Pecol™

Pecol™

Innovations In Green Energy
(since 1968)



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ABOUT PECOL

PECOL PACIFIC ENGINEERING SDN BHD, Established in 1968 as Pacific Engineering Sdn Bhd, our company has been at the forefront of energy-efficient heating solutions in Malaysia for over 50 years.

We specialize in the design and manufacturing of heat pump systems and solar water heaters for both commercial and residential applications. Our innovative technologies help clients reduce energy consumption while maintaining optimal performance.

Today, Pecol Engineering continues to lead the industry with our commitment to quality, durability, and positive eco-living solutions.

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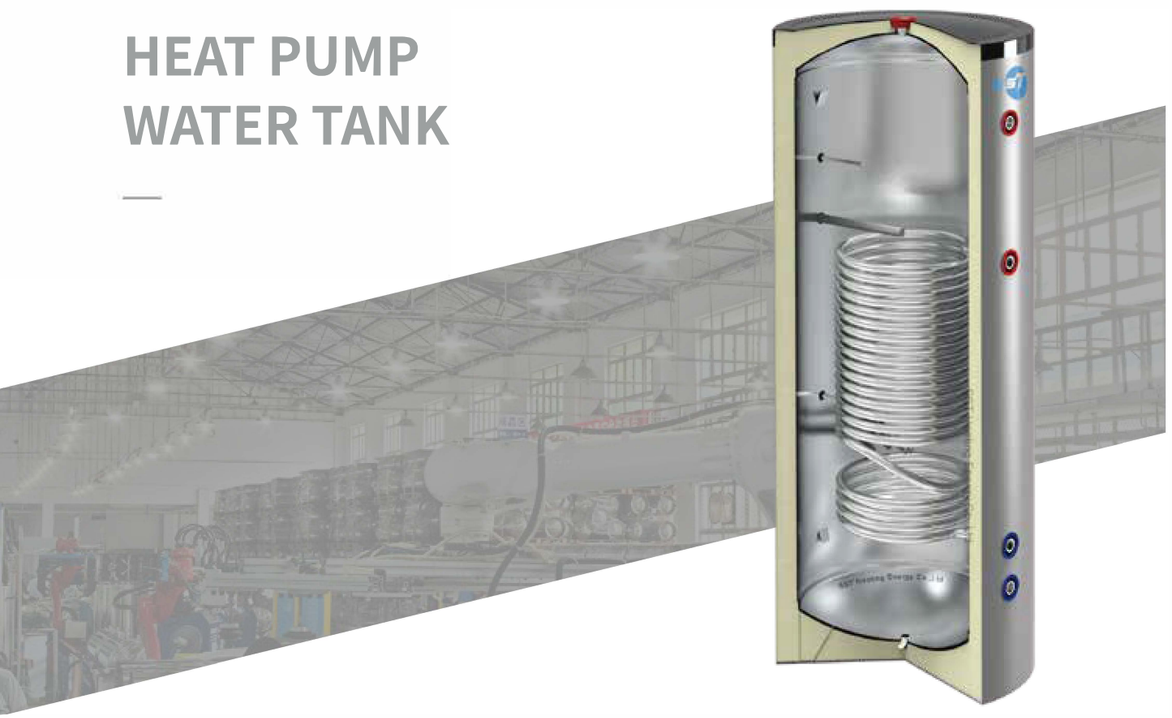


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HEAT PUMP WATER TANK



DESCRIBE

Heat pump tank is an energy efficient way of supplying domestic hot water needs,and can complement any heat pump for space heating.

Unlike a traditional hot water heater,a heat pump water heater uses electricity to move existing heat from one place to another instead of generating heat directly.

Heat pumps are often used by homeowners to heat and cool homes,but they can also be used either as a stand-alone water heating system or in a combination system for both hot water and space conditioning.



