CONDENSATION GENERATED TUBE DAMAGE

NATURAL GAS OPERATION

Condensation generated tube damage, occurs anytime the average boiler water temperature drops below the dew point of the products of combustion.

Standard Boiler:

To avoid condensation generated corrosion, the return water temperature for a standard Bryan boiler must not drop below 130°F based on a minimum outlet temperature of 150°F. These conditions provide for an average water temperature within the boiler of 140°F when operating on natural gas.

Low Temperature Return Boiler (Heat Pump Applications):

On Bryan boilers equipped with a low temperature return the minimum return water temperature can be as low as 60°F based on a minimum outlet temperature of 220°F.

When utilizing a low temperature return in conjunction with a 3-way valve to provide for outdoor reset of a system loop temperatures, the minimum boiler return temperature is 80°F based on a minimum outlet temperature of 200°F. Refer to typical piping for low temperature return water systems Form 2295.

Important:

Proper flow and temperature rise through the boiler are the keys in operating any of the above systems successfully.

CONDENSATION GENERATED TUBE DAMAGE

2 FUEL OIL OPERATION

Condensation generated tube damage, occurs anytime the average boiler water temperature drops below dew point of the products of combustion.

Standard Boiler:

To avoid condensation generated corrosion, the return water temperature for a standard Bryan boiler must not drop below 150°F based on a minimum outlet temperature of 170°F. These conditions provide for an average water temperature within the boiler of 160°F when operating on # 2 fuel oil.

Low Temperature Return Boiler:

On Bryan boilers equipped with a low temperature return the minimum return water temperature can be as low as 120°F based on a minimum outlet temperature of 200°F.

When utilizing a low temperature return in conjunction with a 3-way valve to provide for outdoor reset of a system loop temperatures, the minimum boiler return temperature is 140°F based on a minimum outlet temperature of 180°F. Refer to typical piping for low temperature return water systems Form 2295.

Important:

Proper flow and temperature rise through the boiler are the keys in operating any of the above systems successfully.