the NT does not have a remote sensor, the NT must be installed inside the cellar. It is very important to locate the NT in an area that gets good airflow, ideally in a location near the air return to the cooling unit.

If the NT has a remote sensor, it may be possible to locate the main NT outside the cellar, and the remote NT sensor inside the cellar. Make sure to disable the temperature input from the main NT, and control the cellar using the remote NT sensor. It is very important to locate the remote NT sensor in an area that gets good airflow, ideally in a location near the air return to the cooling unit.

Connect the color-coded thermostat lead wire to the NT terminals as follows:

- Red wire to terminal “Rc” (24VAC Power Supply)
- Blue wire to terminal “C” (24VAC Common)
- Yellow wire to terminal “Y1” (cooling / compressor)
- Green wire to terminal “G” (cooling unit fan)
- The White wire in the 18/5 thermostat wire harness is not used.

If the Thermostat does not have the terminal markings listed, it will be necessary to contact the Thermostat manufacturer to advise the correct terminal mapping.

Once the wires are connected to the NT, connect power to the cooling unit, and turn “on” the power on the cooling unit’s remote control/display. The ambient temperature will be displayed on the screen. There is a factory-set startup delay of 3 minutes before the cooling unit will start to run. Upon installation, we provide instructions for the installer to change the delay to 30 minutes.

Activate the NT and begin initial set up.

Recommended Settings

The following guidelines are general recommendations to optimize the NT for wine cellar applications. It will be necessary to reference the available NT menus and available options from the documentation provided with the NT.

- Set the mode to “Cool Only”
- Disable all scheduling, learning, and occupancy tracking functions. These routines are intended for comfort cooling and are not suitable for wine storage applications.
- If the Thermostat has a configurable minimum/maximum set point range, set the minimum to 47°F (or as low as possible) and set the maximum set point to 62°F. This is the safe operating range for CellarPro cooling units.
- Enter the desired cellar set point temperature. The NT will control the cooling unit to manage this set point temperature.
- Set fan to “Auto”.
- Compressor Minimum Off Time: If this setting is disabled by default, it must be enabled, with a minimum off time for CellarPro products of 3 minutes.
- If the Thermostat allows high/low temperature alarms, we recommend the following settings: 40°F (Low) and 70°F (high).
- If the Thermostat has an adjustable temperature differential (cooling on/off range), a setting of 4°F is recommended. Many Thermostats have a tight fixed differential of 1-2°F. In this case the cooling unit will cycle more frequently than recommended. Therefore, it is advisable to set a longer Compressor Minimum Off Time to minimize frequent cycling.
- If the NT has a “Change Air Filter” reminder, set the reminder for every 3 months. This is for inspection and cleaning or replacement of the condenser filter.
- Humidity Management (with Ecobee Thermostats:) The humidity level in the cellar can be maximized by allowing the cooling fans to run at the end of every cooling cycle
- From the NT, access the “Cool Dissipation Time” parameter from Main Menu>Settings>Installation Settings Advanced Options>Thresholds and change “Cool Dissipation Time” from Auto to a recommended value of 180 seconds (3 minutes). The time can be set from 0 to 900 seconds in 30 second increments.
- Humidity Management with Other Thermostats: our NT Update Kit is pre-programmed with a fixed “fan off delay” of 3 minutes. Therefore, at the end of each cooling cycle, the cooling unit fans will continue to run for 3 minutes.

Temperature Display on Cooling Unit

The temperature display provided on the cooling unit enhances the functionality of the NT for wine cellar applications. Alarms trigger an audible alarm only at the cooling unit, the alarms are not communicated through the NT. Consult the cooling unit Owner's Manual for detailed troubleshooting information related to these alarms.

- The "Set" button has no effect since the set point is managed by the NT.
- The following parameters and functions are not available with the NT configuration: HY, FON, SET, HES, Quick Chill and Energy Saver.
- For self-contained cooling units, high and low ambient temperature alarms ("HA2"/"LA2") will behave as follows (refer to the cooling unit's Owner's Manual for addition information):
 - "HA2" alarm - the compressor will shut down until it cools off.
 - "LA2" alarm - will not shut down the unit and contact CellarPro asap.
- A factory preset start up delay of 3 minutes is enabled when power is first supplied to the unit. Upon installation, we provide instructions for the installer to change the delay to 30 minutes.
- The defrost cycle will be managed automatically based on the unit configuration. When the cooling unit is in defrost, "DEF" is shown on the display.
- The power button can be used to turn off the unit. When the display reads "OFF", the compressor and fans are turned off, however the NT still has 24VAC power.
- To completely shut down the system, turn off both the cooling unit and the NT, or disconnect power to the cooling unit.

Advanced Operation

CellarPro cooling systems can be programmed with advanced settings to achieve more control over conditions inside the cellar. Conditions like humidity, the Temperature Differential, and alarm settings all can be modified for custom applications. To access the advanced settings, do the following:

Press the “Set” button and the “Down” button together at the same time, and hold for three seconds. Then, use the “Up” or “Down” button to scroll to the following screen:



HUMIDITY: The factory preset for this setting is “3”.

If the humidity inside the cellar is too low, press the “Set” button, then use the “Up” button until the desired setting is reached. The recommended range for this setting is 0-6.



TEMPERATURE DIFFERENTIAL: The factory preset for this setting is “4”.

This setting determines the Temperature Differential and therefore the temperature at which the cooling unit will cycle on. The recommended range for this setting is 4 or 5.



HIGH TEMPERATURE ALARM: The factory preset for this setting is “70”.

This setting designates the High temperature inside the cellar at which the alarm is triggered. We recommend leaving this setting at the factory preset.



LOW TEMPERATURE ALARM: The factory preset for this setting is “45”.

This setting designates the Low temperature inside the cellar at which the alarm is triggered. We recommend leaving this setting at the factory preset.



ENERGY SAVINGS MODE DIFFERENTIAL: The factory preset for this setting is “4”.

This setting controls the Temperature Differential for the Energy Savings Mode. The recommended range for this setting is 2-4.

V. Troubleshooting

Improper installation, inadequate insulation, or a cellar that is too large will cause the cooling unit to run continuously and be difficult to troubleshoot.

The cooling unit is designed to turn on when the air temperature in the cellar rises ABOVE the Minimum Set Point + Temperature Differential, and turn off when the air temperature falls below the Minimum Set Point. For example, if the Minimum Set Point is 58°F and the Temperature Differential is 4°F, the cooling unit will turn above 62°F and turn off below 58°F. In this example, the average temperature inside the cellar will be 60°F.

Cooling Unit Runs Constantly

When bottles are first loaded in the cellar, the cooling unit will run continuously (even up to a week) until the temperature inside the cellar falls below the Set Point.

Hot weather conditions, insufficient ventilation and/or dirty condenser coil may cause the cooling unit to run continuously. To reduce cycle times,

1. Remove any obstructions to air flow to or from the unit
2. Check to make sure the condenser coil is clean
3. Increase the supply of cool air to the space outside the condenser coils, using a fan, ducting or an exhaust system to remove heat from the space.
4. Raise the Minimum Set Point on the cooling unit

Cooling Unit Is Dripping

The cooling unit is designed to remove excess moisture from inside the cellar, which collects in the drip pan of the cooling unit and is removed by the internal condensate pump. Excess moisture can occur when the cooling unit runs constantly, when the Minimum Set Point is too low and/or when the cellar doesn't have a good seal from the outside environment. To eliminate overflow, do the following:

1. Ensure the condensate pump drain line is not blocked.
2. Check that the cellar has airtight seals, including the door(s), light fixtures, and all walls, ceiling and floor.
3. Raise the Minimum Set Point of the cooling unit.

The Cooling Unit Won't Turn On

The cooling system is programmed with a factory preset 3-Minute Delay at startup to protect its internal components. Upon installation, we provide instructions for the installer to change the delay to 30 minutes.

Other Troubleshooting Issues

Issue	Possible Causes	Potential Solutions
<p>No cooling: no refrigerant flow.</p> <p>If the "snowflake" icon is illuminated on the temperature display control, the compressor should be running.</p>	<p>Electronic Control: No power to evaporator Valve control: no power to liquid solenoid valve coil</p>	<p>Power supply to Evaporator interrupted. Restore power.</p> <p>(Valve control only) Power supply to solenoid coil interrupted: loose wire. Inspect for loose fan wiring and reconnect.</p>
	<p>Solenoid coil failure (Valve control option only)</p>	<p>When the Evaporator is powered on and off, a distinct "click" should be heard indicating the opening/closing of the solenoid valve. If not, the solenoid coil may need to be replaced. Consult factory.</p>
	<p>No power to compressor</p>	<p>Power supply to Condensing Unit interrupted. Restore power.</p> <p>Check for loose wires and reconnect.</p> <p>Low pressure switch is open: On Valve control systems, make sure solenoid is energized. Jumper out switch to check for a faulty switch, and replace if necessary. Note that in installations below 0°F this switch may remain open. Consult factory.</p> <p>High pressure switch is open: refer to the "High Pressure Safety Shutdown" section.</p>
	<p>High pressure safety shutdown / high discharge pressure</p>	<p>Locate and correct source of high condensing head pressure:</p>
		<p>Refrigeration line blockage</p>
		<p>Condenser fan not operating in ambient temperatures above 90°F. Ensure that there is power to the Condensing Unit and verify the fan cycling control settings. Replace condenser fan and fan cycling control if necessary.</p>
		<p>Insufficient ventilation: reference Condensing Unit installation guidelines for proper placement and ambient temperature requirements. Correct to ensure adequate air ventilation to and from the Condensing Unit.</p> <p>Improper refrigerant charge: inspect for over-charged system or non-condensables in system.</p>

