

## Types of Wine Cellar Cooling Solutions Sold by ChicagoWineCellarExpert.com

When cooling a wine cellar the primary question to ask is “Where can I exhaust the heat?” Some cooling units exhaust the heat into an adjacent room, some into the air outdoors, and some units transfer the heat into water that flows through the condenser. The types of cooling units available from Chicago Wine Cellar Expert are noted below, and the primary difference between them is where each exhausts the heat from the wine cellar.

**Through-the-wall systems like the WhisperKool XLT series.** This type looks like a window air conditioner, with part of the unit showing in the wine cellar, while the heat is exhausted into an *adjacent* room. (Average<sup>(1)</sup> cost with installation about \$2,200.)

Advantages:

- Least expensive to purchase
- Can be ducted, but only under very specific circumstances
- Easiest to install

Disadvantages:

- Noisy. Cannot exhaust into a finished area
- Must exhaust into a room that shares a wall with the cellar
- The exhaust-room must be at least as large as the cellar
- The unit is visible in the cellar and cannot be covered with racking to hide it
- Typical life-cycle is between five to seven years

**A split-system** consists of two pieces; an evaporator that hangs in the cellar and a condenser that sits either inside or outside the main building. (Average<sup>(1)</sup> cost with installation about \$5,300)

Advantages:

- Can exhaust heat 50-feet to 100-feet away from the wine cellar. It eliminates the need for *adjacent-room* exhaust. The system can exhaust heat in the outdoors but in colder climates a low-ambient kit must be installed.
- Evaporator can be mounted up to 25-feet away from the wine cellar. The cold air can be ducted into the wine cellar

Disadvantages:

- Must be installed, and more importantly, serviced by a qualified refrigeration technician
- The evaporator hanging in the cellar must be covered with a cabinet
- The line-set, drain, thermostat, and electrical service has to be installed during framing or otherwise it becomes a challenge

**Single-piece ducted systems** (Average<sup>(1)</sup> cost with installation about \$4,700)

Advantages:

- The system arrives pre-charged with refrigerant. It can be installed by anyone
- Only items visible in the cellar are two grills behind the racking

Disadvantages:

- Ten-inch insulated ducts must be installed at the framing stage of construction
- The output for the exhaust from the unit (another ten-inch duct) has to go somewhere within 25-feet of the unit

**Split systems or single piece systems all with *water-cooled* condensers** These units operate just like the previous two systems but the heated air removed from the cellar is

transferred into water that flows around the condenser. (Average<sup>(1)</sup> cost with installation about \$8,400)

Advantages:

- Can be located within the cellar and completely hidden by a cabinet
- Can be ducted from an adjacent room
- The exhaust can be transferred into the four-pipe cooling systems of high-rises and water cost is virtually eliminated<sup>(2)</sup>

Disadvantages:

- If used as an open-loop system, the water usage is approximately twenty-gallons per hour *when operating*
- Only one *size* available

- (1) Cooling equipment and installation costs vary greatly due to the size of the cellar to be cooled, the location of the equipment, the placement of the condenser (i.e. inside or outside the building), and the amount of window/glass area in the cellar.
- (2) Connecting piping to a four-pipe cooling system is a major concern with some building engineers. Also, the building's cooling system must operate year-round to make certain that the cooling unit has water when needed. If the condo is part of a commercial development, this is normal practice.

Chicago Wine Cellar Expert personnel are available for visits to your construction site. We can work with your architect and builder to provide you the very best system for your unique space. We offer complete service for what we sell and are available when you call.

My best,

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