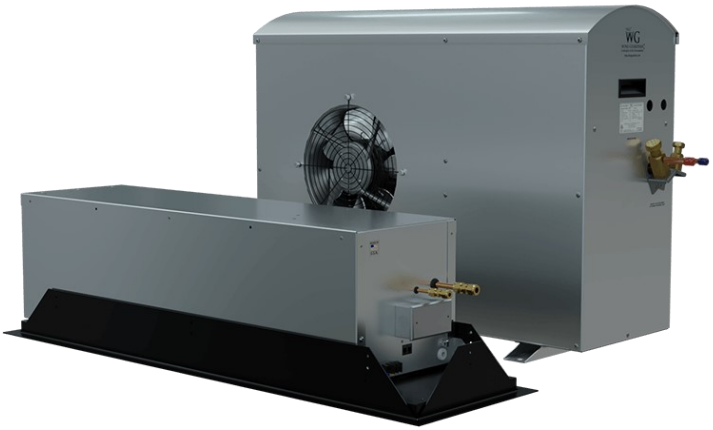
# Wine Guardian®

## Wine Wall Ceiling System Wine Cellar Cooling Units

### Models: CS025, CS050 (60Hz)

### WGC40, WGC75 (50 Hz)



# Quick Start Installation Guide

WINE GUARDIAN®

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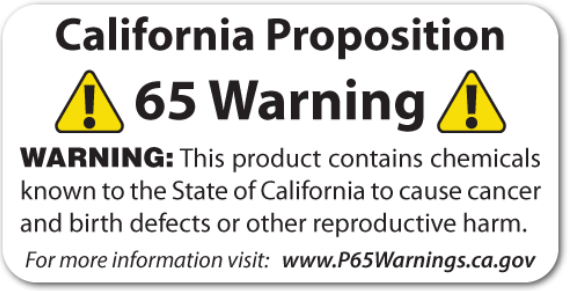
Part # 15H0428-00 Rev C 07/2024

## Wine Guardian Ceiling System

This document is a pictorial guide for installing the Wine Guardian Ceiling system. It is not intended to replace the detailed instructions found in the Installation, Operation and Maintenance (IOM) manual, which includes important safety messages all installers and owners should follow for safe and optimal performance of the system.

Complete IOM manuals can be found by going to the Support tab and choosing the Resources and Owners Manuals page on wineguardian.com. If you have additional questions related to your Wine Guardian Ceiling System, please contact our authorized Wine Guardian distributor or your local Wine Guardian office.

Please fill out the WG Split System start-up checklist that can be found by downloading the full Installation, Operation, and Maintenance manual from our website, for your model split



***Humidification — Stand-alone***
Ideal for adding humidity to your wine cellar.

***Temperature / Humidity Remote Sensors***
Sense and control multiple locations (maximum of three) within your room. Ideal for odd shaped rooms or multi-room applications.

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**1. Unpackage**

A. Remove unit from box. Check for any signs of concealed damage, and that all optional equipment has been provided. Contact Wine Guardian immediately if components are missing or/if unit has been damaged in shipping.

B. Shipment includes:
- One (1) Wine Wall Fan-coil unit
- One (1) Mounting flange
- One (1) Wine Wall Diffuser Assembly
- One (1) Condensing unit
- One (1) Remote Interface Controller with 50’ control cable
- One (1) Documentation Bag with auxiliary data plate
- One(1) Hinge Safety Clip
- Two(2) 1/4” Hex Head Screws for mounting the Fan-Coil unit

## 2. Installing the Fan-Coil

Decide where the unit will be mounted, consider the supply/return orientation so that cold air supply is not directed at windows or glass panels and to ensure the utilities can be connected to the correct side of the unit. The Wine Wall Ceiling system consists of a Fan-coil unit, a mounting flange, and a diffuser.