Issues	Possible Causes	Potential Solutions
<p>(Cont.) No cooling: no refrigerant flow.</p> <p>If the "snowflake" icon is illuminated on the temperature display control, the compressor should be running.</p>	<p>(Cont.) High pressure safety shutdown / high discharge pressure</p>	<p>Dirty or obstructed condenser coil: clean and remove all obstructions to airflow.</p>
	<p>Intermittent power to compressor</p>	<p>Check for loose wires and secure.</p>
		<p>Compressor cycling on internal thermal overload protection. Replace start capacitor/relay assembly</p>
		<p>Compressor cycling on high pressure - see "High pressure safety shutdown" section.</p>
		<p>Faulty compressor. Consult factory.</p>
<p>No cooling: Evaporator fan not blowing.</p> <p>If the "fan" icon is illuminated on the temperature display control, the fan should be blowing air.</p>	<p>No power to fan(s)</p>	<p>Power supply to Evaporator interrupted. Restore power.</p>
		<p>Power supply to fan interrupted: loose wire. Inspect for loose fan wiring and reconnect.</p>
		<p>Fan capacitor: check for loose wires or out of spec capacitance. Reconnect loose wires or replace capacitor(s).</p>
	<p>Fan obstructed</p>	<p>With power to unit disconnected, check the rotation of the blower fan. If fan does not spin freely, inspect for and remove obstructions. If no obstructions are found, the fan may need to be replaced. Consult factory.</p>
<p>Fan running but not drawing air through coil.</p>	<p>Fan short cycling: Make sure all housing panels are attached to the unit. Replace missing panels.</p>	
<p>Coil is blocked with ice. Refer to the "Iced coil" section.</p>	<p>If using a bottle probe, check placement and compare to actual cellar temp. Relocate probe if necessary to better correlate to actual cellar temperature.</p> <p>Probe fault: check for loose connections if splices were added in the field.</p> <p>Moisture in bottle probe jack: Can cause high readings, consult factory for solution.</p>	
<p>Iced coil</p>		<p>Temperature displayed is higher than actual cellar temperature</p>

Issues	Possible Causes	Possible Solutions
(Cont.) Iced Coil	Low refrigerant charge	System charged incorrectly. Review process and correct.
		Leak in system. Find and repair leak, recharge system.
	Mal-functioning thermostatic expansion valve.	Incorrect superheat setting: determine superheat and adjust. If expansion valve is faulty, replace.
		Expansion valve bulb not located correctly - review installation instructions and correct.
		Liquid flashing at the expansion valve inlet. See "High liquid line pressure drop" section.
	Condensing unit never shuts off	System is wired incorrectly. Locate correct wiring diagram for "Electronic" or "Valve" controlled system, trace wiring and correct.
		If a "Valve" control system, the low pressure switch may have failed closed. Check switch and replace if necessary.
No airflow	See "Evaporator fan not blowing" section	
Insufficient liquid sub-cooling	Low refrigerant charge	System charged incorrectly. Review process and correct.
		Leak in system. Find and repair leak, recharge system.
	High liquid line pressure drop	Check for plugged filter drier and replace if necessary.
		Inspect pipe routing for proper piping practices and correct.
		Liquid line picking up too much ambient heat - may need to insulate.

Maintenance

The condenser coils on the Condensing unit will collect dust, dirt and lint over time. If the condenser coils become clogged, the cooling unit will not have proper airflow and its performance and longevity will be compromised. The condenser coils themselves also can be cleaned with a vacuum cleaner – ideally with a brush attachment to loosen dust caught between the fins.

Alarms

The cooling unit has both an audible notification and a visual alarm indicator (shown in “red” on the control panel) that are activated when an alarm is triggered. **Please note:** the temperature alarms (HA and LA) are disabled during the first 23 hours of operation after the cooling unit is plugged in and/or turned on.

The control panel also will flash a code for each alarm, as follows:

Alarm	What it means	What to do
P1	Probe 1, which senses the temperature inside the cellar and controls the on/off cycles of the cooling unit, has failed	<p>The cooling unit enters a timed auto-cycle mode until Probe 1 is repaired or replaced. In this mode, the cooling unit will turn on for 12 minutes and off for 8 minutes.</p> <p>Please call CellarPro at 877.726.8496 to repair or replace Probe 1</p>
HA	The temperature inside the cellar is too warm (above 70°F for more than 1 hour)	<p>Check if the cellar has a leak Check if door was left open Lower the ambient temperatures</p>
LA	The temperature of the cellar is too cold (below 45°F)	<p>Raise the Minimum Set Point to 60°F Raise the ambient temperature</p>
CA	The condensate pump overflow level has been reached, and the cooling unit is automatically shut down.	<p>Inspect the external condensate drain line for obstructions. If no obstructions are found, remove the evaporator cover to inspect the condensate pump. WARNING: the cover will be full of water, hold level while removing the cover to avoid spilling water. Inspect the condensate pump inlet and clear any debris. Verify the drain line is connected to the pump and there are no line obstructions. Inspect the pump fuse, and replace if blown. If the “CA” error persists, contact CellarPro for further assistance.</p>

VI. Limited Warranty

For five years from the date of original delivery, your CellarPro warranty covers the internal compressor if it proves to be defective in materials or workmanship. In addition, for two years from the date of original delivery, your CellarPro warranty covers all parts and labor to repair or replace any components in the wine cooling unit that prove to be defective in materials or workmanship. The warranty will not be activated until the Warranty Activation Checklist has been completed and submitted to CellarPro. The warranty period starts from the time of purchase, regardless of the time of activation.

Under the terms of this warranty, CellarPro will repair or replace the original cooling unit with a new or refurbished cooling unit and, once replaced, the original cooling unit must be returned to CellarPro.

All service provided by CellarPro under the above warranty must be performed by a designated repair center, unless otherwise specified by CellarPro. Purchaser is responsible for shipping the cooling unit to and from CellarPro or to and from a designated repair facility, and for removing and reinstalling the cooling unit from the wine cellar.

The limited warranty applies only to cooling units purchased from the factory or an authorized dealer. Damage caused by others or by any cause beyond the control of CellarPro, shall not be considered defects in material or workmanship and are not covered by the warranty. The limited warranty does not cover any parts or labor to correct any defect caused by negligence, commercial use, accident, or improper use, maintenance, installation, service or repair.

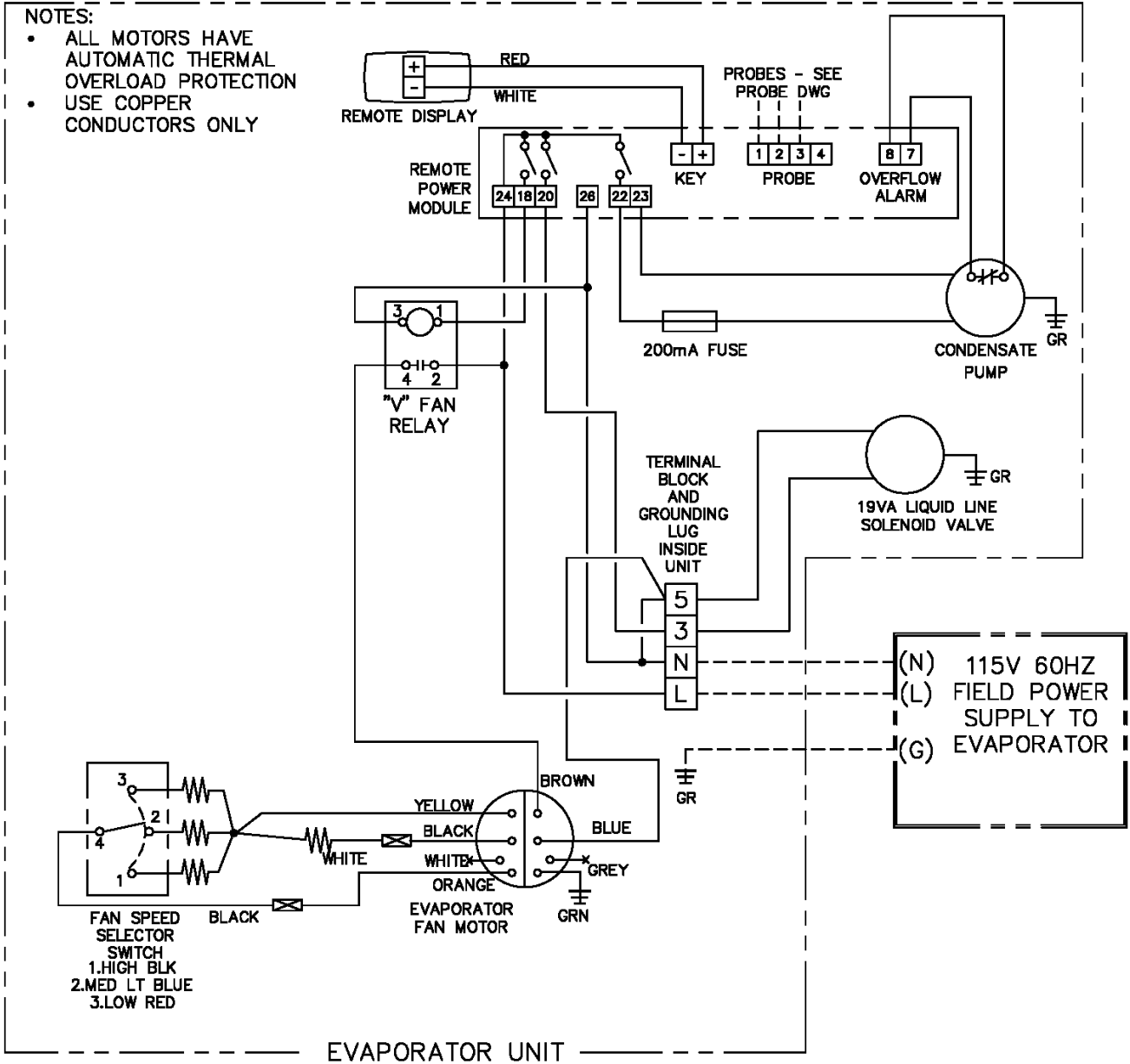
THE REMEDIES DESCRIBED ABOVE FOR EACH WARRANTY ARE THE ONLY ONES, WHICH CELLARPRO WILL PROVIDE, EITHER UNDER THESE WARRANTIES OR UNDER ANY WARRANTY ARISING BY OPERATION OF LAW. CELLARPRO WILL NOT BE RESPONSIBLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM THE BREACH OF THESE WARRANTIES OR ANY OTHER WARRANTIES, WHETHER EXPRES, IMPLIED OR STATUTORY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other legal rights, which vary from state to state.

