DID YOU KNOW?

NO: 296 **FEBRUARY 25, 2015**

DRAIN WATER QUENCH RELAY

Introduction

A Drain Water Quench Relay is included on all new PRIMUS steam sterilizers as part of the standard manufacturing process.

The Drain Water Quench Relay circuit consists of a solid-state relay and temperature sensor that controls the release of cold water into the sterilizer drain in order to cool both the steam and steam condensate being drawn down the drain, i.e., “quenching” the hot condensate. This is why the sound of running water can often be heard when the sterilizer is operating.

Temperature Requirement – Personnel Safety and Meeting Plumbing Codes

The steam condensate being sent down the chamber drain must be cooled to 140° F or less before it goes to the facility drain system in order to prevent damaging any non-metal drain piping. This cooling of condensate is required by plumbing codes and also as a safety feature.

Process – 2005 and Earlier

On units built during or before 2005, the drain water quench solenoid valve opens when the sterilizer is turned ON to enable water to flow through an adjustable needle valve to mix with the hot water in the drain piping. The water flow is continuous in these sterilizers.

Process – 2006 and Later

Sterilizers built since 2006 have the “Drain Water Conservation Quench” system, which calls for quench water **only** when needed, rather than running water continuously.

PRIMUS
STERILIZER Company, LLC • 6565 South 118th Street • Omaha, NE 68137 • Phone (402) 344-4200 • Fax (402) 344-4242

DID YOU KNOW?

NO: 296 **FEBRUARY 25, 2015**

DRAIN WATER QUENCH RELAY (CONTINUED)

The system calls for quench water when a temperature switch in the drain piping detects that the steam condensate flowing down the drain is hot enough to require cooling.

Drain Water Quench Relay Functions Independently

Although the Drain Water Quench Relay and its fuse are located in the control box, its function is completely independent of the control board.

The Drain Water Quench Relay is a separate circuit that **does not** require the control board to operate (See Figure 1: Water Quench Relay).

When temperature sensor TS 01 senses a drain temperature above 110° F, it activates the relay coil which turns ON the water quench solenoid valve, releasing cold water into the drain.

When the temperature drops below 110° F, the sensor activates the relay to turn OFF the water quench solenoid, shutting off the valve, thereby conserving a significant amount of facility water.

A small LED on the relay indicates when the relay is active (See Figure 1: Drain Water Quench Relay).

PRIMUS
STERILIZER Company, LLC • 6565 South 118th Street • Omaha, NE 68137 • Phone (402) 344-4200 • Fax (402) 344-4242

DID YOU KNOW?

NO: 296 **FEBRUARY 25, 2015**

DRAIN WATER QUENCH RELAY (CONTINUED)

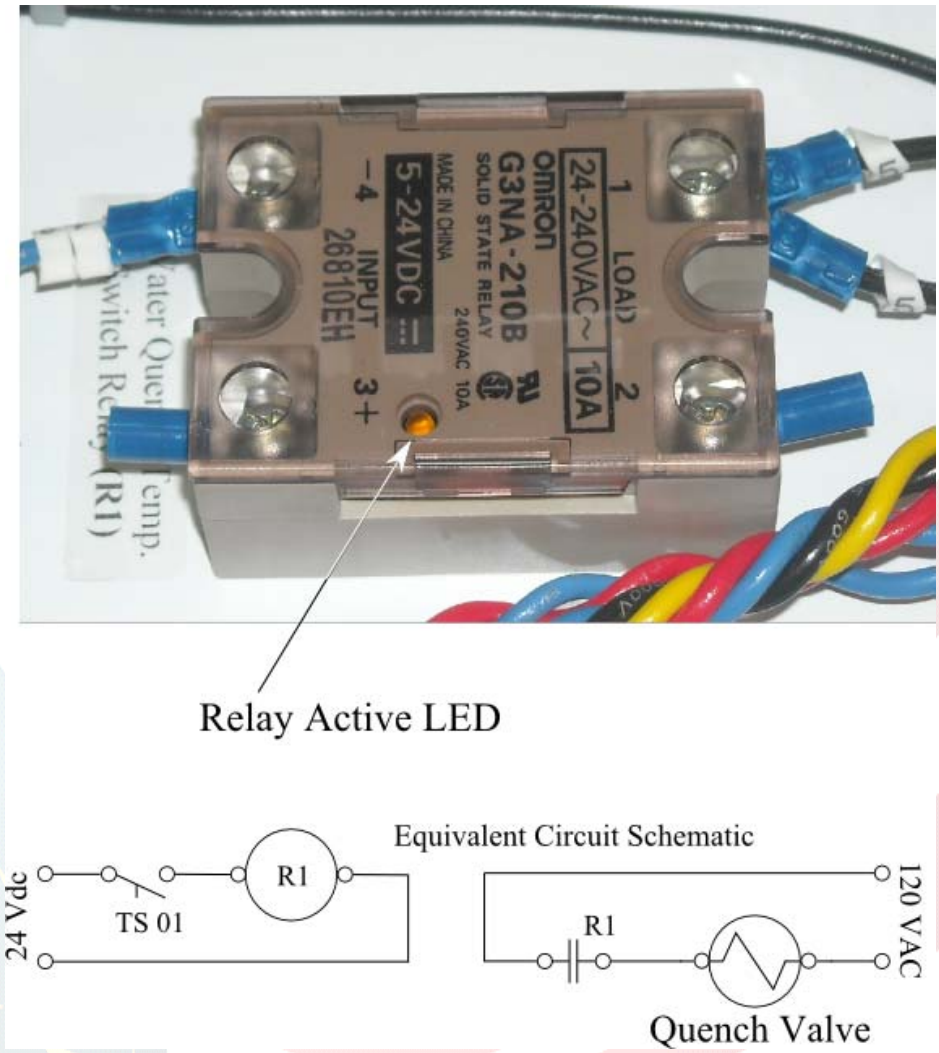

Figure 1: Drain Water Quench Relay

PRIMUS
STERILIZER Company, LLC • 6565 South 118th Street • Omaha, NE 68137 • Phone (402) 344-4200 • Fax (402) 344-4242

NO: 296 **FEBRUARY 25 2015**

DRAIN WATER QUENCH RELAY (CONTINUED)

Aftermarket Kit Installation

A Drain Water Quench Kit is available from PRIMUS as an aftermarket field retrofit (see DYK #171 for a detailed discussion).

The PRIMUS part number of the kit is P/N 230010.

The retrofit can be readily accomplished by a PRIMUS ASA or a qualified end user maintenance technician in about two hours.

Additional Information

For questions, comments or to order a kit, please contact PRIMUS Service at (402) 344- 4200 Ext. 1701.

PRIMUS
STERILIZER Company, LLC • 6565 South 118th Street • Omaha, NE 68137 • Phone (402) 344-4200 • Fax (402) 344-4242