The Fan-coil can be located either above or below the condensing unit in height. Keep any height difference to a maximum of 15' (4.57 meters). (Fig 1)

Fig. 1

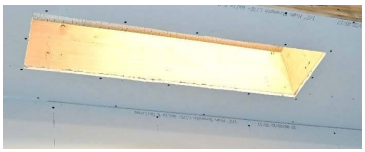


Fig. 2

Fig. 3

Fig. 4

Fig. 5

### *Mounting The Fan-Coil*

A. Cut an opening in the ceiling 42-3/8" (107.6cm) long x 10-5/8" (27 cm) wide. Frame out opening using 2 x 12 boards between joists to accept the Wine Wall mounting flange. Or if joist spacing is wider than 12" (30.5 cm) on centers add additional joist framing to achieve the desired framed opening. (Fig 2)

B. Install the mounting flange into the ceiling opening and secure to the framing at all points using 1-1/2" long construction screws. Please note the location of the hinge hook on the mounting flange. The hinge hook side of the mounting flange should be placed opposite the utility connection side of the unit. (Fig 3)

C. Install insulation directly above the area to ensure above the fan-coil is well insulated to protect from condensation issues and loss of cooling capacity. (Fig 4)

D. Locate the mating hinge pin assembly on the fan-coil unit. Lift the fan-coil assembly into the opening within the ceiling and connect the two hinge pin assemblies together so that the fan-coil hangs from the ceiling. (Fig 5)

E. IMPORTANT - Install the Safety clip onto the mounting flange hinge hook assembly to lock the fan -coil into place and prevent it from slipping off of the hinge hook during installation. (Fig 6)

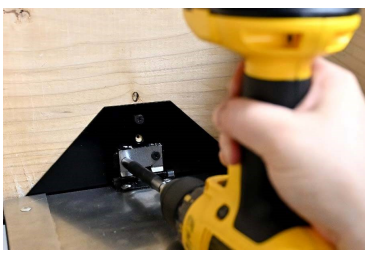


Fig. 6

Fig. 7

Fig. 8

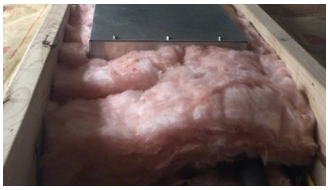


Fig. 9

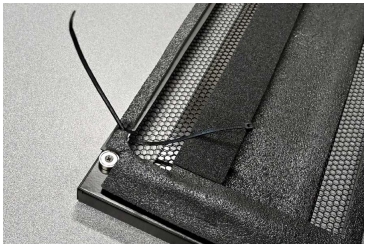


Fig. 10

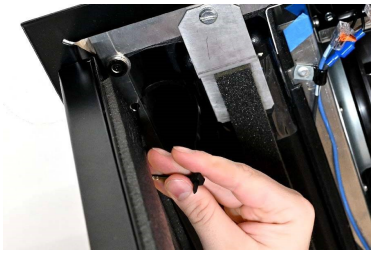


Fig. 11

F. Swing the fan-coil chassis up into place and secure to the mounting flange at utility connection end using the ¼" hex head screws provided with the unit. Please note the connection points are slotted for adjustment of the fan-coil up or down as needed to create a flush, level installation. (Fig 7)

G. Connect utilities including refrigerant piping, drain line, 24 volt control, controller cable and optional humidifier. Please note, utilities should be routed a minimum of 5"(13 cm) above the finished ceiling in order to clear the Wine Wall mounting flange. (Fig 8)

H. Pack the utility connection cavity and sides of unit with batt insulation or spray foam on all sides of the unit to prevent against condensation.(Fig 9)

I. IMPORTANT – Insert safety straps (2) into the holes at both ends of the diffuser assembly as shown and leave disconnected. (Fig 10)

J. IMPORTANT – Move diffuser assembly into place making sure the magnets line up. Route the two safety straps through the holes at either end of the fan coil chassis. Connect ends of straps together and tighten enough to let grille assembly swing freely from the ceiling (approximately 2 inches (5 cm). DO NOT OVER TIGHTEN (Fig 11)

K. Move grille assembly into place making sure safety straps are placed inside chassis. Allow magnets to engage and hold diffuser into place. (Fig 12)

