# MARKETING BULLETIN

**BULLETIN NO:** MB-1401
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**TO:** All Weil-McLain Distributors and Agents

**FROM:** John Kopf - Sr. Product Manager

**SUBJECT:** Commercial Model 80 and 88 Boiler Reduced Return Water Temperature/Increased Delta T ($\Delta T$) Temperature

Through extensive testing of Weil-McLain Boiler Models 80 and 88, the use of a lower return water temperature on water boilers than previously reported is now being endorsed.

This lower return temperature use applies only to models 80 and 88 water boilers. Flue way condensation is a concern for all cast iron boilers. If a flue gas temperature of a minimum 330 degrees F is maintained at the flue outlet of the boiler, the boiler should not condense in the flue ways. Maintaining the flue gas temperature of 330 degrees F is possible even with return water temperature at 80 degrees F. During boiler installation, flue gas temperature should always be taken and adjustment made to insure a minimum of 330 degrees F.

Testing has determined that a boiler return water temperature as low as 80 degrees F will have no negative long-term effect on the cast iron sections. With the return temperature at 80 degrees, the model 80 and 88 boiler can operate with up to a 40 degree Delta T through the boiler. Infrequent boiler operation with up to a 100 degree Delta T has been tested with no boiler issues.

With the use of proper primary/secondary piping and a 40 degree Delta T across the boiler, the system Delta T can definitely be extended to 100 degrees or more. This is a significant change in Weil-McLain's position on cool water return for cast iron boilers.

This document supersedes all earlier bulletins and allows temperatures as indicated above. Although caution should be taken to avoid rapid temperature swings of boiler return water which may cause damage to the cast iron sections. Weil-McLain does recommend the design and operation of cast iron boilers with a 20 to 40 degree Delta T, but recognizes true system operation may drift outside of these parameters.