To receive parts and/or service and the name of a CellarPro designated repair facility nearest you, contact your CellarPro dealer. You may also contact CellarPro directly by calling us at 1.877.726.8496.

Evaporator Wiring Diagram - Models 3000Scmr-EC, 4000Scmr-EC
 - Dual Power / Valve Control
 - Remote Controller

Appendix A

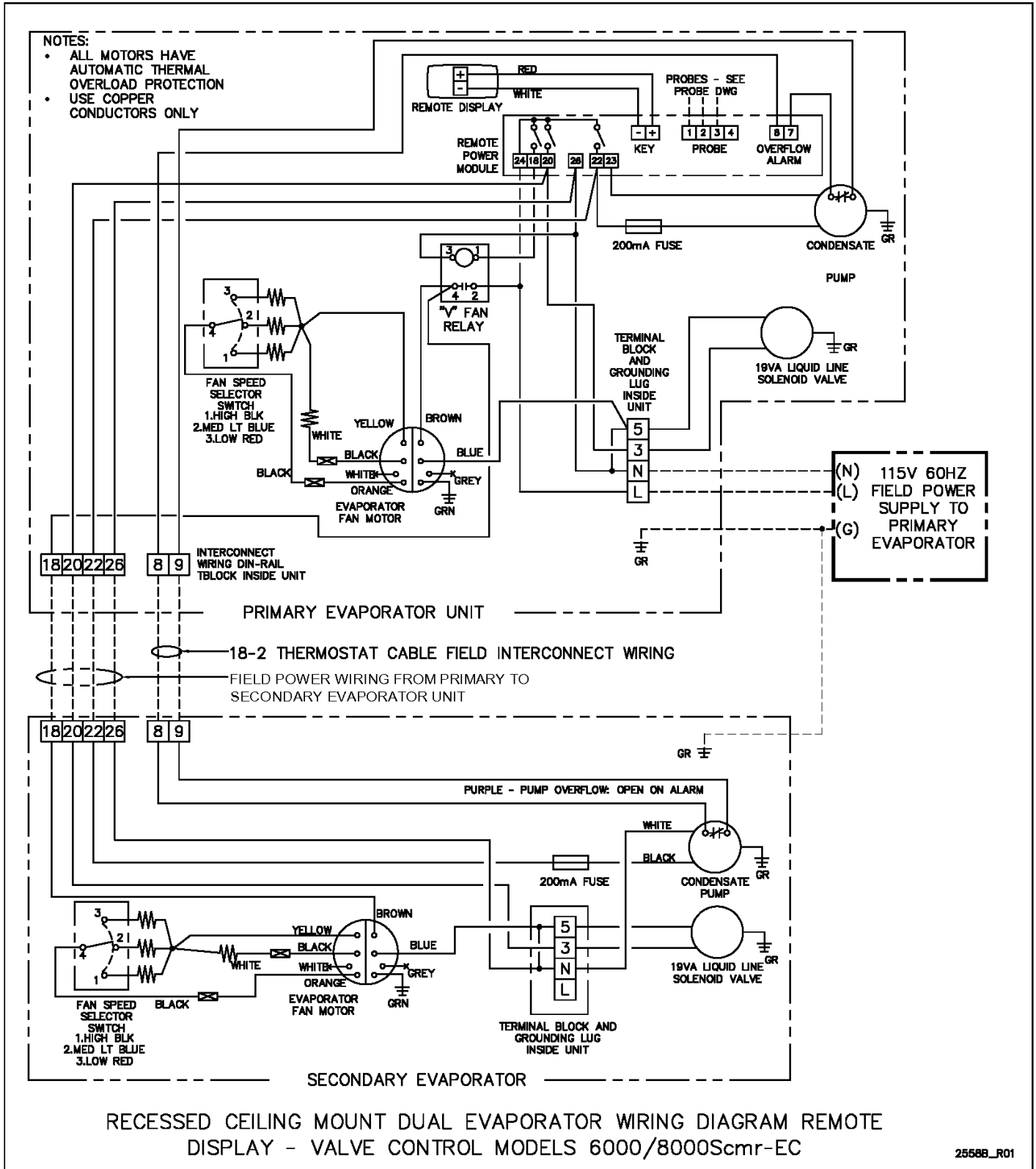


RECESSED CEILING MOUNT EVAPORATOR WIRING DIAGRAM REMOTE DISPLAY - VALVE CONTROL MODELS 3000/4000Scmr-EC

2558A_R01

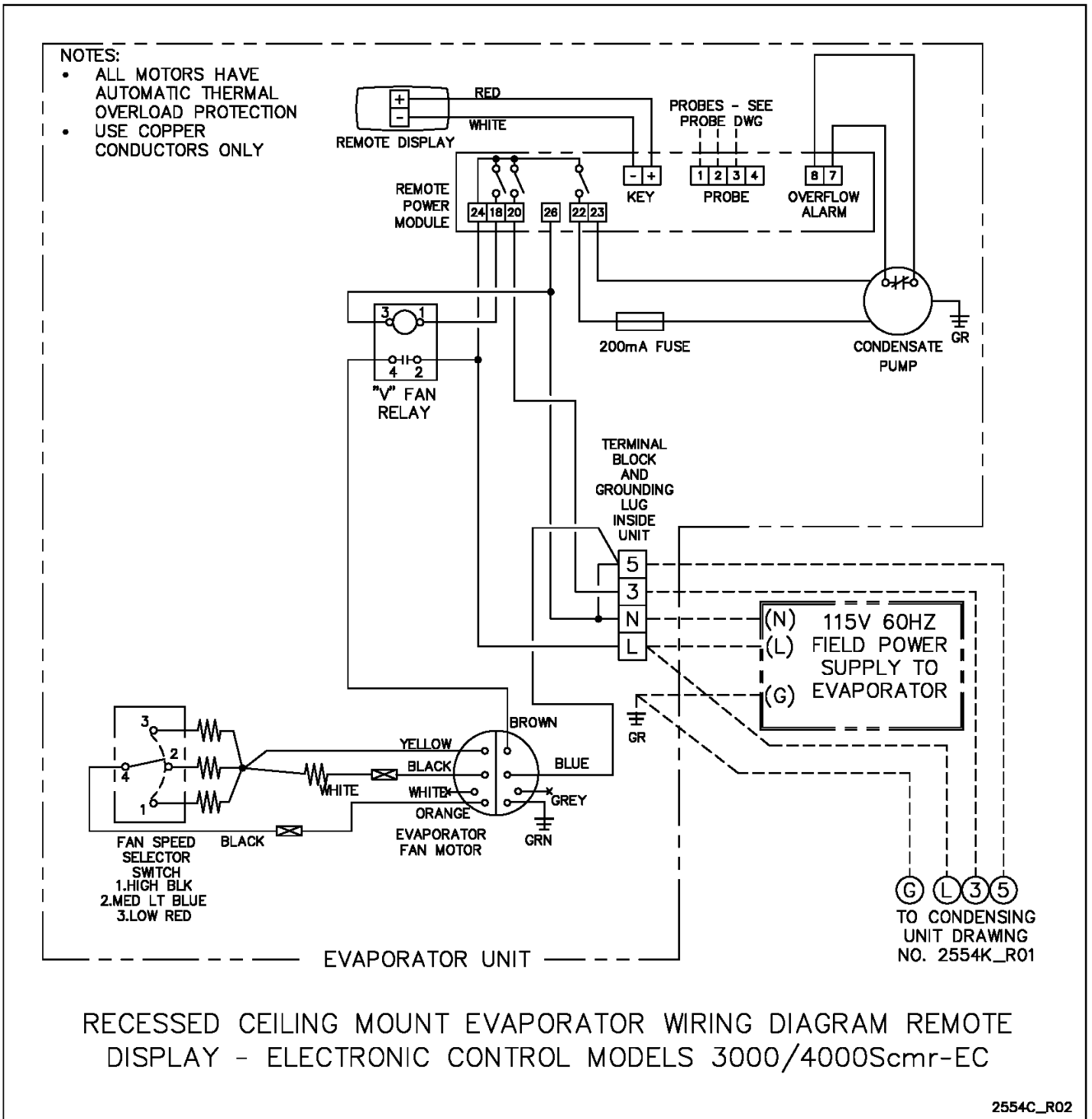
Evaporator Wiring Diagram - Models 6000Scmr-EC, 8000Scmr-EC
 - Dual Power / Valve Control
 - Remote Controller