**Note:** To remove the diffuser, pull downward at one end of the diffuser until the magnets disengage.

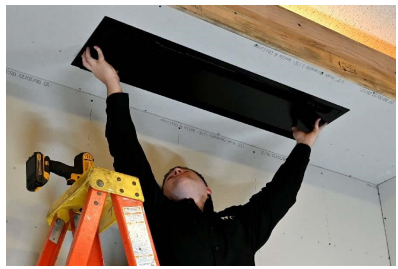


Fig. 12

## Fan Coil

***A.*** Suction Line

***B.*** Liquid Line

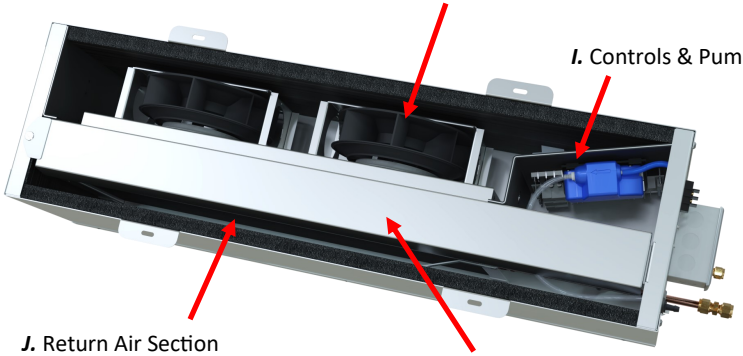
***C.*** Optional Humidifier

***G.*** Junction Box for Primary Power

***E.*** RJ9 Control Cable

***D.*** Drain Line Connection

***F.*** 24-volt Connection to Condensing Unit



***H.*** Supply Air Section

***I.*** Controls & Pump Section

***J.*** Return Air Section

***K.*** Condensate Drip Pan

## ***Condensing unit***

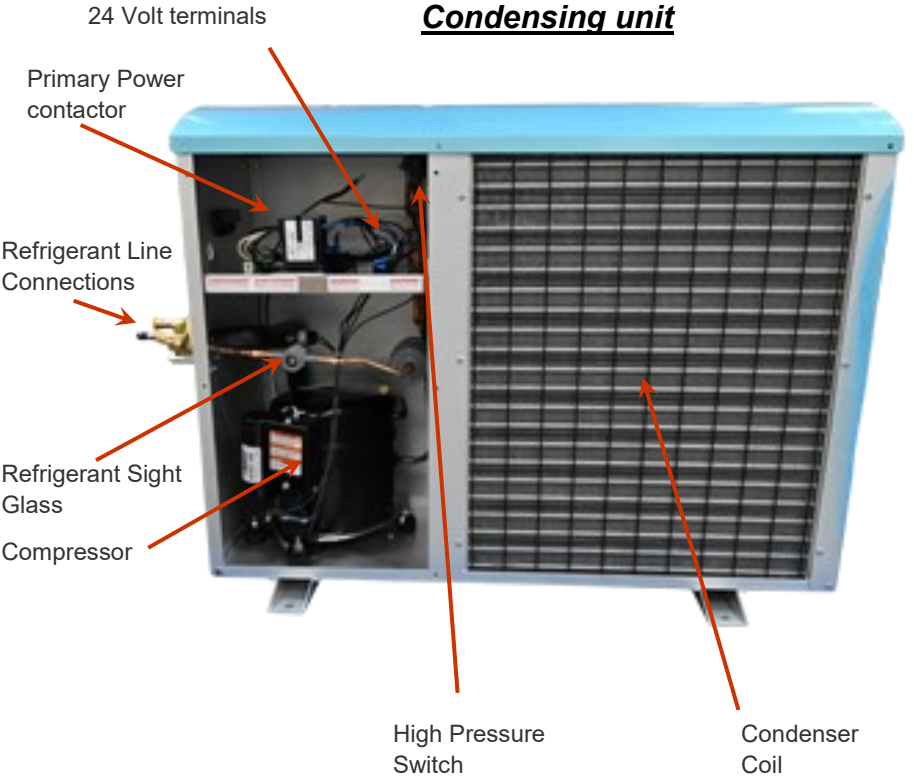


Fig. 1

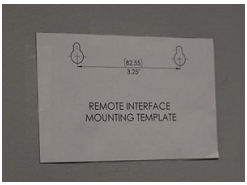



Fig. 2

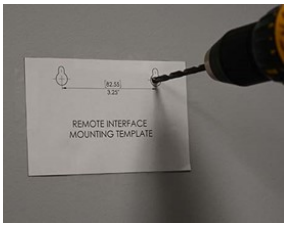



Fig. 3

Fig. 4

### 3. Installing Thermostat (Wired)

1. Remove the comm cable from the zip lock bag and attach it to the side of the Wine Guardian unit (Fig. 1)

A.) Route the communication cable within the wall and/or ceiling structure of the wine cellar to the desired controller mounting location.

B.) Plan on mounting the remote interface controller on a solid surface away from doors, corners, air outlets, drafts or heat generating equipment. Do not mount the remote interface controller directly on an outside wall, a wall adjacent to a boiler room, or other hot area. Use a piece of foam insulation behind the sensor to insulate it from a hot or cold surface. The recommended height 5ft to 6ft (1.5m to 1.8m) above the finished floor.

2. Locate the Mounting Template upon the wall where the Controller will be mounted (Fig. 2). Using the crosses on the template to assist in levelling the template.
3. Drill two 1/8” holes and insert anchors at the marked locations. Anchors may not be required if securing to a wall stud or racking system. Insert the screws into the holes and test fit the backing plate to ensure it mounts easily onto the two screws and slides down onto the slotted opening freely (Fig. 3).
4. Plug in the communication cable to the back of the remote interface controller backing plate.

A.) If using multiple Remote Interfaces either connect each Sensor to each other in series using RJ9 cable or purchase a RJ9 Splitter to be used on the unit.

