

REPLACE EXISTING BOILERS TO MEET LOW NOX EMISSIONS REQUIREMENTS

BOILER DIVISION CASE STUDY

Constellation Wines, Woodbridge Winery Facility

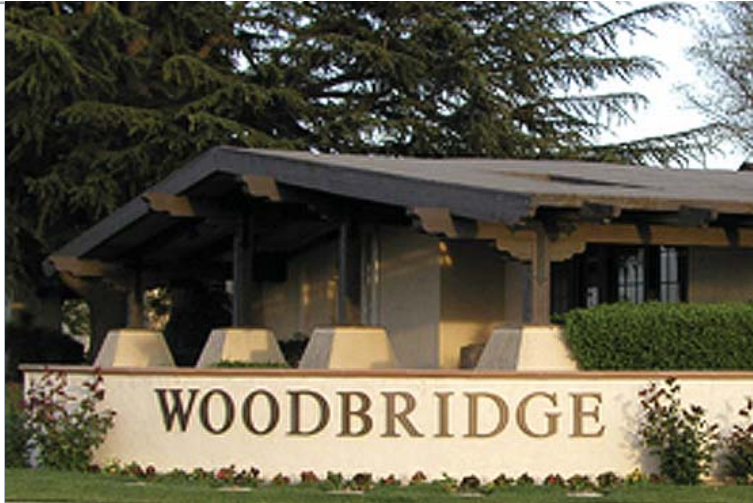
Acampo, California

Boiler Replacement

CUSTOMER APPLICATION AND KEY CHALLENGES

Constellation Wines has been a leader in the wine industry for more than 60 years. Today, the company represents the world's largest wine business by dollar volume and is the leading premium plus wine supplier in the United States. The company has a portfolio of more than 200 brands across the wine, spirits and imported beer categories, more than 50 production sites around the world, and sells its products in approximately 150 countries.

The company operated two Atmospheric boilers at their Woodbridge Winery Facility in the wine bottling plant that was used for sterilization, wash down and tank heating. The boiler efficiencies were operating at less than 75% with NOx emissions were in excess of 100 PPM.

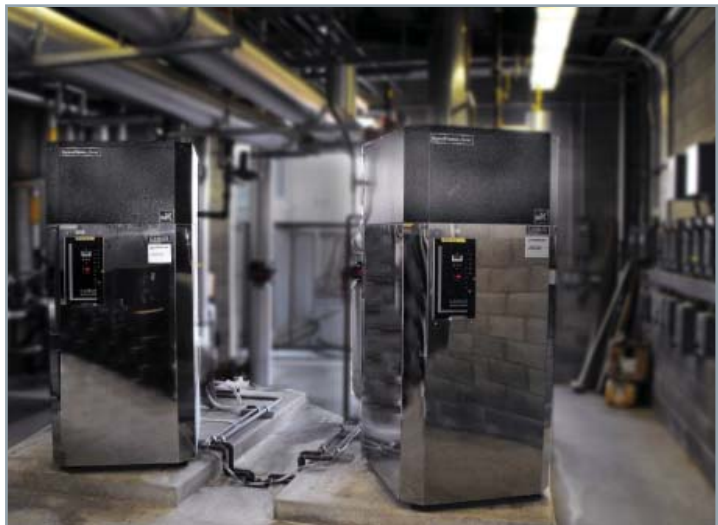


The Woodbridge by Robert Mondavi winery facility

THE R.F. MACDONALD CO ANALYSIS & SOLUTION

The San Joaquin Valley Air Control District required conversion or replacement of boilers within the district in order to meet Air Pollution Control District Rule 4307, which required emissions to be 30 PPM or less based on the boiler capacity. Since there is no conversion package available for the Atmospheric boilers that will allow them to comply to the new NOx standards, the boilers needed to be replaced.

Based on the customers existing needs R.F. MacDonald Co. recommended to replace the existing units with two Camus DynaFlame Hotwater Boilers. The DynaFlame condensing mode was selected, with high thermal efficiencies and a guarantee to meet or exceed levels of 10 PPM NOx. The DynaFlame product is fully modulating and automatically adjusts the unit output based on the system demand. These units are compact and can be moved through a standard 30" doorway.



The final installation of both Camus DynaFlame Hotwater boilers

BOILERS

PUMPS

SYSTEMS

SERVICE

PARTS

CORPORATE

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The final installation of one of the boilers is shown here

PROJECT RESULTS

The old boilers were removed during the growing off season and the new boilers were installed in the same boiler room. A savings in boiler footprint was realized due to the more compact design of the DynaFlame boilers. Plant downtime was minimized due to advanced planning and a strict adherence to the installation schedule. The final results achieved less than 10 PPM NO_x throughout the firing range with efficiencies greater than 85%. These increased efficiencies also resulted in increased fuel savings, better temperature range control and higher overall reliability.

In addition to lowering NO_x levels to less than 10 PPM, the new boilers operated at efficiencies greater than 85%, resulting in increased fuel savings for the customer.