

REPLACE EXISTING BOILER TO MEET LOW NOX EMISSIONS REQUIREMENTS

BOILER DIVISION CASE STUDY

Delicato Family Vineyards

Manteca, California

Boiler Replacement

CUSTOMER APPLICATION AND KEY CHALLENGES

Delicato Family Vineyards is a family-owned winery that owns and operates over 10,000 acres of vineyards, producing a variety of wines for distribution throughout the United States. The company used an Atmospheric boiler on their bottling line in the sterilization and preparation of wine bottles, as well as for some tank heating. 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 atmospheric Boilers are no longer allowed within the state of California, and there is no conversion package available, the boiler needed to be replaced.



The Delicato Family Vineyards

THE R.F. MACDONALD CO. ANALYSIS & SOLUTION

Based on the customer's existing needs R.F. MacDonald Co. recommended to replace the existing unit with a Fulton VMP150 boiler. Within the Fulton VMP150 are heavy walled large diameter schedule 80 flue pipes welded to the top and bottom heads in the pressure vessel, and these pipes are surrounded by water. The water-backed design speeds up boiler start up time and creates overall even heating throughout. This, along with many other design features of the VMP, result in fuel to steam efficiencies of up to 84%.

In addition, the package included a feed water system that provided water makeup to the boiler. The boiler also included a pre-installed Ultra Low NOx burner, designed to operate at 15 ppm or less, easily meeting current emission requirements and ensuring compliance into the future as well. In order to minimize the facility downtime and enhance the installation process, R.F. MacDonald Co. worked with Fulton to supply the new boiler with the feed-water system and Ultra Low NOx burner pre-piped and pre-assembled.



The Fulton Control Panel

BOILERS

PUMPS

SYSTEMS

SERVICE

PARTS

CORPORATE

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MODESTO

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RENO

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ROHNERT PARK

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SAN DIEGO

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858.538.5877

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The new boiler fully installed

PROJECT RESULTS

The entire pre-assembled skid package was delivered to the site, craned over the existing boiler and piping and set into place.

The small footprint and compact design of the VMP equipment enabled it to be installed in a small space behind the existing boiler. This allowed the new equipment to be fully installed before taking the Atmospheric Boiler off line, totally minimizing downtime.

Start-up services, load testing, source testing, and operator training was performed by R.F. MacDonald Co. factory authorized technicians. The unit was successfully compliance tested and although the new system was guaranteed at 15 ppm, the boiler is actually achieving less than 10 ppm through out the entire range.