



Chilled Water Thermal
Energy Storage (CW TES)
System

Energy and Environment

<http://www.ftene.com>

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FT EnE is a specialist in thermal energy storage and chilled water for cooling system.

“FT EnE cares what customers value and
strives to satisfy customers explicit and implicit needs”



Company Profile

1997	Jun. Jul. Nov.	Founded as the first spin-off venture company from National Research Institute Awarded IR52, Changyoungsil Prize for Ice-Bon TES System Acquired KT Certificate (Innovative Korean Technology) for Ice-Bon Capsule Design by Ministry of Science & Technology
1998	Apr. Jun.	Established EnE R&D Center High Efficiency Energy Saving system Qualification by Korea Energy Management Company
1999	Jun.	Certified as a Prospecting Venture Firm by Korea Electric Power Corporation
2000	Oct. Dec.	Certified as a Superior Technology Company by Korea Technology Credit Guarantee Fund Certificate for Excellent Quality Product of Ice Thermal Energy Storage System by Korea Public Procurement Service
2001	Mar. Nov. Nov.	ESCO (Energy Service Company) License by Korea Energy Management Company Awarded for Efficient Energy Saving Service by Korea Ministry of Commerce, Industry and Energy Designated as an INNO-BIZ (Innovative Business) Firm - Grade A by Korea Small and Medium Business Administration
2002	Feb. May. Jul. Dec.	ISO 9001 : 2000 / KS A 9001 : 2001 Certificate Certificate for Excellent Quality Product for Ice-Bon Plus TES System by Korea Public Procurement Service Listed in KOSDAQ(Korea Small Cap Stock Market) ISO 14001 : 1996 / KS A 14001 : 2001 Certificate
2003	Apr. Jul.	Established EnE (South East Asia) Pte Ltd in Singapore Acquired AF Technology to expand business area to Gas Filtration and Environmental Equipment Area



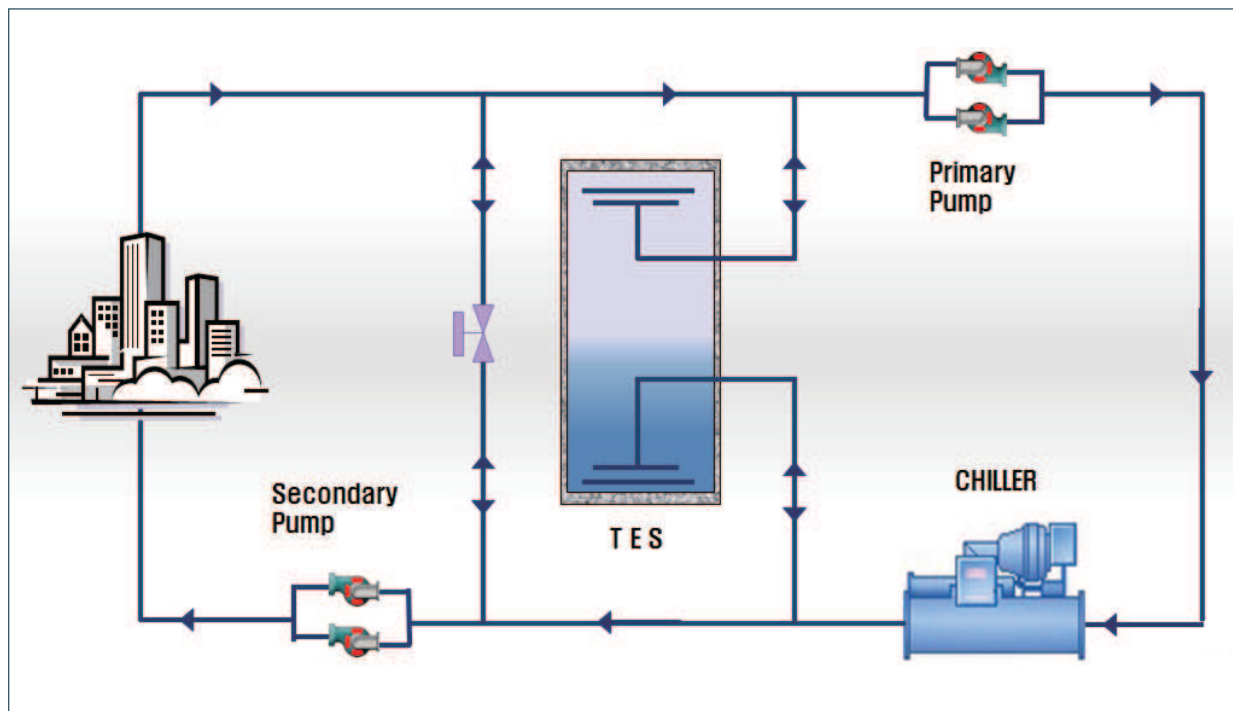
	Dec.	Acquired KT Certificate (Innovative Korean Technology) for Ice-Bon Plus TES by Ministry of Science & Technology
2004	Apr.	Awarded the first foreign project from Republic Polytechnic in Singapore
2005	Mar.	Awarded the first Middle East project from Tabreed in UAE
2006	Sep. Oct.	Raised Paid-in Capital to USD 7.9 M Opened Liaison Office in Dubai
2007	Feb.	Raised Paid-in Capital to USD 12.7 M
2008	Oct. Dec.	Raised Paid-in Capital to USD 18.9 M Company Name changed to FT (FineTex) EnE Inc.
2009	Mar. Jun. Jul.	Inaugrated new CEO, Mr. Jong chul Park Raised Paid-in Capital to USD 20.2 M Acquired FT Technology
2010	Aug.	FTEnE acquired 100% equity of Finetex Technology Philippines Corp.
2010	Dec.	FTEnE issued CB to GE Capital (US\$ 10 mil.)
2012	Sep.	FTEnE issued CB to KDB (KRW 5 billion)
2012	Dec.	FTEnE issued BW to KDB Asset Management Co. Ltd.(KRW 10 billion)
2013	Aug.	FTEnE issued BW to MG NON-LIFE INSURANCE CO.,LTD (KRW 5 billion)
2013	Dec.	The Korea Development Bank shares in the FTEnE equity swap
2013	Nov.	FT EnE CANADA INC. Factory completion ceremony
2014	Mar.	Finetex Technology Global Limited complete liquidation
2014	Apr.	FT EnE CANADA INC. Factory operation was started.

