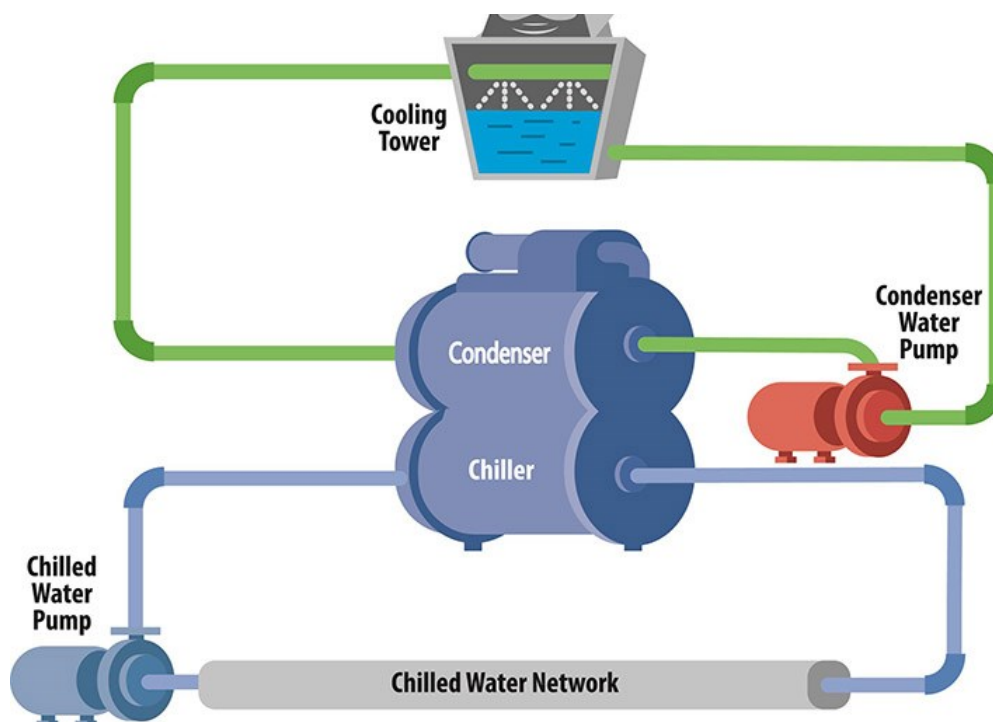


## Increase Chiller Efficiency By Means of Tube Cleaning and Thermal Storage

A "simple" water-cooled chiller system...