5. Attach the Controller to the wall (Fig. 4).

***Note: For wireless installations or multiple remote interfaces, refer to the full version manual located at***

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### 4. Condensate Drain

A. Wine Guardian ceiling systems come equipped with a condensate pump system. Connect the drain line to the barbed fitting at the unit and run the drain line to the nearest drain location.

## 5. Installing the Condensing Unit

A. Wine Guardian condensing unit must be mounted horizontally on its base as shown and be level to +/- ¼" end to end and 1/8" side to side.

B. A minimum of 12 inches is required around the perimeter of the condensing unit for proper airflow across the unit and for service access.

C. Provide a half-inch downward slope in suction and liquid line toward the condenser for every 10 feet of line-set to prevent an oil return issue from occurring. This will allow oil in the system to return to the compressor when the system is off to ensure the system remains lubricated.

D. Mount system on concrete slab outside above average snow fall heights. Unit can also be mounted to side of house or within a large indoor crawl space, attic, or mechanical room that is at least three (3) times the size of the cellar.

E. Prevent dips, sags, or other low spots that will trap refrigerant oil.

F. Evacuate and leak test indoor unit suction and liquid lines by purging the dry air charge from the unit by opening the liquid line shut-off valve or removing the liquid line outlet fitting or plug, whichever is applicable for your unit.

G. Pressurize and leak test system (the condensing unit comes pre charged). A pressure equal to the low side test pressure marked on the unit nameplate is recommended for leak testing.

H. Evacuate the system to hold at 500 microns and break the vacuum with refrigerant. Charge the system with the correct amount of refrigerant and mark the amount, with a permanent marker in the space provided on the unit nameplate. (See chart on below)

I. See the full Wine Guardian Operations and installation manual for comprehensive charging procedure. At www.wineguardian.com. Includes charts for system Pressures, Superheat, and Sub-cooling.