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What is Chilled Water TES System?

"Chilled water thermal energy storage system utilizes off-peak electricity, which is usually cheaper than on-peak, electricity to cool off water. The system utilizes only the sensible heat of water for cooling energy storage in a chilled water storage tank and discharges the stored coldness for air-conditioning in on-peak time. This operation scheme will reduce the total energy consumption and operation cost.



※ CW TES has long history of installation and widely applied around world including U.S.A., Japan, Korea and Middle East Asia.

Features of Aqua-Bon CW TES System

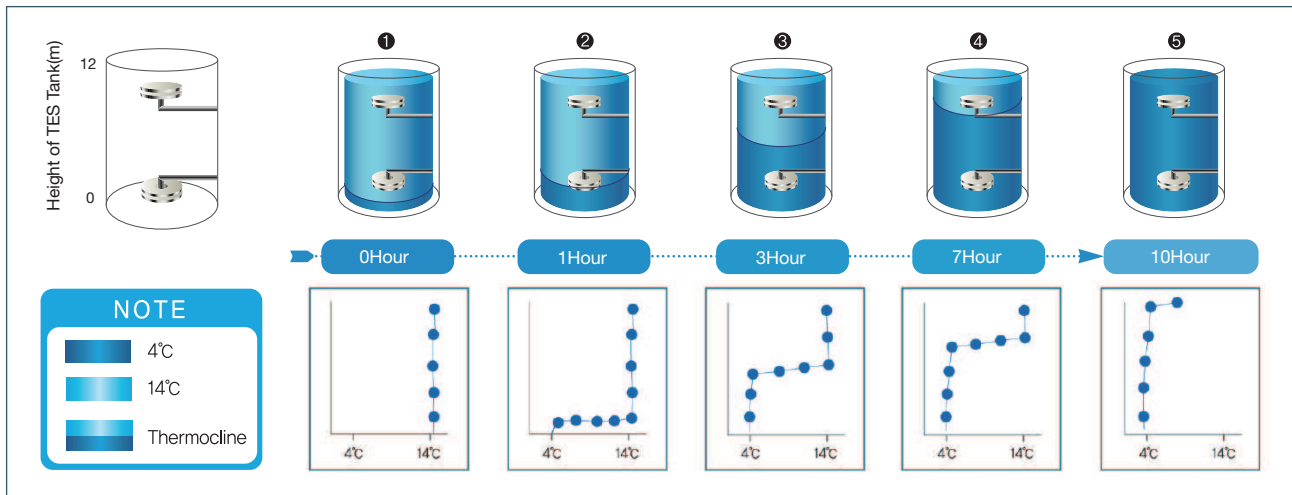
- Lowest initial investment cost.
- 30% energy saving by utilizing conventional chillers whose efficiency is higher than low-temperature chillers.
- Simple system without additional heat exchangers and less equipment.
- Easy to convert conventional system into Aqua-Bon system by adding only chilled water storage tank.
- Convertible to heating purposes.
- Environmentally friendly system free from brine.
- Storage water can be utilized as a fire-fighting source.