Smooth coil



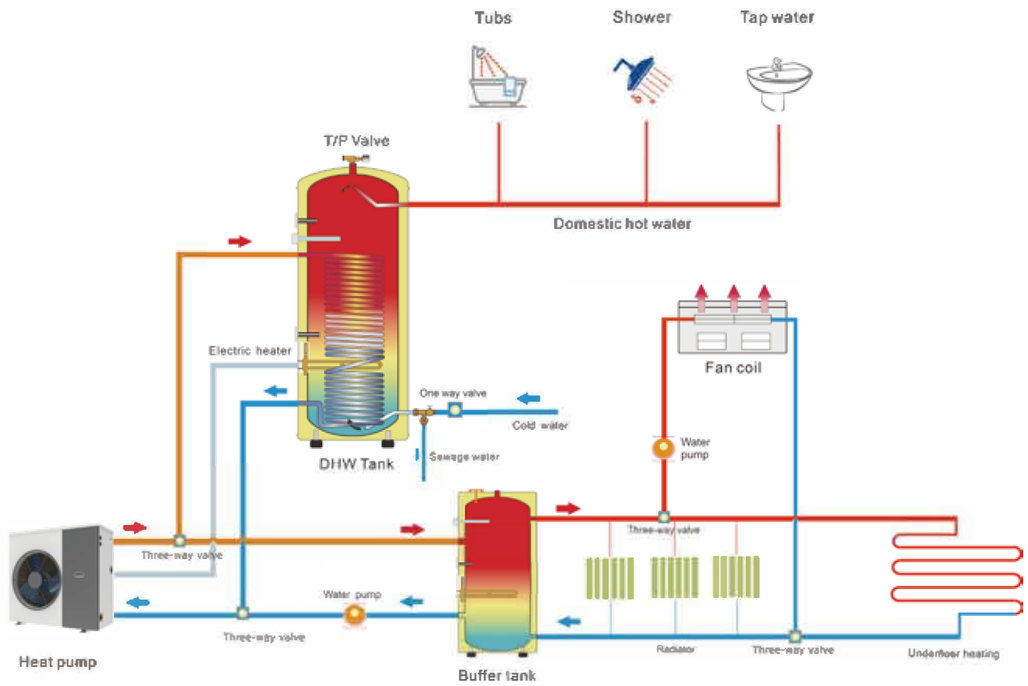
Wave coil



Aluminum coil



Copper coil



SPECIFICATION PARAMETERS

Capacity(L)	200L	250L	300L	400L
Inner Diameter(mm)	ϕ470	ϕ470	ϕ500	ϕ550
Outer Diameter(mm)	ϕ560	ϕ560	ϕ600	ϕ650
Insulation Thickness(mm)	δ45	δ45	δ50	δ50
Height(mm)	1312	1495	1572	1800
Inner Tank Material	Stainless steel 304, 316L, Duplex 2205			
Casing Material	Galvanized steel with painting / SUS304 / PU soft jacket			
Electric Heater	1.5kW & 3kW 220~240V 50Hz 1Phase			
Exchange Coil Material	SUS316L			
Exchange Coil Diameter	22mm,28mm,32mm,35mm			
Connection Size(inch)	1/2", 3/4", 1", 5/4", 6/4", 2"			
Working Pressure	0.6 MPa			
Testing Pressure	1.0 MPa			

