



Healdsburg, California

MACROSTIE WINERY & VINEYARDS

CHALLENGE

Selecting a cost-effective, aesthetically pleasing HVAC system that could tie in with radiant heating

SOLUTION

VRF from Mitsubishi Electric

RESULT

Year-round comfort for guests; affordable, easy operation for the owner



Luke Higgins, director of operations for MacRostie Winery & Vineyards (MacRostie), Healdsburg, California, described the ultimate wine tasting room as one with “an environment of casual sophistication. It has a high-end touch but is still accessible for all people.” When MacRostie created its new Estate House, it was this vision that drove the design. To offer patrons comfort and create the desired ambiance, that meant cooling and heating with a Variable Refrigerant Flow (VRF) system from Mitsubishi Electric. The result is what Higgins called “our dream tasting room.”

The Estate House is a 3,100-square-foot space comprised of multiple areas, each with a different feel so guests can have a variety of experiences. “The idea was to get away from a single, cacophonous room with a hundred people

fighting to get served at a tasting bar. Instead, we wanted smaller spaces that felt more intimate with seated service. There’s a lounge, a communal tasting table, three different deck areas, the study – a VIP room if you like – and offices. Our aim was to get as much flexibility as possible,” said Higgins.

Engineer Sean Froom, PE, LEED AP, project manager, TEP Engineering, Santa Rosa, California, said, “They also wanted a very open feel to the project – ceilings as high as possible with no exposed ductwork.”

Selecting an HVAC system was met with the question of which technology could accommodate a variety of spaces and an open feel, while providing exceptional comfort for customers.



MacRostie requested concrete floors with radiant heating to provide a cozy feel in the cooler months. Froom said, “Radiant heating – which is essentially piping warm fluids through the floor – is typically very comfortable because it uses lower temperatures and warms you from the feet up. However, this created a cooling challenge since you cannot cool a space with radiant only; you need a forced-air system to remove moisture and provide ventilation.”

MacRostie had three additional requests for the HVAC system: efficient performance, ample cost savings and user-friendly controls. Regarding cost savings, Higgins said, “The system had to be economical to run but the facility is not ideal for HVAC with so much indoor-outdoor flowing space. So a multi-zone approach made sense.” Regarding controls, Higgins explained that “our team members at the Estate House have been selected based on their ability to provide an exceptional wine experience, not on their technical

or functional knowledge of HVAC systems.” The necessary answer: a user-friendly controls system.

Meanwhile all of this would have to happen with a small HVAC system. “California construction is very tight and the space allowed by the architect for mechanical equipment was small – allowing MacRostie to maximize their entertainment space and create the open, indoor-outdoor feel,” said Froom.

With so many requirements the team was relieved to find that VRF could provide everything on the wish list – a tie-in with radiant heating via a hydronic heat exchanger, quiet operation, a small footprint, high efficiency and an aesthetic fit. As Froom said, “The choice was clear; a Mitsubishi Electric CITY MULTI® system can accomplish all of these items.”

He continued, “If you’re trying to squeeze these systems above ceilings, Mitsubishi Electric works well. The ducted indoor units lend themselves well because they’re approximately 10 inches

tall, whereas conventional HVAC equipment is typically 20 inches tall. Over the last three to five years, TEP Engineering has worked with other manufacturers’ VRF systems and we’ve found Mitsubishi Electric CITY MULTI to provide the best overall constructability when taking into account factors such as pressure capabilities, representation, service and selection software.”

With the HVAC system selected and the facility designed, construction commenced. The Estate House

“ Our aim is to provide our consumers with an incredible wine experience delivered through exceptional hospitality. With this [HVAC] system, we can do that. ”

**— Luke Higgins,
director of operations,
MacRostie Winery
& Vineyards**

Project Completed: March 2015 |

opened on the targeted date, and Higgins said “things have been going well since. From our perspective, we don’t want our hospitality team thinking about HVAC. It should just be happening seamlessly in the background. So this experience – with no problems experienced to date – has been a win for us.”

The experience has also been a success in terms of offering customers comfort, even in more extreme weather. Froom said, “We’ve had many hot days at this point – some over 100 degrees Fahrenheit.” This could create a big problem for the Estate House’s southern-facing wing, which houses the study. Higgins said, “That space gets a lot of sun exposure. I’m happy to say that the system is more than capable of handling it, though. It has more than enough capacity.”

With customers enjoying incredible wines in a series of inviting spaces, MacRostie has achieved its vision of a dream tasting room. Their VRF system from Mitsubishi Electric will help ensure that dream remains a reality for years to come.



PROJECT TEAM

Owner

MacRostie Winery & Vineyards
Healdsburg, California

Engineer

TEP Engineering
Santa Rosa, California

Architect

Gould Evans Architecture
San Francisco

EQUIPMENT

- ▶ (1) PURY R2-Series Outdoor Unit
- ▶ (1) PUMY S-Series Outdoor Unit
- ▶ (1) PWFY Hydronic Heat Exchanger Unit
- ▶ (3) PEFY Ceiling-concealed Ducted Indoor Unit
- ▶ (1) PLFY Ceiling-recessed Indoor Unit
- ▶ (3) PMFY Ceiling-recessed Cassette Indoor Units
- ▶ (1) EB-50-GU-A Centralized Controller
- ▶ (1) CMB BC Controller
- ▶ (1) DC-A210 Advanced HVAC Controller