Appendix B



Evaporator Wiring Diagram - Models 3000Scmr-EC, 4000Scmr-EC
 - Single Power / Electronic Control
 - Remote Controller

Appendix C

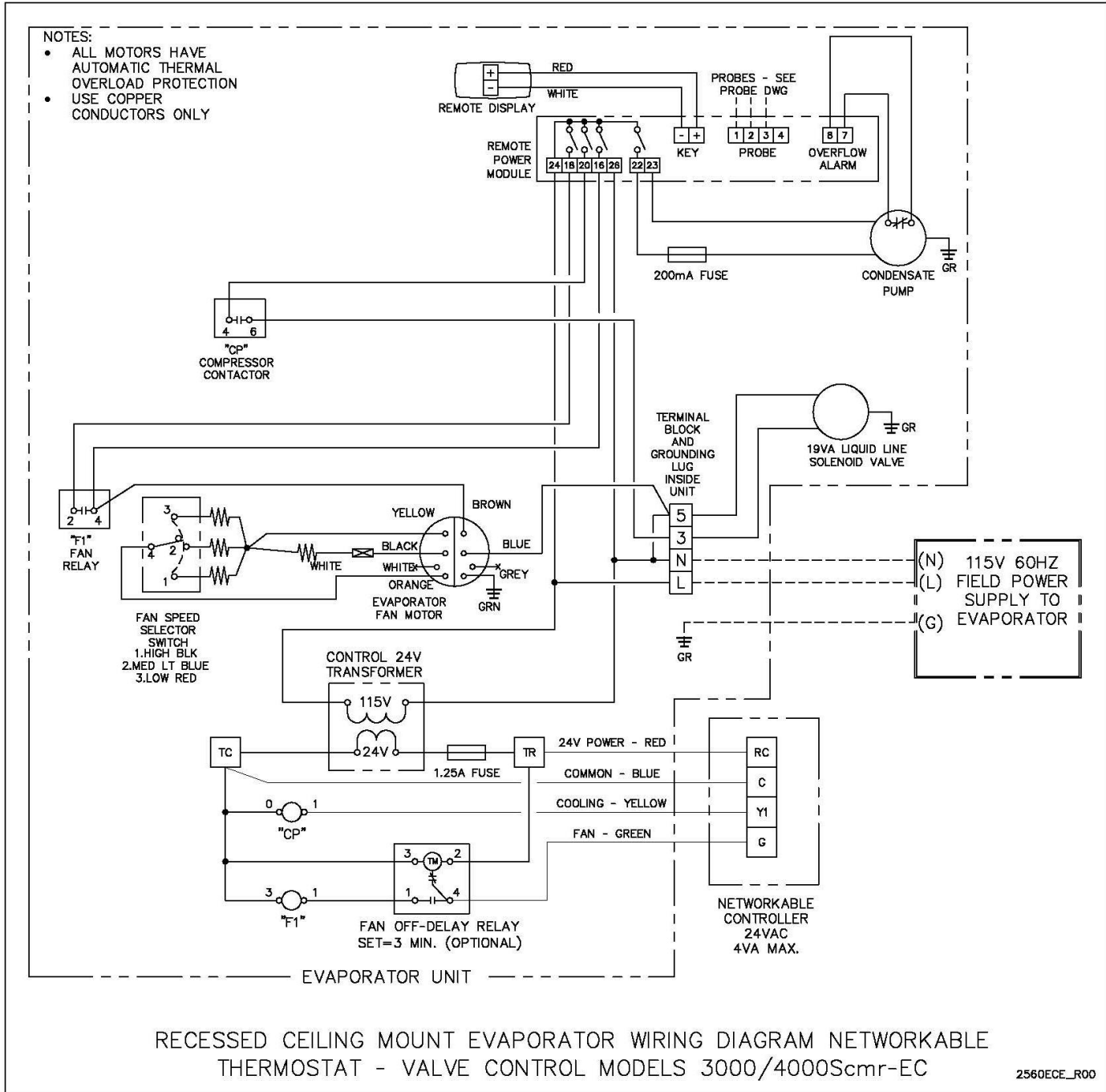


2554C_R02

Evaporator Wiring Diagram - Models 3000Scmr-EC, 4000Scmr-EC Appendix E

- Dual Power / Valve Control

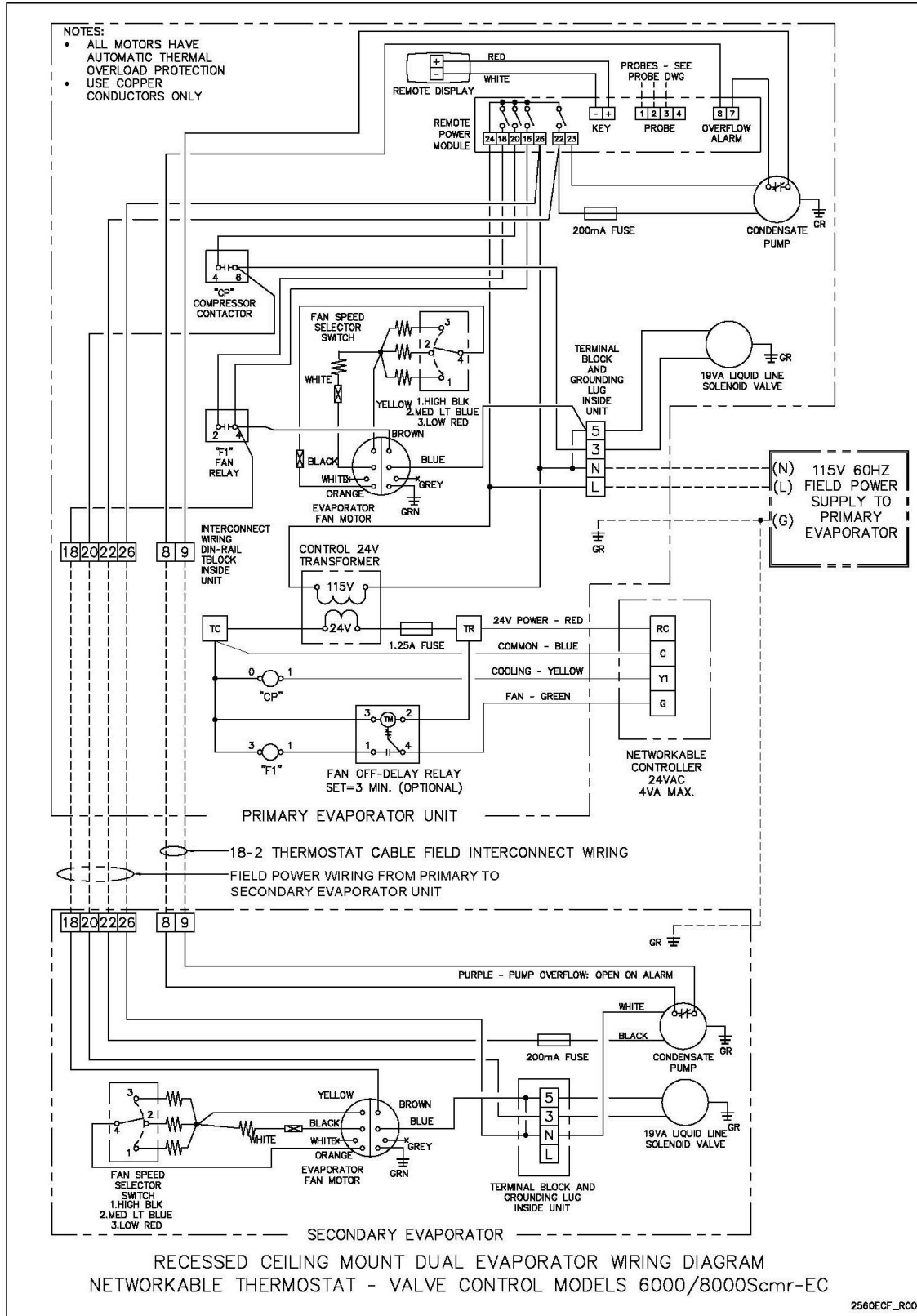
- Networkable Thermostat



Evaporator Wiring Diagram - Models 6000Scmr-EC, 8000Scmr-EC

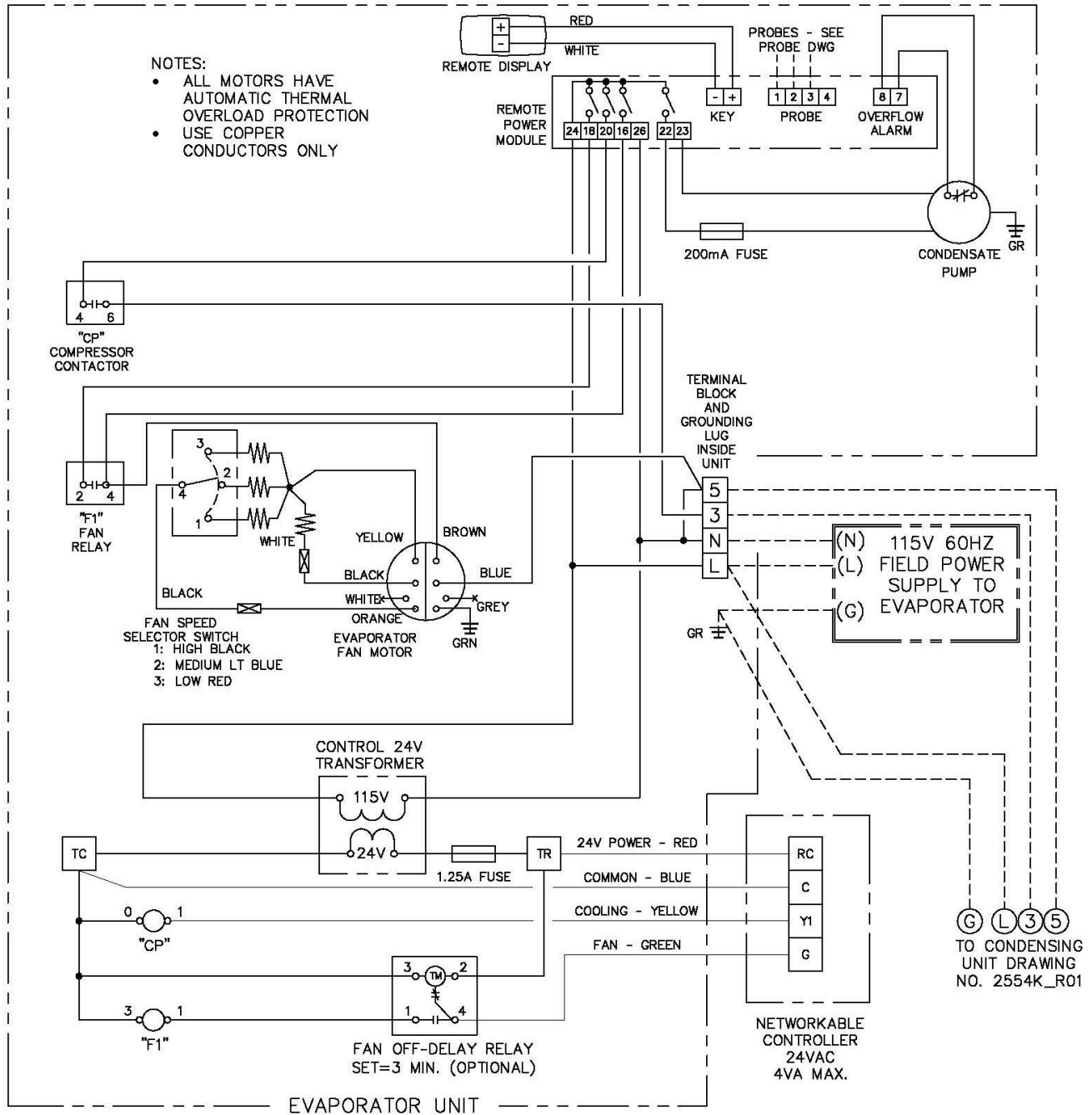
- Dual Power / Valve Control