BUFFER TANK

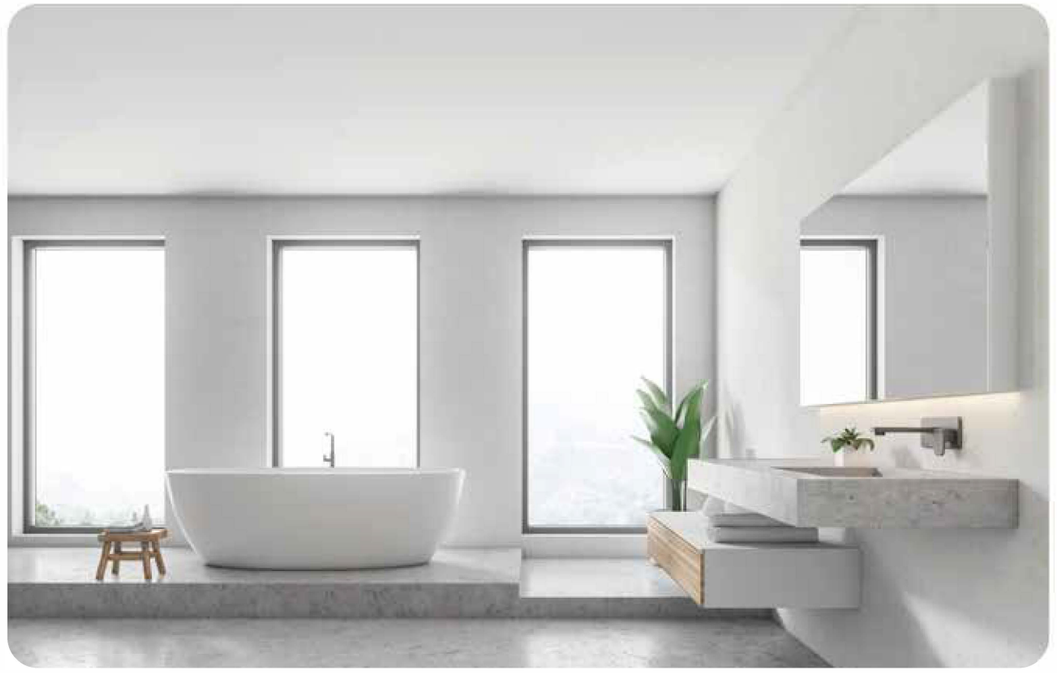


DESCRIBE

SST manufactures a large range of stainless buffer tanks with different coil configurations.

Heating Systems: In heating systems, a buffer tank stores excess hot water produced by a boiler or heat pump. This helps to prevent short cycling of the heating equipment, which can lead to inefficiencies and wear.

Cooling Systems: In chilled water systems, a buffer tank stores cold water to ensure consistent cooling, compensating for fluctuations in cooling demand.



SPECIFICATION PARAMETERS

Capacity(L)	50L	100L	150L	200L
Inner Diameter(mm)	ϕ370	ϕ370	ϕ370	ϕ470
Outer Diameter(mm)	ϕ470	ϕ470	ϕ470	ϕ560
Insulation Thickness(mm)	δ50	δ50	δ50	δ45
Height(mm)	600	1045	1410	1312
Inner Tank Material	Stainless steel 304, 316L, Duplex 2205			
Casing Material	Galvanized steel with painting / SUS304			
Electric Heater	1.5kW & 3kW 220~240V 50Hz 1Phase			
Connection Size(inch)	1/2", 3/4", 1", 5/4", 6/4", 2"			
Working Pressure	0.6 MPa			
Testing Pressure	1.0 MPa			

DOUBLE CYLINDER WATER TANK

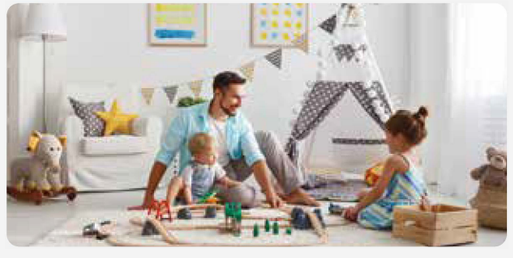


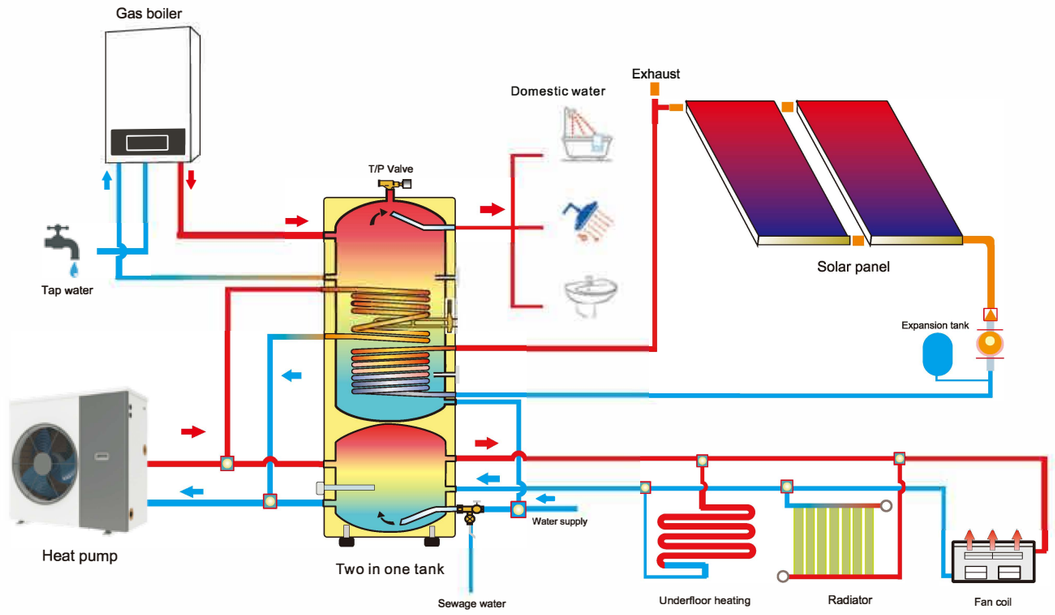
DESCRIBE

The complete solution is the combination of a sanitary water tank and a central heating buffer, working with heat pump, solar panels and gas boiler.

