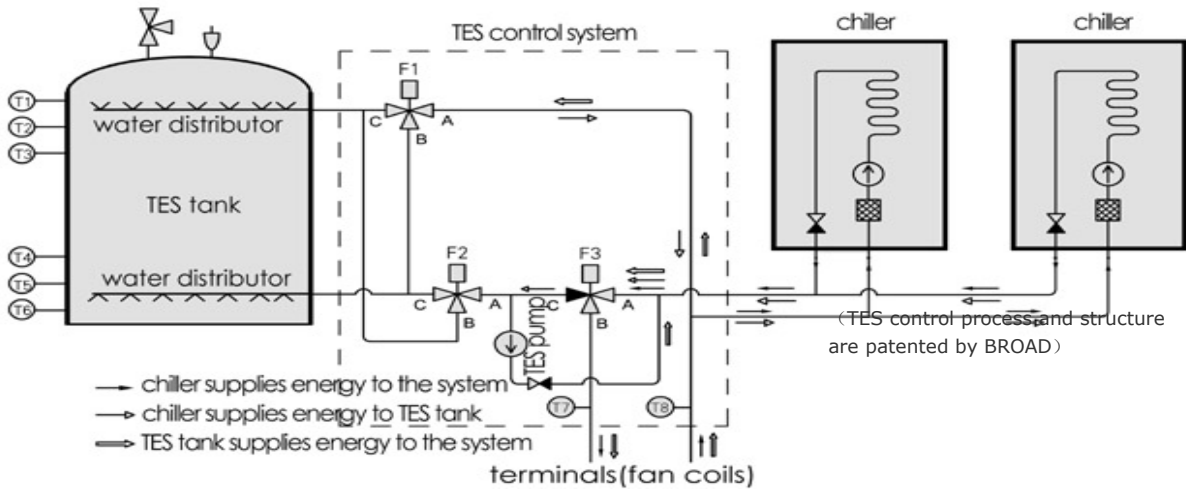




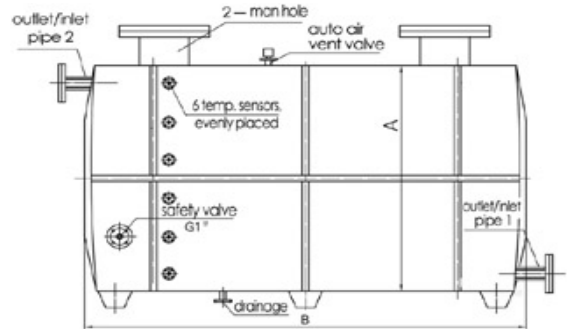
Thermal Energy Storage (TES) System



Applications

TES combines with a central air conditioning system to shift part of the load and to improve operating flexibility and energy efficiency. TES is suitable for:

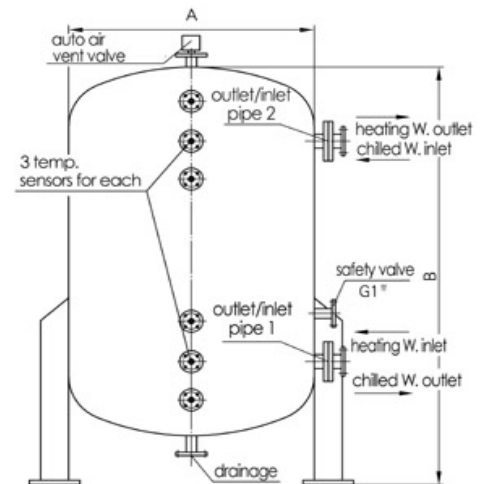
- Short air conditioning operating time with high load demand, i.e. theater, stadium, auditorium, dining hall, etc.
 - Double income families
- Special energy applications: solar energy, power generation or industrial waste heat, etc.



Horizontal TES tank

Advantages

- Cost effective. Save investment on chillers (the larger the storage tank, the more the savings).
 - Energy saving. Save more energy by balancing the air conditioning load, or making use of low ambient temperature for cooling at night. Chiller can run every other day in low load seasons.
 - Flexible. Satisfy the requirement of swift load changes, e.g. conference, exhibition, sport and show facilities.
 - Full automatic control. Customer may select a program that suits their specific load requirement.
- Different from ice storage which is expensive and difficult to control. Ice ball has a limited life span. Water storage instead of ice storage is used most often.



Vertical TES tank



TES tank performance data

Working pressure: 0.3MPa
 Working temperature: ≤ 85°C
 Material: glass fiber reinforced plastic with plastic insulation
 Safety protection: safety valve and air vent valve installed
 Pipe connection: flange

Model	Volume m ³	A	B	Outlet/inlet pipe	Drainage	Weight kg	Structure
BX5	5	φ1550	3100	DN40	DN50	1250	V/H type
BX10	10	φ2060	3450	DN50	DN50	1850	V/H type
BX30	30	φ3060	4750	DN80	DN50	3900	V/H type
BX50	50	φ3060	7450	DN100	DN50	6200	V/H type

Model selection and ordering

1. Model selection for TES tank control system: based on chilled water flow.
2. Storage capacity calculation: cooling: 10°C×volume (5°C→10°C) ; heating: 40°C×volume (90°C→50°C). It is recommended that TES tank be able to supply 5 hours? peak load cooling or heating capacity.
3. Lead time: 5~7 months.
4. Relatively large TES tank is to be provided by the user (fire protection water tank can be used). BROAD TES control system is available for sale separately.

Supply list

Cat.	Item	Remarks
Tank body	TES tank(pressure limit 0.3MPa)(optional)	Includes 6 temperature sensor ports, safety valve, auto air vent valve
TES control system	TES pump	Feeds the chilled water
	3-way motorized valve (3pcs)	Switches between energy storage/ supply (1pc for cooling or heating only)
	Check valve, filters, etc.	Regulates flow direction
	Control cabinet	Includes high/low voltage electrical parts like PLC (with 6 sensors for measuring tank body temperature)
	Supply/return water temp. sensors (2pcs)	Feedbacks temperature of supply/ return water temperature

Note: fire protection water tank can be used as a TES tank.

Nomenclature