- Networkable Thermostat

Appendix F



Evaporator Wiring Diagram - Models 3000Scmr-EC, 4000Scmr-EC
- Single Power / Electronic Control
- Networkable Thermostat

Appendix G



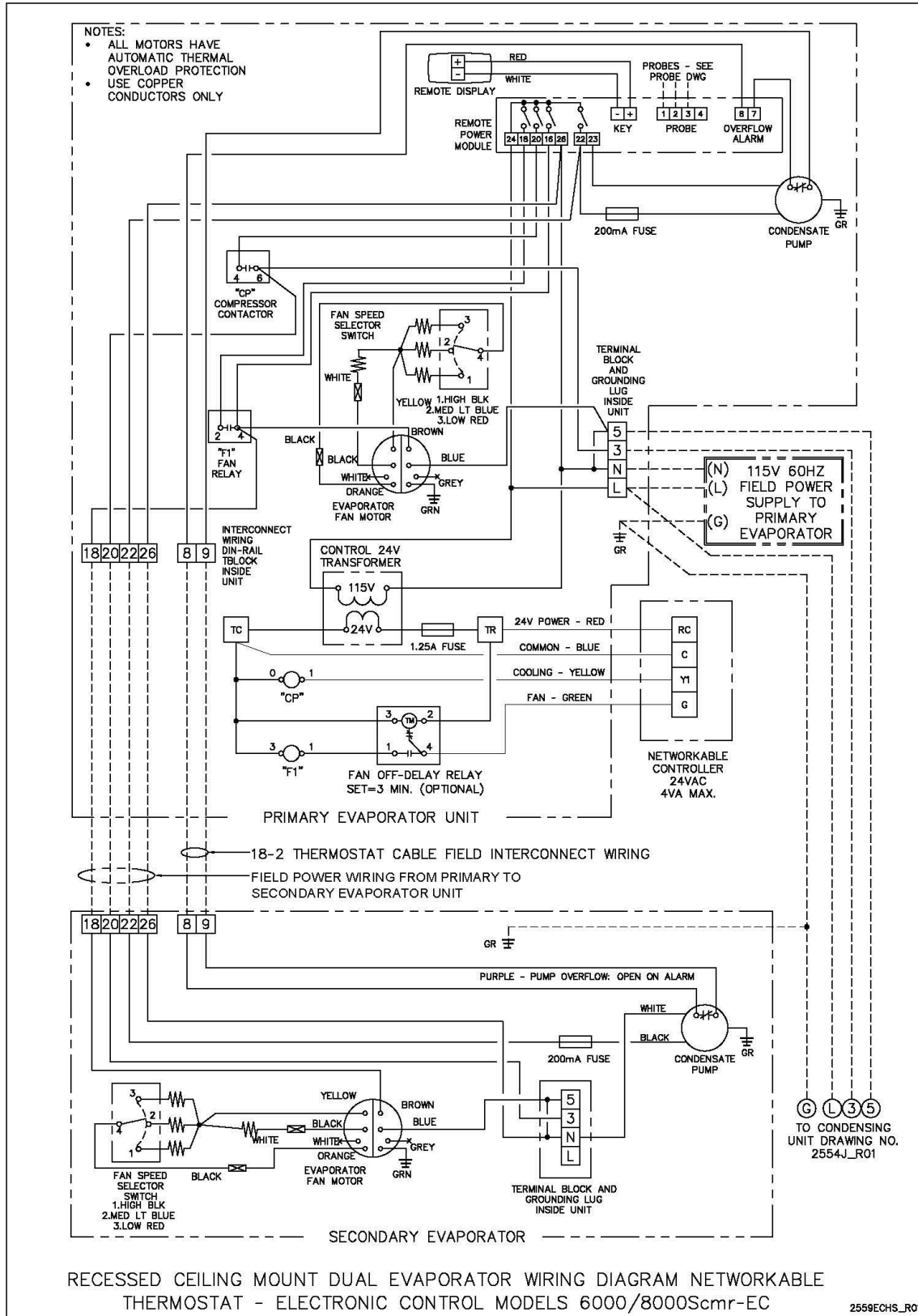
RECESSED CEILING MOUNT EVAPORATOR WIRING DIAGRAM NETWORKABLE THERMOSTAT - ELECTRONIC CONTROL MODELS 3000/4000Scmr-EC

2559ECG_R01

Evaporator Wiring Diagram - Models 6000Scmr-EC, 8000Scmr-EC

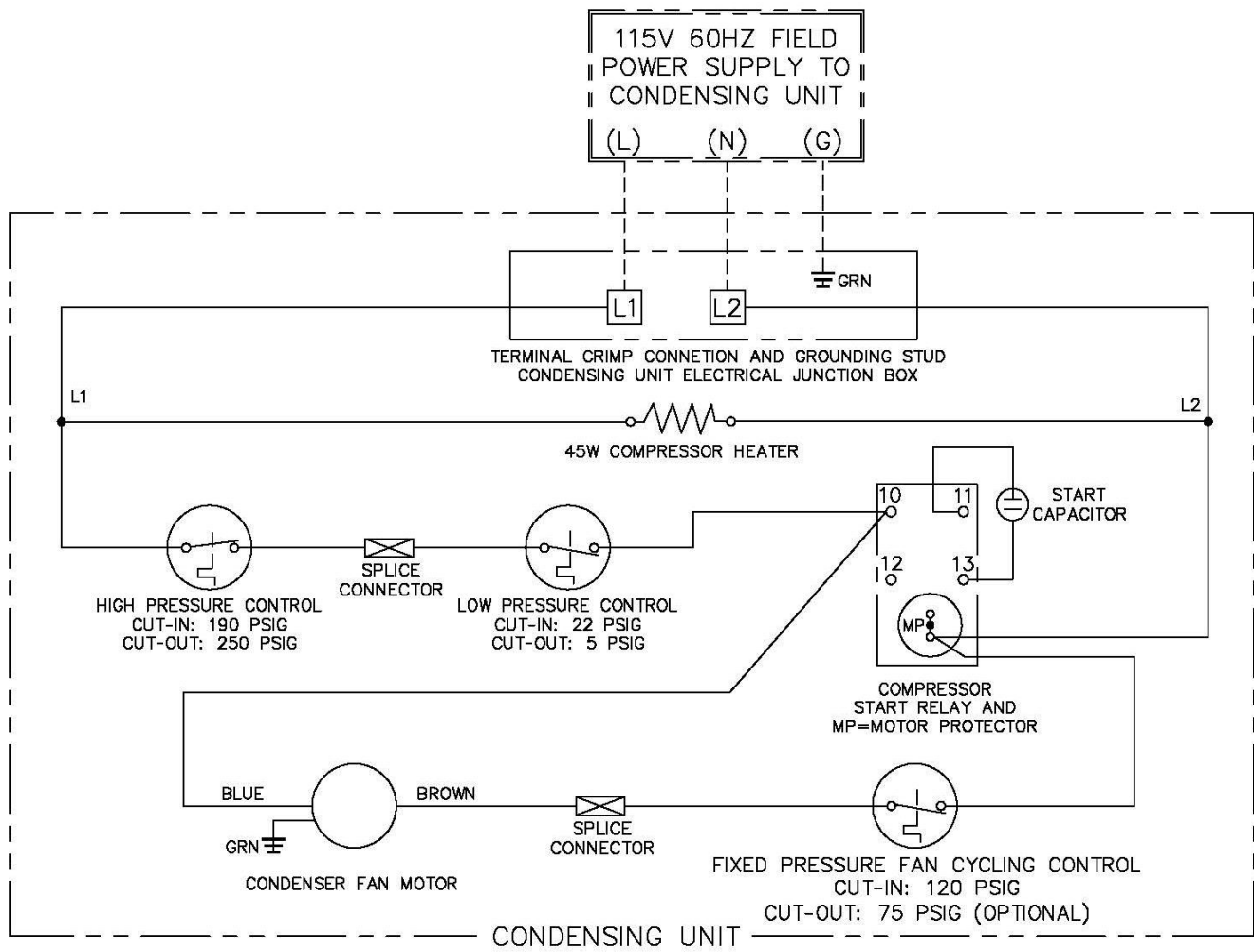
- Single Power / Electronic Control
- Networkable Thermostat