The great advantage is saving installation space, transport and labour costs.

The highest energy efficiency level of SST water heaters can reach the EU Energy Efficiency A+ Level, which ensures that users can get a better experience at a lower cost.





SPECIFICATION PARAMETERS

Capacity(L)	200L	250L	300L	400L	500L
Buffer Capacity	50L	50L	100L	100L	200L
DHW Capacity	150L	200L	200L	300L	300L
Inner Diameter(mm)	ϕ470	ϕ470	ϕ500	ϕ550	ϕ600
Outer Diameter(mm)	ϕ560	ϕ560	ϕ600	ϕ650	ϕ700
Insulation Thickness(mm)	δ45	δ45	δ50	δ50	δ50
Height(mm)	1500	1780	1850	1900	2000
Inner Tank Material	Stainless steel 304, 316L, Duplex 2205				
Casing Material	Galvanized steel with painting / SUS304 / PU soft jacket				
Exchange Coil Material	SUS316L				
Exchange Coil Diameter	22mm,28mm,32mm,35mm				
Electric Heater	1.5kW & 3kW 220~240V 50Hz 1Phase				
Connection Size(inch)	1/2", 3/4", 1", 5/4", 6/4", 2"				
Working Pressure	0.6 MPa				
Testing Pressure	1.0 MPa				

COMMERCIAL WATER TANK



DESCRIBE

SST Stainless Steel Tanks are crafted from Duplex 2205 Stainless Steel, offering high corrosion resistance and durability. Available in sizes from 800 to 5000 litres, they suit various settings and are optimized for energy efficiency with 800-1000L models featuring 50mm Rigid Polyurethane insulation and 2000-5000L models insulated with 75mm.

Compatible with multiple heat sources with optional stainless steel coils, these tanks are Watermark approved and are ideal for both commercial and residential applications.



SPECIFICATION PARAMETERS

Capacity(L)	1000L	2000L	3000L	4000L	5000L
Inner Diameter(mm)	ϕ800	ϕ1200	ϕ1450	ϕ1800	ϕ1900
Outer Diameter(mm)	ϕ900	ϕ1350	ϕ1600	ϕ1650	ϕ2050
Insulation Thickness(mm)	δ50	δ75	δ75	δ75	δ75
Height(mm)	2300	2350	2500	2500	2500
Inner Tank Thickness(mm)	δ2.0	δ3.0	δ4.0	δ4.0	δ4.0
Inner Tank Material	Duplex 2205				
Casing Material	Galvanized steel with painting / SUS304				
Electric Heater	1.5kW & 3kW 220~240V 50Hz 1Phase				
Exchange Coil Material	SUS316L				
Exchange Coil Diameter	32mm,35mm				
Connection Size(inch)	1", 5/4", 6/4", 2"				
Working Pressure	0.6 MPa				
Teating Pressure	1.0MPa				

HORIZONTAL TANK



DESCRIBE

SST horizontal water tanks are designed for spaces with limited vertical height but ample floor area. Ideal for residential basements, commercial installations, and industrial facilities, these tanks provide efficient hot or cold water storage while maximizing ground-level space utilization.

They are compatible with various heat sources, including heat pumps, solar systems, and boilers, and can be customized in capacity and connection configurations to fit specific system requirements.

SPECIFICATION PARAMETERS

Capacity(L)	200L	300L	400L	500L
Inner Diameter(mm)	ϕ470	ϕ500	ϕ550	ϕ600
Outer Diameter(mm)	ϕ560	ϕ600	ϕ650	ϕ700
Insulation Thickness(mm)	δ45	δ50	δ50	δ50
Length(mm)	1312	1572	1800	1822
Inner Tank Material	Stainless steel 304, 316L, Duplex 2205			
Casing Material	Galvanized steel with painting / SUS304			
Electric Heater	1.5kW & 3kW 220~240V 50Hz 1Phase			
Exchange Coil Material	SUS316L			
Exchange Coil Diameter	22mm,28mm,32mm			
Connection Size(inch)	1/2", 3/4", 1", 6/4", 2"			
Working Pressure	0.6 MPa			
Testing Pressure	1.0 MPa			

SQUARE TANK



DESCRIBE

The square water tank features a compact and modular design, perfect for maximizing space utilization in narrow areas or against walls. It meets domestic hot water and small-scale commercial heating demands, compatible with various heat sources for versatile application.

