



A-T Controls, Inc.

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No.: DI00019
Date Created: 02/26/2016
Date Modified: 07/01/2021

Temperature Control- Wine Making

In wine making, temperature control is a critical factor in two key areas. First, control of fermentation temperature, and second the wine is stored at a constant temperature after fermentation is complete until bottling. One of the most effective methods of tank temperature control is employing a glycol system. Other methods include Ammonia. Please contact A-T Controls for Ammonia application details. The use of a glycol temperature control system is discussed below.

Glycol Temperature Control

Every tank that needs to be temperature controlled is connected to the glycol system through a looped circuit of tubing. Flow rate of glycol is adjusted based on temperature, which is monitored by a temperature controller measuring the tank temperature. The Supply side of glycol needs to have three position capabilities (off/cool/heat) to adjust the flow of glycol for temperature fluctuations. The Return side of glycol is two position, diverting from cooling/heating.

Two usual ways wineries have implemented temperature control with their glycol system are using 3-way brass ball valves, or using a series of solenoid valves. These brass valves typically start to leak from the packing after a few strokes and the solenoid valves gum-up after a short time, restricting flow.

DR Series

A-T Controls offers the Triac DR series, 3-way ball valve. The valve has superior live loaded packing and unique pyramidal stem seal design which ensures strong protection against stem leakage experienced over time by using ordinary brass ball valves. The DR series is full port, eliminating flow restrictions experienced by the use of solenoid valves. Additionally, the material of construction for the DR is 316 stainless steel with direct mount automation pad for actuator mounting.

This valve can be used both on the Supply and the Return side of a glycol temperature control system. A-T Controls achieves the control of the Supply side of glycol by automating the DR valve with the Triac WEM-500 electric actuator for 3-position control, which is designed to operate 180°. The actuator is equipped with a microprocessor control board for multi-position control. The WE-500 electric actuator is used for the two position control on the Return side, for 90 degree diverting from cooling or heating of the tanks. This unit uses limit switches and cams for position control. See the next page for a detailed flow diagram of these actuated assemblies for glycol temperature control.

Please consult A-T Controls for product and material selection specific for your application. These parameters are guidelines, and customers are responsible for materials of construction, preparation of valves for service, and lubricants being compatible with their application.

DR Series (Other valve packages available)-
3-way ball valve sizes ½"-2", 2000/1500 WOG (by size), ISO 5211 Mounting Pad, Threaded, Socket Weld or Butt Weld Ends.

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Typical Glycol Flow Diagram for Temperature Control in Wine Applications