Appendix H



Condensing Unit Wiring Diagram
 - Models 3000Scmr-EC, 4000Scmr-EC
 - Dual Power / Valve Control
 - Remote Display or Networkable Thermostat

Appendix I



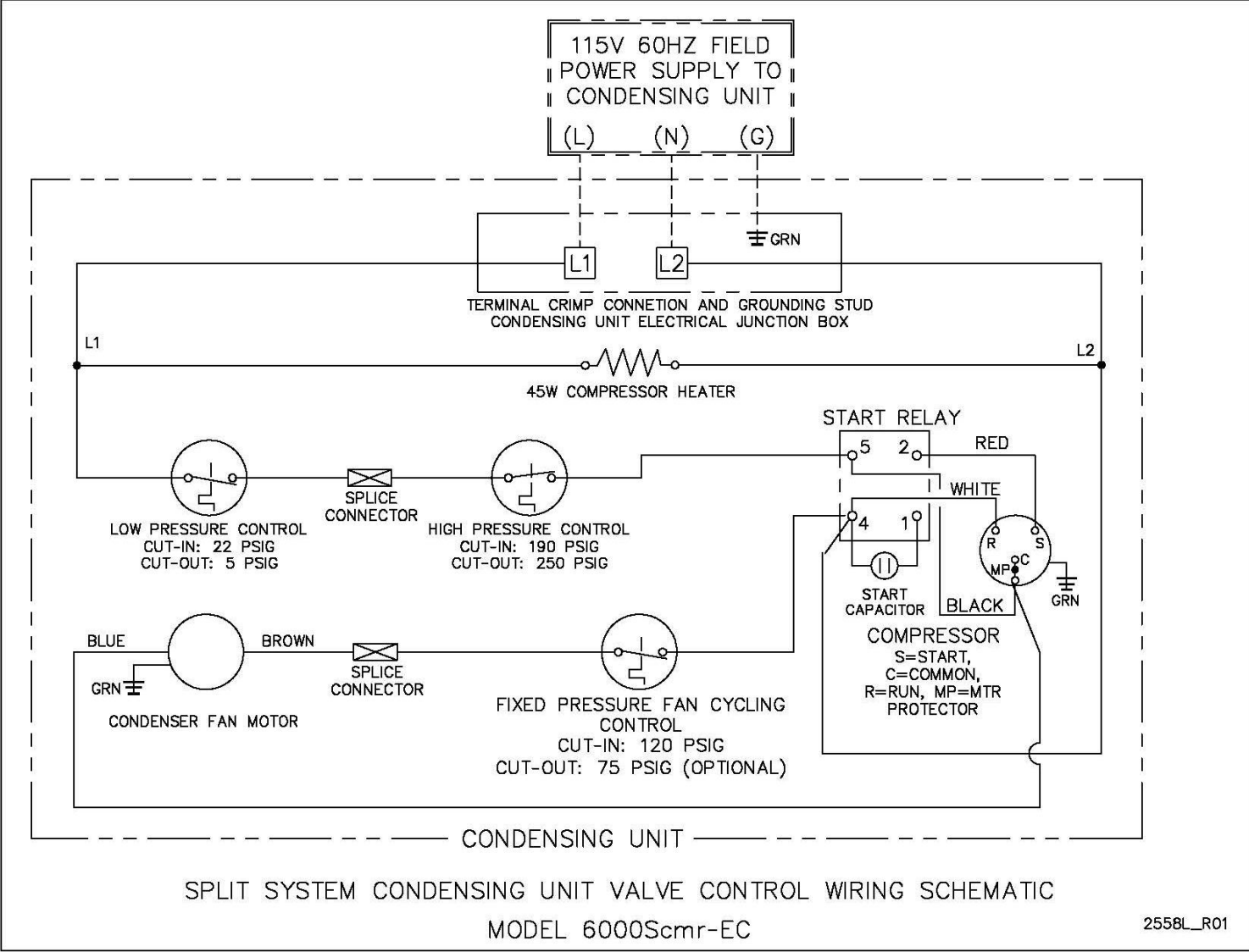
SPLIT SYSTEM CONDENSING UNIT VALVE CONTROL WIRING SCHEMATIC
 MODELS 3000Scmr-EC / 4000Scmr-EC