With its standardized electric heater and multiple connection sizes, it enables convenient installation and use. Ideal for apartments, small hotels, offices, and retail stores, it combines practicality, durability, and aesthetic adaptability.

SPECIFICATION PARAMETERS

Capacity(L)	200L	300L
Inner Diameter(mm)	ϕ500	ϕ500
Outer Diameter(mm)	ϕ560	ϕ560
Insulation Thickness(mm)	δ30	δ30
Height(mm)	1380	1685
Inner Tank Material	Stainless steel 304, 316L, Duplex 2205	
Casing Material	Galvanized steel with painting	
Electric Heater	1.5kW & 3kW 220~240V 50Hz 1Phase	
Exchange Coil Material	SUS316L	
Exchange Coil Diameter	22mm,28mm,32mm	
Connection Size(inch)	1/2", 3/4", 1"	
Working Pressure	0.6 MPa	
Testing Pressure	1.0 MPa	

STAINLESS STEEL PARTS



DESCRIBE

Flow heater can be use in heat pump system, swimming pool system, bathtub, floor heating, radiator and other systems as auxiliary heating.

SPECIFICATION PARAMETERS

Shell Material	SUS304/SUS316L
Diameter(mm)	ϕ76.2/ϕ90
Thickness(mm)	1.2
Connection Size(inch)	1/2" 3/4" 1" 6/4" 2"
E-heater Type	Immersion electric heating (Threaded or flanged joint)
Electric Heater	1.5kW & 3kW 220~240V 50Hz 1Phase
Thermostat	Bimetal thermostat/ Rod temperature controller



DESCRIBE

The stainless steel water storage tank inside the coffee machine has become the first choice for many users because of its durability, rust prevention and easy cleaning characteristics.

SPECIFICATION PARAMETERS

Shell Material	SUS304/SUS316L
Diameter(mm)	ϕ63.5/ϕ76.2/ϕ90/ϕ101.6
Thickness(mm)	0.8/1.0/1.2/1.5/2.0
Connection Size(inch)	1/2" 3/4" 1" 6/4" 2"
E-heater Type	Immersion electric heating (Threaded or flanged joint)
Electric Heater	1.5kW & 3kW 220~240V 50Hz 1Phase

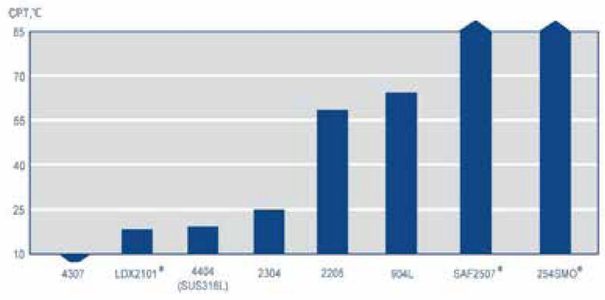
DUPLEX SS



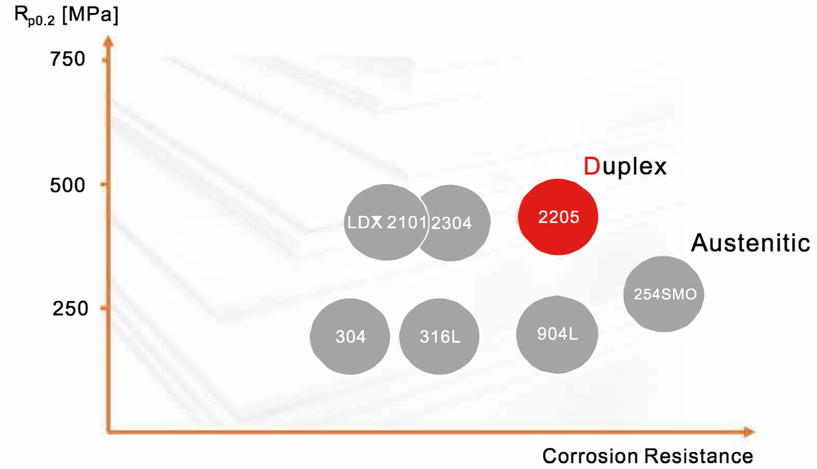
COMPOSITION OF DUPLEX STAINLESS STEEL

Ferritic-austenitic stainless steels are known as Duplex 2205 and combine the advantages of ferritic and austenitic steel. Due to the high content of Cr,N and Mo, which makes Duplex 2205 good resistance to localised and uniform corrosion.

