



## **Shippensburg Pump Company, Inc.**

**BOILER FEED ? CONDENSATE ? DEAERATOR ? VACUUM**

One Schwenk Drive  
P.O. Box 279  
Shippensburg, PA 17257-0279

Phone: 717-532-7321  
Fax: 717-532-7704  
[www.shipcopumps.com](http://www.shipcopumps.com)

### **Re: Why Today's Boilers Require a Boiler Feed Unit Instead of a Condensate Unit**

If you are going to replace your old boiler with a new boiler be careful! You will need to make sure that the new boiler system includes a boiler feed unit to provide it water when needed — NOT a condensate unit. Why?

The pumps on a condensate unit are controlled by the water level in the condensate tank. When the water level rises in the condensate tank, a float switch on the tank sends a signal to turn on the pump. In contrast, the pump on a boiler feed unit is controlled by the water-level switch that is located on the boiler itself — only allowing water to be pumped into the boiler as required.

Old boilers had a large volume of water capacity enabling the boilers to handle a slug of water received from a condensate tank. Over the past several decades, the steam industry, in general, and boiler manufacturers, in particular, have become more concerned about energy efficiency. How do you improve the efficiency of a boiler? One approach to improving boiler efficiency has been to cut down the amount of water storage available in the boiler itself. But, cutting this volume down in size has led to all new boiler systems also requiring a boiler feed unit.

A boiler feed unit typically is sized to have capacity for 10-20 minutes of storage to keep the steam system from adding water unnecessarily and also to prevent the tank from flooding due to system returns. Make-up water is added to and blended with the system returns to raise temperature of the feed water thereby minimizing effects of thermal shock to the boiler.

If a condensate unit is used in instead of a boiler feed unit, the system returns collected in the condensate tank will be pumped into the boiler, even when it is not needed by the boiler that requires the boiler operator to supervise the water levels and manually drain the excess water off the boiler into the floor drain. Dumping the excess returns wastes water as well as all the energy costs that were used to heat the returns up to temperature. In addition, the boiler system will end up using:

- More make-up water than it would otherwise need if using the dumped returns (increasing the water bill) and
- More energy to heat up the make-up water that is colder than the system returns that were dump to the drain (increasing energy costs).

Sincerely,

Shipco® Marketing and Sales Department

Last Update: 5/27/05