Limitation

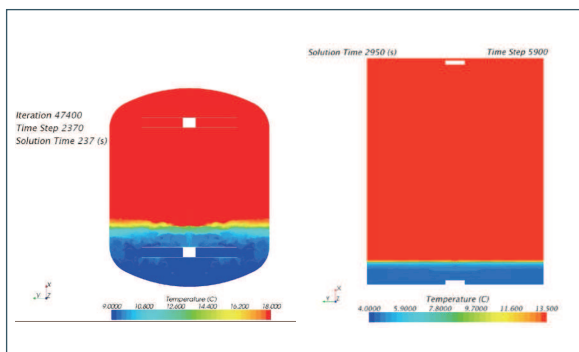
- Requires larger installation area and storage volume compared with Ice-Bon System.

FT EnE Aqua - Bon

Stratification in Aqua-Bon TES

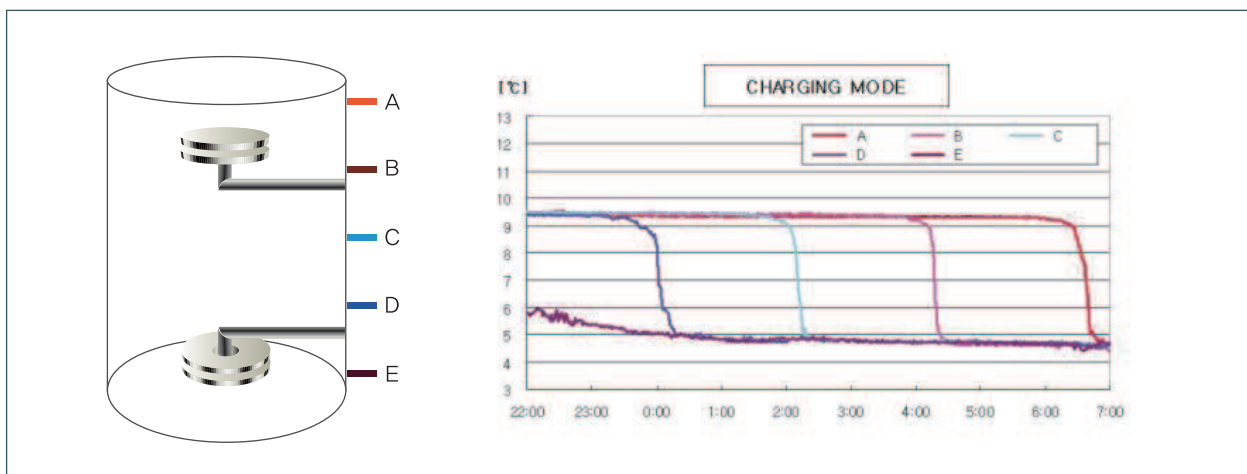


Key technology of Aqua-Bon



“The key technology of Aqua-Bon system is the diffuser design which ensures thermal stratification of chilled water and warm water by density difference. EnE’s Technology is the state-of-the-art technology which is recommended at ASHRAE’s design guideline.

Temperatures in TES Tank during charging mode



※ Temperatures measured at LG Sitron Plant#1 in Korea.



Aqua-Bon TES References



Republic Polytechnic New Campus (Singapore)
University

TES capacity : 26,000 RT-hr



Changi Business Park
Commercial Building

TES capacity : 22,000 RT-hr



Al Ain Air College (Tabreed, UAE)
District Cooling

TES capacity : 15,000 RT-hr



DIP-4 (Emicool, UAE)
District Cooling

TES capacity : 14,220 RT-hr



DIP-3A & 3B (Emicool, UAE)
District Cooling

TES capacity : 30,000 RT-hr x 2EA



Yas Island DCP-8 (Tabreed, UAE)
District Cooling

TES capacity : 25,000 RT-hr



Meraas Land
District Cooling

TES capacity : 25,000 RT-hr



National Tower
Commercial Building, UAE

TES capacity : 13,750 RT-hr



Aqua-Bon TES References



QIPP

Power plant, KSA

TES capacity : 180,150 RT-hr x 2EA



Sadiyyat DCP2

District Cooling, UAE

TES capacity : 15,480 RT-hr



Jubail Industrial College

University, KSA

TES capacity : 15,000 RT-hr



Business Bay DCP2

District Cooling, UAE

TES capacity : 26,000 RT-hr x 2EA



Abu Dhabi Exhibition Center

Commercial Building, UAE

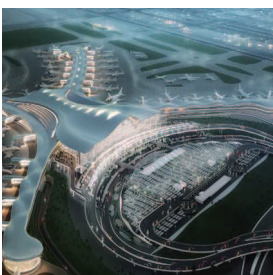
TES capacity : 20,000 RT-hr



Multi Purpose Hall

Stadium, Qatar

TES capacity : 4,200 RT-hr x 2EA



Abu Dhabi Airport A, B

Airport, UAE

TES capacity : 25,000 RT-hr x 2EA



Qatar Cool West Bay3

District Cooling, Qatar

TES capacity : 25,000 RT-hr

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