

## Main components for solar water heating system



### Hot water tank

SUS 304-2B food grade inner tank.  
Automatic argon arc welding, fastness and reliable.  
Excellent antiseptic treatment.  
Anode rod built-in, purify water quality, prolong lifetime.  
Domestic leading built-in stainless steel coil technical, higher efficiency.  
Large thermal storage capacity, supply adequate hot water.



### Flat plate solar collector

Ultrasonic welding between fins and copper tube.  
Absorption coating: blue tape/black chrome. Toughened glass.  
Glass wool, no water seepage. Resistance to corrosion.  
Easy to install.



### Pump station

Applicable for split close circuit solar heating system.  
Easy installation and lower cost.  
It can be matched with different controller.  
Adopt German WILLO water pump, preinstall flow circulation, release air instantly, safe and stable.



### Expansion tank

Changeable butyl rubber sacculus, long lifetime  
Small volume, easy installation  
Large valid capacity (63%)  
Epoxy coated, anti-corrosion, meet the EU environmental standards  
Excellent loading capacity



### Controller

Latest high-performance NEC, intelligent control  
Available in any environment  
LCD display  
Elegant appearance, easy to install  
Split and one piece construction can be alternative



### Bracket for solar collector(sloping roof)

Galvanized + outdoor powder treatment, anti-corrosion, anti-exposure.  
Unique sloping roof structure designment, integrated to the building, easy to install.



### T/P valve

With temperature and pressure double safety protection function, can lower temperature and release pressure automatically  
Reliable movements



### Automatic air valve

Highest grade synthetic materials  
PK-EP and EPDM O-type seal  
Connecting design of cut off valve and exhaust valve, strict inspection for pressure and exhaust  
Copper material, small and easy to install



### Installation accessories for collector

Easy installation:  
Withstand high temperature,  
Anti-corrosion, long service life

# DONPER



## Central heating technology Professional heating solutions

Dongbei Split solar water heating system  
(hot water+ floor heating supply)

## Introduction

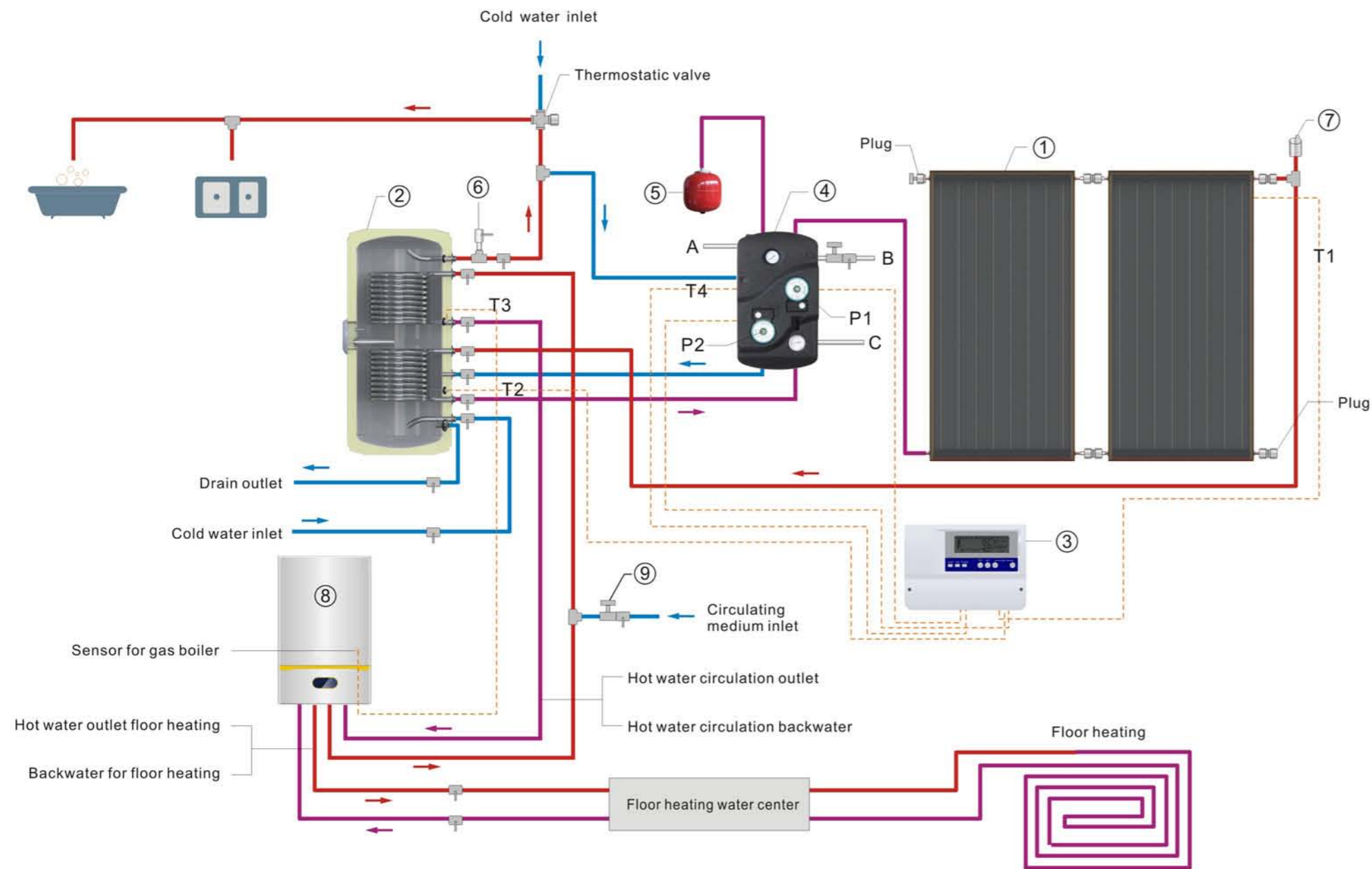
- Dongbei company research and develop split solar water heating system based on international advanced technology. This system shows the trends for solar and building integrated. Providing a healthy and low-carbon life for you.
- The system include hot water tank, flat plate solar collector, controller, pump station, expansion tank, T/P valve, automatic air valve, heating element, control valve, pipeline, etc.
- It shows the new technology for energy saving, new idea for environment protection, new method for heating storage, new style for intelligent control, new concept for heating supply. Please believe Dongbei solar water heating system will be your best choice.

