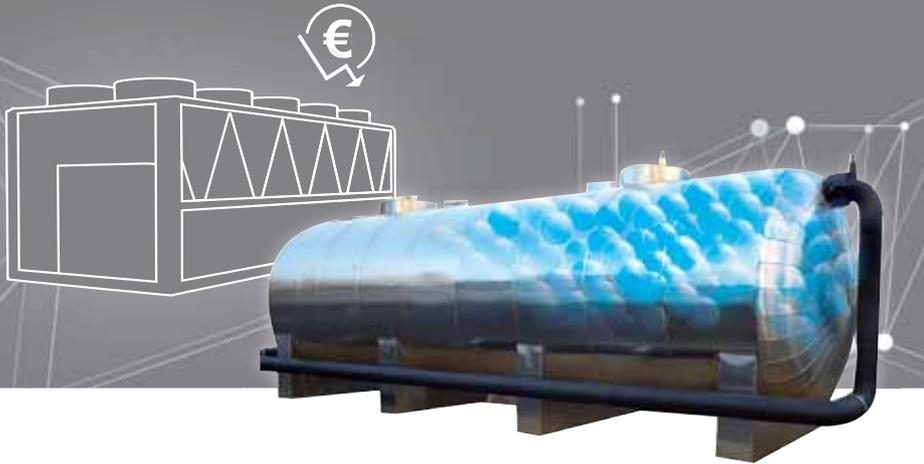


FOR HVAC SYSTEMS



- TURNKEY SOLUTION
- PROVEN TECHNOLOGY
- UNIQUE EXPERTISE
- SUSTAINABLY DESIGNED
- REDUCED OPERATING COSTS
- 100% SMART -GRID COMPATIBLE
- NON-STOP SUPPORT

Thermal Energy Storage

For HVAC systems with peak cooling demand >500 kW

In a global context affected by a continuous increase of electricity prices and the challenge of reducing our environment impact, energy must be saved and controlled. For energy demand management and sustainable approach to intelligent buildings, Carrier proposes the Thermal Energy Storage technology (TES) by latent heat.

Shift your electricity consumption from peak to off peak hour

The TES technology consists of Phase Change Materials (PCM) used to store in nodules the cooling thermal energy produced by chillers.

By storing the thermal energy during the night and releasing it during the day, this solution allows using the electricity at the lowest prices and avoids the peaks. By spreading the thermal energy production over 24 hours, TES can reduce the capacity of the chillers by 30% to 70%*.

*Source: Measured differences between equivalent systems designed with and without TES.

MULTI APPLICATION



Industry



Office



Hospital



Commercial center



Data center



Hotel



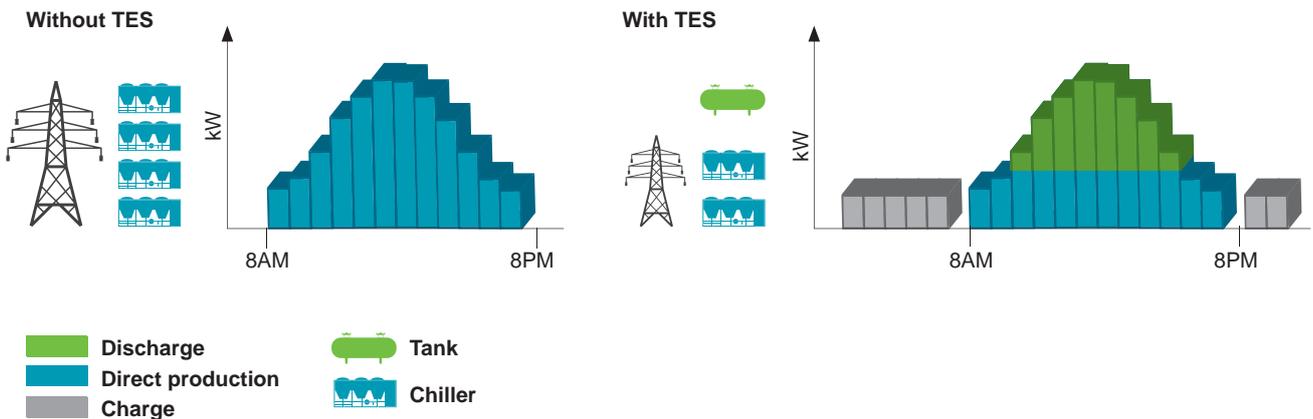
Cultural heritage

WORLDWIDE PLAYER IN THERMAL ENERGY STORAGE SYSTEMS



Source: Estimates based on existing TES solutions at customer sites.

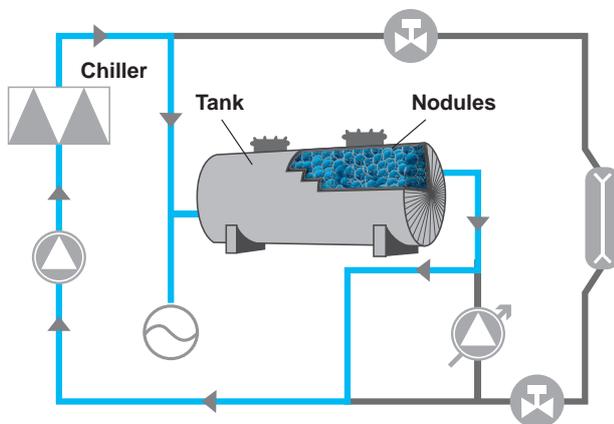
Histogram of a building's daily cooling needs and its electricity consumption profile



A CUTTING-EDGE HVAC SOLUTION

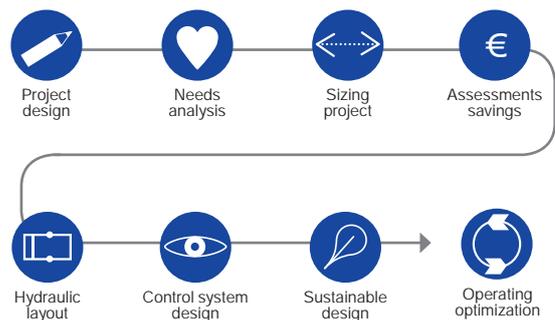
HVAC system designed with storage

The TES system along with your chillers is composed of one or several tanks filled with spherical elements called nodules that contain the Phase Change Materials (PCM). The use of PCM in nodules provides very high energy density and power exchange.



- Nodules**
- Core TES Technology
 - Encapsulation of PCM
 - Reliability and competitiveness

A turnkey solution from project design to implementation



Carrier optimizes the design and the operation of your installation for each application as commercial or industrial buildings.

We assist the consulting engineers by adapting the hydraulic layout to each project: application, operating conditions and specific customer needs. Where necessary complementary technologies such as free cooling or energy recovery are integrated.