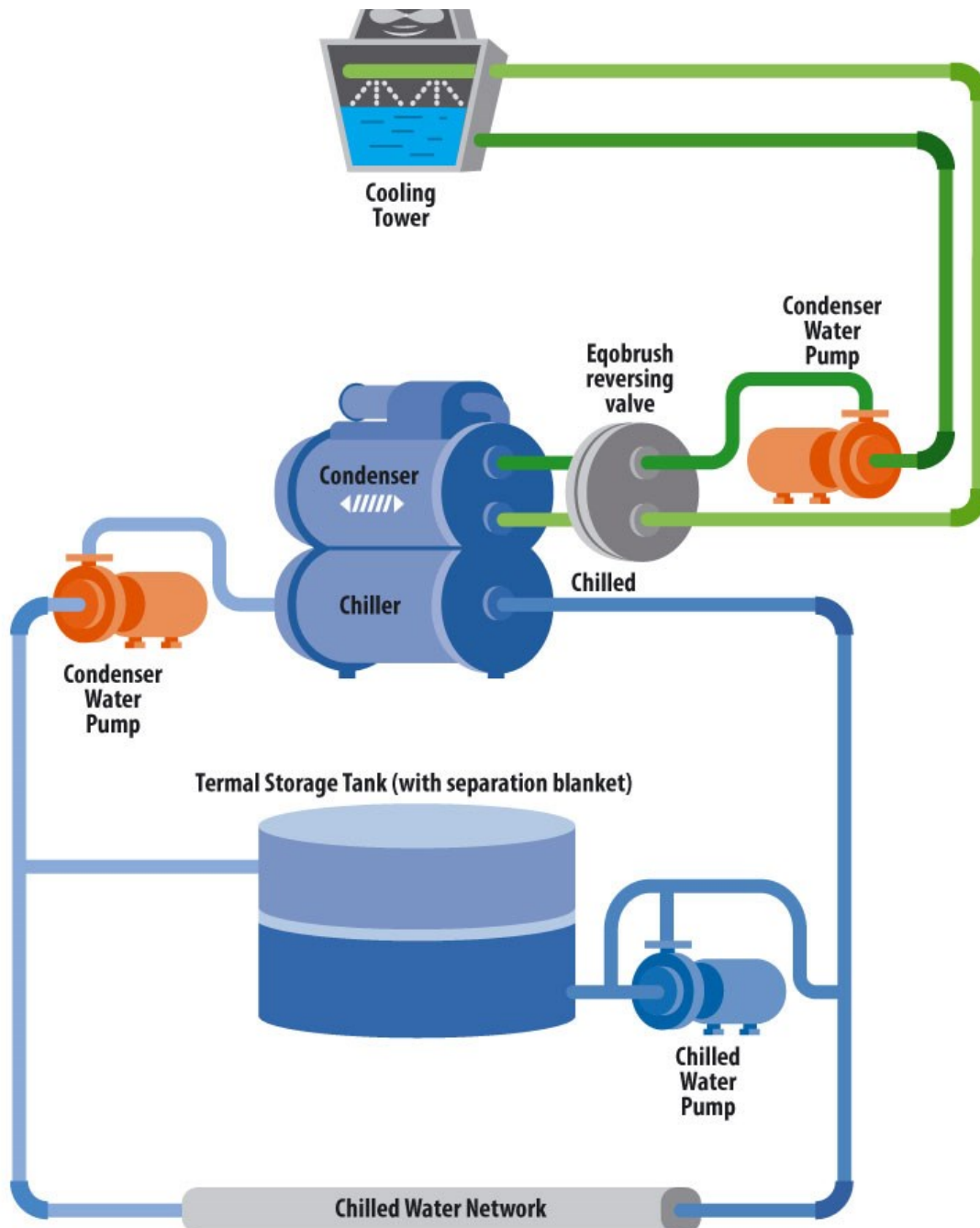
### AUTOMATIC TUBE CLEANING

**Automatic tube cleaning** elegantly solves the tube cleanliness issue by performing high-frequency tube cleaning without interrupting the chiller's normal function. It achieves this by frequently brushing away residue that would otherwise accumulate and scale inside the tubes. The cleaning process occurs multiple times per day and takes less than a minute to complete. There are several methods of automatic cleaning available, either using brushes or sponge balls. You can find a comparison of the different systems in post "[On-line Cleaning Solutions for Heat Exchangers and Condensers Compared](#)". Tube cleaning has proven its effectiveness through energy saving in chiller operations of between 10-20% on average (going up to 40% saving compared to a fouled-up chiller just before its manual cleaning service). Also, as chillers are designed with a fouling factor in mind, brushed and, therefore, clean chillers will reach an output that is above design capacity.

Additionally, automatic tube cleaning can extend the functional lifespan of chillers by 20% or more as tubes do not corrode (and eventually leak) and compressors have fewer running hours.

Tube cleaning systems can be retrofitted to any existing chiller without an increase to its existing footprint. Their typical pay-back period is less than a year.

## A water-cooled chiller system with tube cleaning and thermal storage



## CONCLUSION

In conclusion, both of the technologies discussed above will help to achieve better performance with minimal chiller capacity and electricity consumption. Whereas automatic cleaning is an obvious choice for retrofitting existing systems, a combination of both may be the best approach for new projects.