Technical Bulletin- Nuisance Fluctuating Hot Water calls on Combi Boilers

In certain cases, we have found that our combi boilers are not getting enough flow through the boiler on the hot water side in order to keep the boiler running. This will cause fluctuating hot water and nuisance 32 errors. Below is an example of the flow needed to keep the unit on. The average inlet temperature is 50°f but can range from 38°f to 66°f in the hottest days of summer. Typically, we size for the average temperature.

BTU = Flow Rate In GPM (of water) x (DeltaT(DHW setpoint -Inlet Temp)) x 500

BTU=.75 GPM(or 2.839LPM) x (120°f **-**50°f **=70°f DeltaT) x 500**

BTU=26,250

This tells us that at 2.839 LPM(.75 GPM) the boiler needs to run at a minimum of **26,250BTU**. Below you will find the Minimum BTU of each Combi Model.

C100-16,000BTU
C140-21,000BTU
C200-29,000BTU

Recommendation: Keep a minimum flow of **4LPM** at any faucet or shower to keep a consistent setpoint temperature from the boiler.

The three things that could cause less than a 4LPM flow rate would be flow restrictors in shower heads, faulty mixing valves and faulty PRV.

Solutions:
Shower heads: Taking the flow restrictors out of shower heads will ensure higher flow rates and more comfortable showers.
Mixing Valve: Replace Mixing valve
PRV- increase pressure by 5-10 psi

Please call for any assistance
Western Canada-604-385-3265
Eastern Canada-905-334-0651