The above figures show typical critical pitting corrosion temperatures (CPT) in 1M NaCl measured according to ASTM G150 using the Avesta Cell. Test surfaces wet ground to 320 mesh. CPT varies with product form and surface finish.







TEST RESULT

The pitting corrosion resistance of Duplex stainless steel is far more than SUS304 or SUS316L.
Test conditions:
Solution:6% ferric chloride solution
Test method: Soak
Duplex is the best choice for stainless steel hot water tank.

Duplex 2205 achieve better tensile strength, yield strength and toughness than SUS304 and SUS316L steels at the same diameter and ambient pressure.

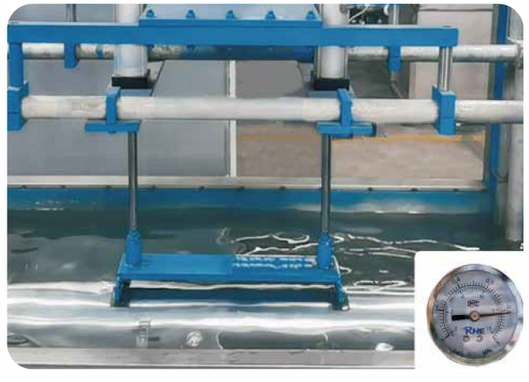
Material	Tensile strength (min)MPa	Yield strength MPa	Toughness (max)
			HB
SUS304	515	205	201
SUS316L	485	170	217
duplex 2205	655	450	293

For the same diameter and pressure, Duplex 2205 can be used at a thinner thickness than austenitic steel, due to the higher strength of austenitic steel, which makes Duplex 2205 more advantageous in terms of tank costs and transport.

Material	100L	200L	300L	400L
SUS304	1.2mm	1.5mm	1.5mm	2.0mm
SUS316L	1.2mm	1.5mm	1.5mm	2.0mm
duplex 2205	1.0mm	1.0mm	1.0mm	1.5mm

QUALITY CONTROL

Detection process



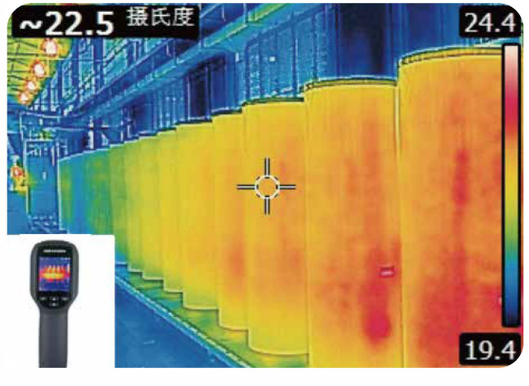
100% leakage test

The tank testing pressure is 0.8~1.0MPa and keep it for 3 minutes,there are no bubbles in the pool and no deformation of the tank. It turns out that the water tank has no leakage.

Internal inspection of water tank

Through the endoscope, it is convenient to observe the inner tank after pickling, and ensure that the products are qualified after pickling.





Infrared thermal imaging

Inspect polyurethane foaming process and foaming quality through high-precision infrared radiation imaging with thermal sensitivity (NETD)<60Mk (0.06 ℃).

Material testing

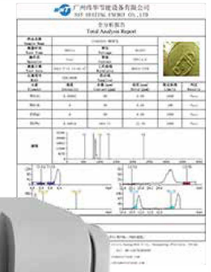


Salt spray corrosion test

The corrosion resistance of the inner tank is tested through NSS experiment.
The experimental results show that the product has good corrosion resistance and can be used in the environment with poor water quality.

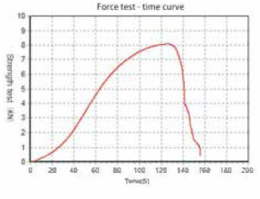
Raw material analysis

Raw materials, for example, stainless steel sheet, coils, connectors and so on.









Mechanical property test

Measure the tensile (compressive) strength, elongation, shear strength, welding strength and other mechanical properties of materials, and output the performance change curve for material mechanics research.