2558K_R01

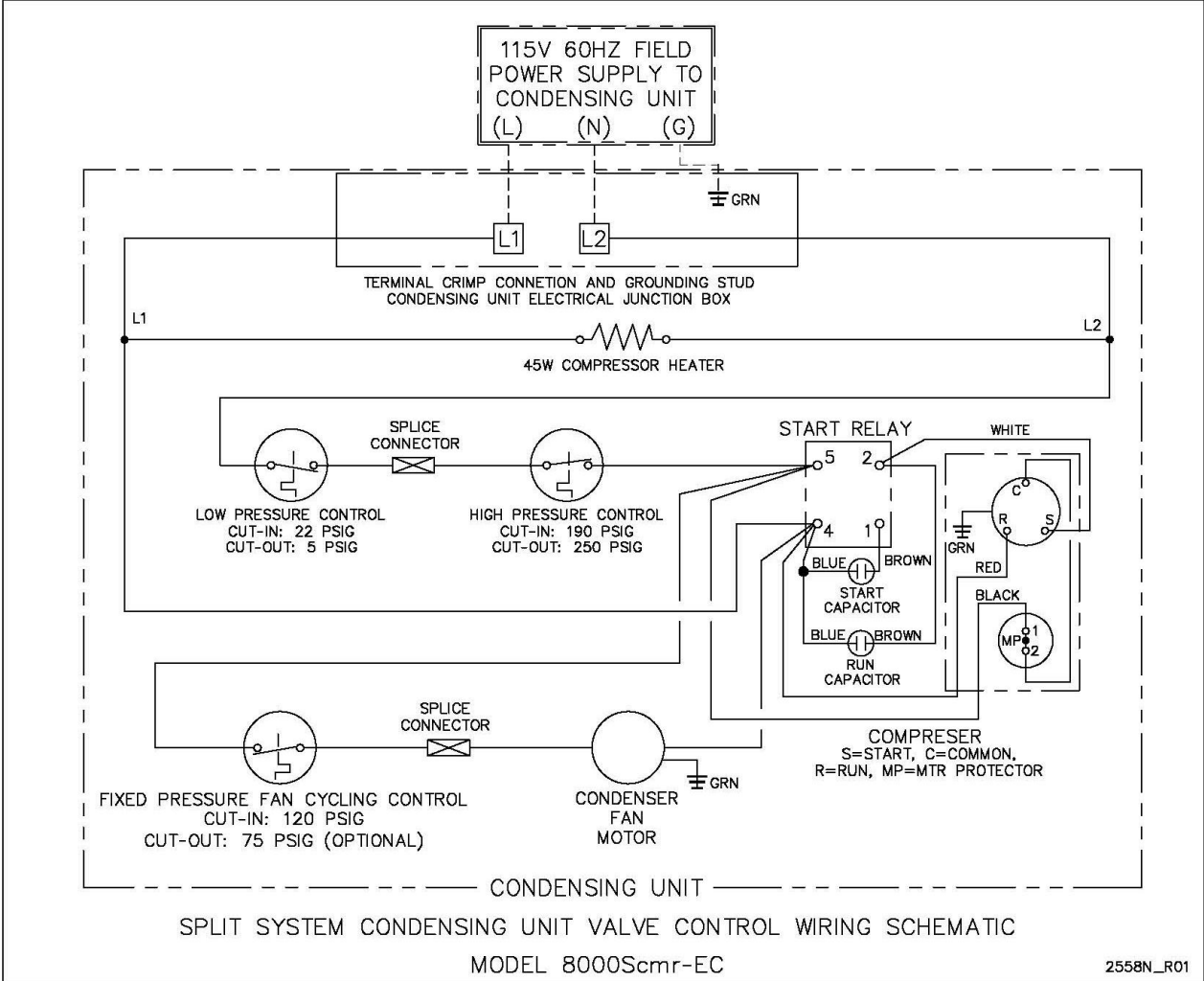
Condensing Unit Wiring Diagram

Appendix J

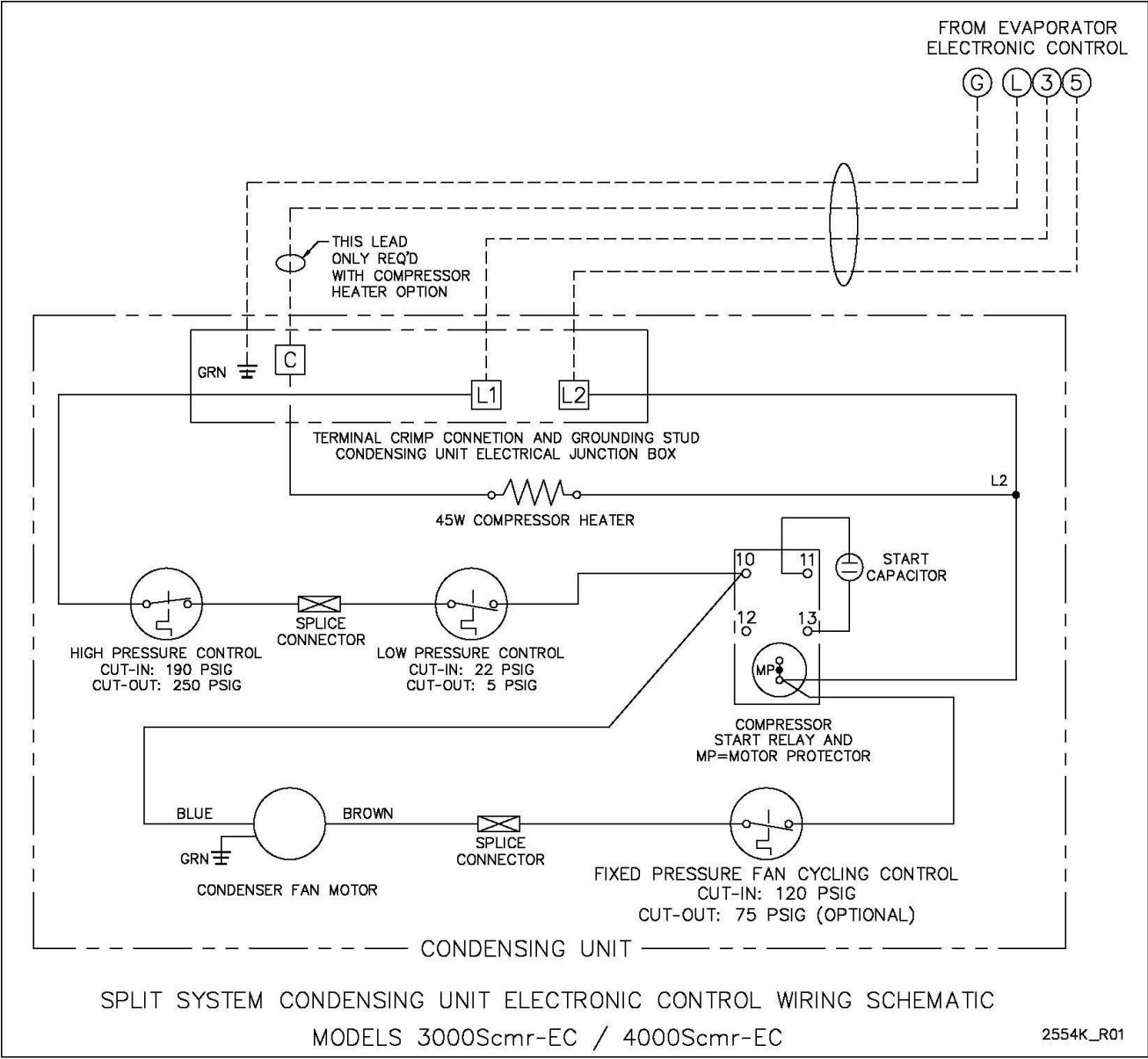
- Models 6000Scmr-EC
- Dual Power / Valve Control
- Remote Display or Networkable Thermostat



Condensing Unit Wiring Diagram
 - Models 8000Scmr-EC
 - Dual Power / Valve Control
 - Remote Display or Networkable Thermostat

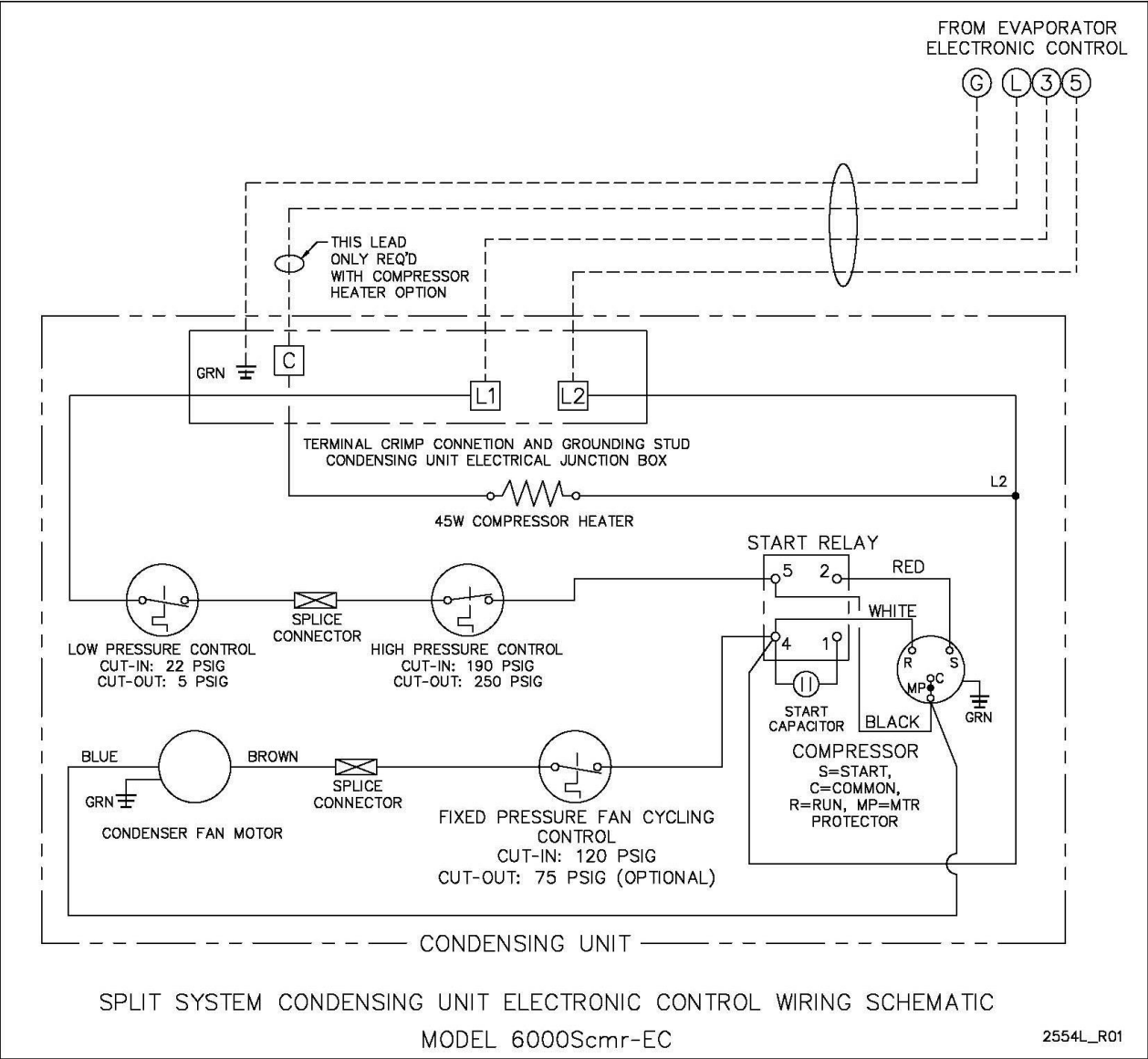


Condensing Unit Wiring Diagram
 - Models 3000Scmr-EC, 4000Scmr-EC
 - Single Power / Electronic Control
 - Remote Display or Networkable Thermostat