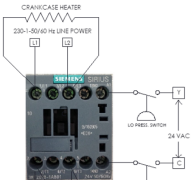
| MODEL | LIQUID LINE (OD) | SUCTION LINE (OD) |
|---|---|---|
| **CS025** | 1/4 inch | 3/8 inch |
| **CS050 / WGC60** | 1/4 inch / 0.635 cm | 1/2 inch / 1.27 cm |

System Charging

| Assuming a 25' Line-Set Installation | | | | |
|---|---|---|---|---|
| Model # | Total Charge Required | Holding Charge Present | Charge That Must Be Added | Additional Charge to add for XLA1 option |
| *60Hz Models* | | | | |
| CS025 | 58 oz | 16 oz | **42 oz** | 4 oz |
| CS050 | 66 oz | 16 oz | **50 oz** | 4 oz |
| *50Hz Models* | | | | |
| WGC75 | 64 oz | 16 oz | **48 oz** | 4 oz |
| WGS40 | 58 oz | 16 oz | **42 oz** | 4 oz |

| Assuming a 25' Line-Set Installation | | | | |
|---|---|---|---|---|
| Model # | Total Charge Required | Holding Charge Present | **Charge That Must Be Added** | **Additional Charge to add for XLA[1] option** |
| *60Hz Models* | | | | |
| SS018 | 47 oz | 16 oz | **31 oz** | 4 oz |
| CS025 | 58 oz | 16 oz | **42 oz** | 4 oz |
| DS025 | 59 oz | 16 oz | **43 oz** | 4 oz |
| CS050 | 66 oz | 16 oz | **50 oz** | 4 oz |
| DS050 | 55 oz | 16 oz | **39 oz** | 4 oz |
| DS088 | 105 oz | 16 oz | **89 oz** | 6 oz |
| DS200 | 108 oz | 16 oz | **92 oz** | 6 oz |
| *50Hz Models* | | | | |
| WGS25 | 50 oz | 16 oz | **34 oz** | 4 oz |
| WGC60 | 64 oz | 16 oz | **48 oz** | 4 oz |
| WGS40 | 58 oz | 16 oz | **42 oz** | 4 oz |
| WGS75 | 64 oz | 16 oz | **48 oz** | 4 oz |
| WGS100 | 106 oz | 16 oz | **90 oz** | 6 oz |
| WGS175 | 110 oz | 16 oz | **94 oz** | 6 oz |

[1]XLA – Extreme Low Ambient Option




**6. Wiring the Unit for Power**

A. Connect line power to the contactor inside the condensing unit as shown.

B. Run 24 volt low voltage signal wires from Y and C terminals on fan coil to Y and C connections in condenser housing (shown in image to the left).

C. Turn on power to the condensing unit 24 hours prior to system start-up to allow crankcase heater to warm up compressor.

***See page 20 in owners manual for full wiring schematic. Inside of condensing unit also contains**

**7. Turn Unit On**

A. Turn on power to the Fan-coil. Press the "On/Off" button on the Remote User Interface. The Remote User Interface is preset to a room temperature of 55°F (13°C).

B. Press the "Up" arrow once. The display will show the existing temperature setpoint. Press the "up or down" arrow buttons to adjust the temperature to the desired setpoint.

C. The system will turn on after a 5-minute time delay and the cold air section will start to deliver cold air. Contact Air Innovations if the system fails to turn on.

Warranty

The Wine Guardian unit serial number is noted on all packing lists and bills of lading and, along with shipping date, is kept on file at Wine Guardian for warranty purposes. **All correspondence regarding warranty must include the model number and serial number of the unit involved. Note** that the warranty is null and void if the serial number on the unit or compressor is altered, removed, or defaced. All Inquiries or correspondence regarding warranty should be handled in accordance with the “Warranty” and directed to:

**Wine Guardian**

7000 Performance Drive

North Syracuse, New York, 13212

Attn: Service Department

This procedure includes but is not limited to

- Obtaining authorization from Wine Guardian prior to incurring any charges for repair or replacement under warranty.
- Or returning prepaid within 30 days any and all defective parts.

# *Wine is Your Passion*

# *Preserving it is Ours*

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