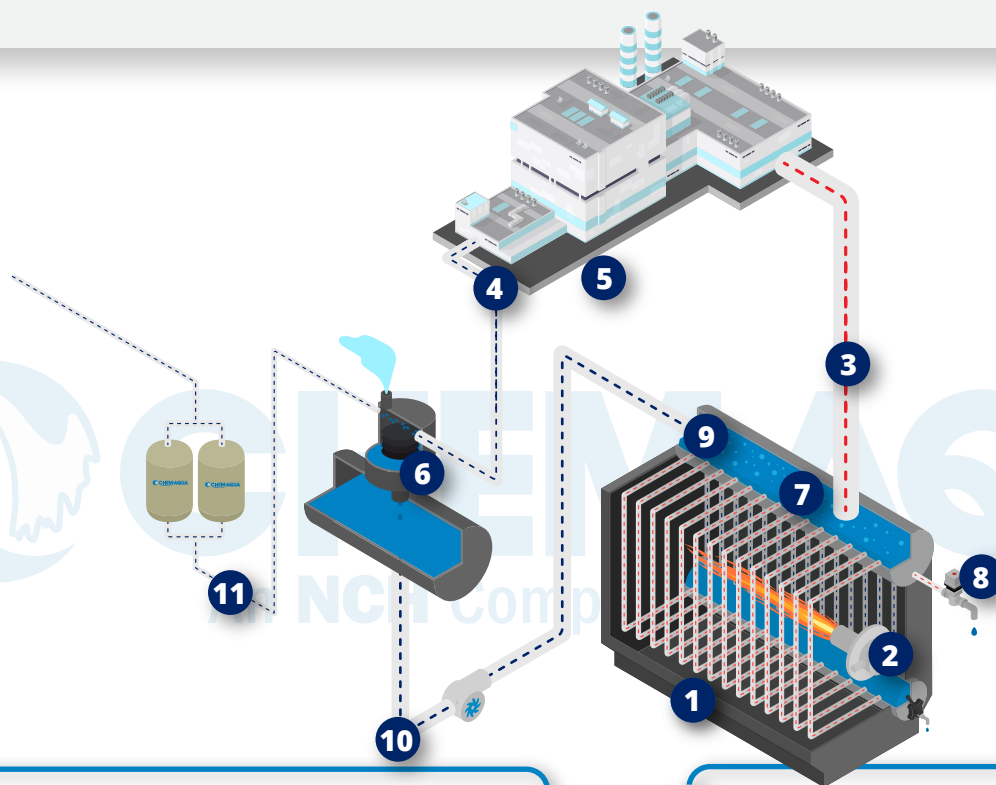


HOW BOILER SYSTEMS WORK

Steam boilers are specialized, mechanical devices designed to generate pressurized steam used for a variety of industrial and commercial applications.

BUT HOW DO THEY WORK? LET'S EXPLORE.



1

In a water tube boiler, water is heated, causing it to circulate inside boiler tubes and create pressurized steam.

2

The tubes are heated externally by the use of a burner or furnace.

3

As water is converted into steam, it rises through the tubes and enters the steam drum to be distributed to the facility.

4

After the steam gives up its heat, it condenses into liquid water condensate.

5

Steam traps are used to separate the condensate from the steam.

6

The condensate returns to the deaerator/feedwater tank to be reused as boiler feedwater.

7

As water is converted into steam, dissolved solids are left behind to concentrate in the boiler water.

8

As a result, a portion of the boiler water must be removed by blowdown to control the dissolved solids concentration.

9

The boiler water level drops due to these losses.

10

The water is replenished with feedwater, a mixture of condensate and makeup water, to maintain a consistent level.

11

Pretreated makeup water is added to the deaerator.

12

The cycle then repeats itself.

Understanding and caring for steam boilers of any type are critical to a good water treatment program.

<https://www.chemaqua.com/en-us/Contact-Us>