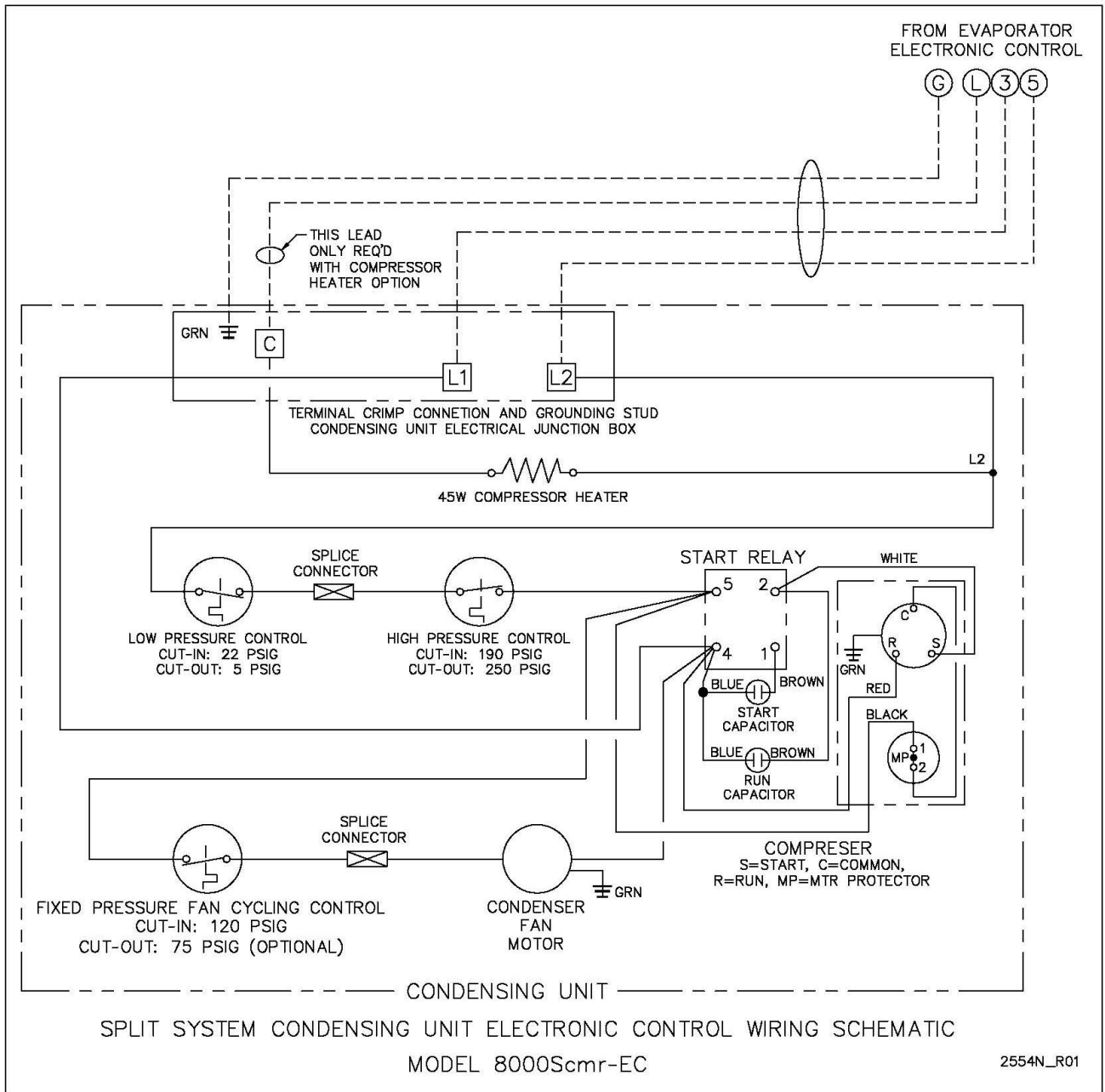
Condensing Unit Wiring Diagram
 - Models 6000Scmr-EC
 - Single Power / Electronic Control
 - Remote Display or Networkable Thermostat

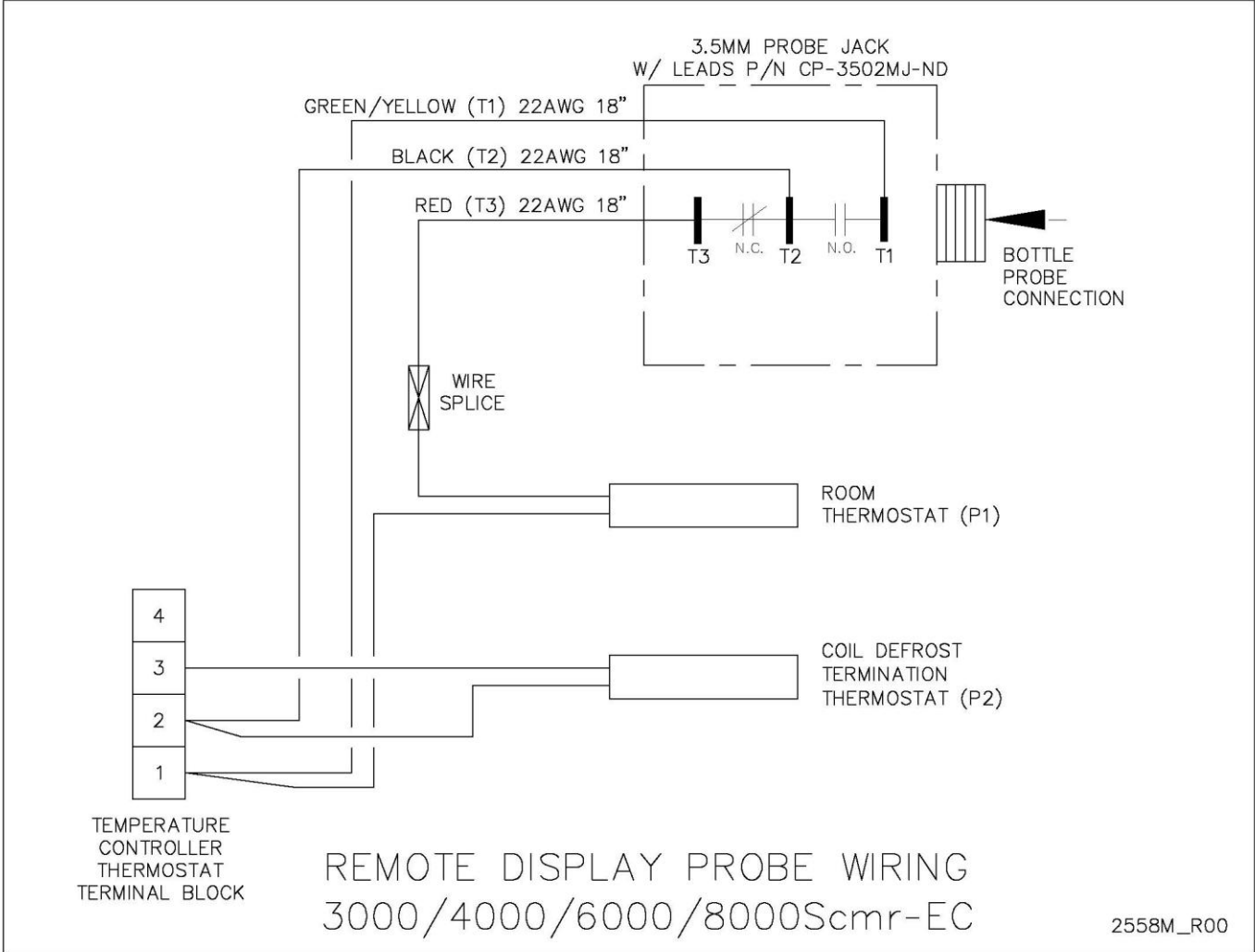
Appendix M



Condensing Unit Wiring Diagram
 - Models 8000Scmr-EC
 - Single Power / Electronic Control
 - Remote Display or Networkable Thermostat

Appendix N





****REQUIRED** TO ACTIVATE THE WARRANTY.
 INSTALLERS **MUST** FILL OUT THIS SHEET AND FAX TO **707.794.8005** OR
 SCAN & EMAIL TO INFO@CELLARPRO.COM**

CellarPro Split Systems must be installed by an experienced professional in adherence with industry practices and as described in the manual. If you need technical assistance during the installation, call 877.726.8496 x2.

Tech Name: _____ Tech Phone: _____

Email for Warranty Activation: _____ Date: _____

System Information

Piping Information

Customer Name		R-134a System Charge (lb)	
Condensing Unit Model #		Line-set Length (ft)	
Condensing Unit Serial #		Liquid line diameter (OD)	
Evaporator Model #		Suction line diameter (OD)	
Evaporator Serial #		Tested for Drainage	___ Y / ___ N
Operation Start Date		Charged Trap (Scmr N/A)	___ Y / ___ N
Power to Condensing Unit (Check One)	___ From Evaporator ___ From External Source		
Power to Compressor Heater – Included with all split systems (Check One)			
- 3000S – 8000S & Scmr Split Systems	___ Wire “L1” ___ Wire “C – Comp Htr”		
- AH3500S – AH8500S Split Systems	___ Terminal “L1” ___ Wire “K”		
- AH3000Scmr – AH8000Scmr Split Systems	Factory Wired		
Initial Refrigerant Charge Through (Check One)	___ Suction Access Valve ___ Liquid Access Valve		

Operational Data: Take the following measurements during a normal refrigeration cycle, once the cellar has pulled down to the set-point temperature. Make sure the compressor is running when recording the data.

Evaporator

Range

Air temp at Evaporator coil (°F)	Inlet		Outlet		TD		8-10°F TD
Evaporator power supply	Volts				Amps		103-127 V Nameplate Amps

Condensing Unit

Air temp at Condenser coil (°F)	Inlet		Outlet		TD		20-30°F TD
Suction readings access valve	PSIG		°F		SH		25-40 PSIG CRITICAL: 20°F Min. Superheat
Liquid readings at access valve	PSIG		°F		SC		105-230 PSIG 1-12°F Subcooling
Condensing unit power supply	Volts				Amps		103-127 V Nameplate Amps
odS Setting	Condensing Unit Installation (Check One)					___ Indoor ___ Outdoor	