



Miura Mythbusters

Do Miura Boilers Require Special Water Treatment?

Miura water tube boilers offer innovative industrial steam technology that is safer, more reliable, and more efficient than conventional fire tube boilers.

However, because Miura’s compact water tube technology has only been around for a few decades, there is a lot of misinformation — especially from firetube boiler manufacturers that may not fully understand how water tube boilers work. **One of the most common myths?**

“ *Miura’s water tube boilers are highly specialized boilers that require special water treatment that is more complicated than conventional fire tube boilers.* ”

The Reality Behind This Myth

While Miura’s compact water tube boilers are designed differently than conventional fire tube boilers, their basic water treatment requirements are no different than any other boiler out there.

Miura offers an excellent water treatment program (BOILERMATE®), but it’s not mandatory to use it with a Miura boiler. In fact, you can use any brand of water treatment product you like. For example, let’s imagine you’ve just retrofitted your facility with a new Miura boiler. If you have a water treatment solution that you used for your previous boiler, it’s completely fine to continue using it.

The true source of confusion that fuels this myth has to do with the amount of surface area within a Miura boiler, and how that affects the growth of scale inside the boiler. Due to Miura’s compact size and low water content, there is less wetted heating surface area per boiler horsepower. With less surface area for bonding, scale may propagate more quickly when proper water treatment is not maintained. For this reason, poor water quality that may cause 1/32” of scale thickness on a typical firetube boiler may form 1/16” thickness in a Miura boiler.

Does this mean Miura boilers require purer water or specialized water treatment?

Not at all!

It just means that scale growth in Miura boilers must be closely monitored.



The importance of Boiler Water Treatment

Water should be treated before entering the boiler to remove any minerals or excessive dissolved solids that are added by many municipal water treatment facilities or pre-existing in the water source.

Water treatment solutions, such as Miura’s BOILERMATE®, prevent solids from building up along the boiler’s interior surface which can cause damage and also combats corrosive components that eat away at the metal.



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Fortunately, that doesn't mean more work for you. Miura boilers are equipped with comprehensive monitoring systems that make it easy to identify issues long before they become problems.

A few of Miura's water treatment and monitoring solutions include:

- **MW Water Softener:** Miura's MW regeneration process is designed to deliver a more consistent, highly softened water supply and the softener can send alerts in the event of a malfunction or if operators forget to maintain the appropriate salt level in the brine tank.
- **Colormetry:** The Colormetry is an automatic hardness monitoring system that can automatically switch resin tanks and initiate regeneration if hardness is detected.
- **Automatic Blowdown:** In the event of a hardness leakage, Miura boilers can automatically increase the blowdown percentage in order to prevent scale formation.
- **Scale Monitor Thermocouple:** Every Miura boiler comes standard with a scale monitor thermocouple. This thermocouple monitors the surface temperature of a specific water tube. By monitoring this value, you can detect scale formation and alert operators before it causes major issues.
- **Remote Monitoring:** Miura Online Maintenance (MOM) allows Miura-certified technicians to perform remote troubleshooting to resolve potential issues before they become major problems.

Water Tube Boilers

vs.

Fire Tube Boilers

Fire Tube Boiler:

The pressure vessel's cylindrical body is filled with water, which is then heated by a series of hot, gas-filled tubes that run through the water.

Water Tube Boiler:

Instead of the gas-filled tubes acting as the heat source, the tubes are instead filled with water and are heated by hot gas surrounding them.

The Bottomline

As with all machinery, how long a boiler lasts depends on how well it is maintained. Regardless of the type of boiler, you should have a high-quality softener for scale prevention and chemicals to prevent corrosion.

While compact watertube boilers are designed differently than conventional firetube boilers, the fact is that this design offers many unique advantages and the basic water treatment for Miura boilers is no more specialized than any other boiler on the market. The only significant difference in how water treatment works for Miura boilers vs. conventional firetube boilers is that Miura places a greater emphasis on monitoring so that potential issues can be identified before becoming major problems. In addition to maximizing the lifespan of your investment, Miura's comprehensive monitoring systems ensure the efficiency, reliability, and safety of your boiler.