## System advantage

- Excellent technology for solar collect, large capacity thermal energy convert and release, intelligent control.
- Geometric integral regenerative structure, supplying adequate hot water.
- High-power heat mixed technology, heat start fast, shorten heating time, more convenient.
- High efficiency flat plate collector or heat pipe collector, solar absorptivity is 95%, superexcellent thermal insulation technology made it operated effective and steady.
- Pressure-bearing closed cycle operation, with food-grade stainless steel inner tank and anode rod built-in; no pollution, more healthy.
- Ego-controlled dual-energy complementarity. Freeze-proofing, high tem, over-pressure protection and humanity interface designment.
- Versatile component, easy to install, combine with the building perfectly.
- Multiple specs and technologies offer you satisfied water solutions.



## System schematic diagram



A: Drain outlet of circulating medium  
 B: Circulating medium inlet  
 C: Circulating medium outlet  
 P1: Circulating pump for collector loop  
 P2: Circulating pump for water side  
 T1: Collector test temperature  
 T2: Test temperature for lower tank  
 T3: Temperature for gas boiler  
 T4: Backwater temperature

- ⑨ Automatic water supply valve
- ⑧ Single Gas boiler
- ⑦ Automatic air valve
- ⑥ T/P valve
- ⑤ Expansion tank
- ④ Pump station
- ③ Controller
- ② Hot water tank
- ① Solar collector

## System configuration

Item	DBGQ2/200C -2PM/2.0-2P		DBGQ2/300C -3PM/2.0-2P		DBGQ2/400C -4PM/2.0-2P		DBGQ2/500C -5PM/2.0-2P	
	Spec	Qty	Spec	Qty	Spec	Qty	Spec	Qty
Hot water tank	PH2-200C	1	PH2-300C	1	PH2-400C	1	PH2-500C	1
Flat plate collector	DB-P-G/0.6-T/LM-2.0	2	DB-P-G/0.6-T/LM-2.0	3	DB-P-G/0.6-T/LM-2.0	4	DB-P-G/0.6-T/LM-2.0	5
Brackets	Sloping roof	2	Sloping roof	3	Sloping roof	4	Sloping roof	5
Controller	DBSR530C8	1	DBSR530C8	1	DBSR530C8	1	DBSR530C8	1
Pump station	PS-2P	1	PS-2P	1	PS-2P	1	PS-2P	1
Expansion tank	18L	1	24L	1	24L	1	24L	1
T/P Valve	WAY-15	1	WAY-15	1	WAY-15	1	WAY-15	1
Automatic air valve	DN15	1	DN15	1	DN15	1	DN15	1
Packing dimension (mm)	Hot water tank	740*740*1490	740*740*2030	860*860*1750	860*860*2070			
	Flat plate collector	2090*1120*155	2090*1120*155	2090*1120*155	2090*1120*155			
	Bracket	1125*115*75	1125*115*75	1125*115*75	1125*115*75			
	Accessories	570*620*420	570*620*420	570*620*420	570*620*420			

## Technology parameters

Spec	DBGQ2/200C-2PM/2.0-2P	DBGQ2/300C-3PM/2.0-2P	DBGQ2/400C-4PM/2.0-2P	DBGQ2/500C-5PM/2.0-2P
Daily heat gain(MJ/m <sup>2</sup> )	7.5			
Average heat lose factor W/(m <sup>3</sup> ·K)	14.7			
System rated pressure(Mpa)	≤0.8			
Tank rated capacity(L)	200	300	400	500
Tank max temperature(°C)	90			
Upper and lower heat exchanger area(m <sup>2</sup> )	0.85/0.85	1 / 2	1.2/2	1.5/2.5
Collector type	Import blue coating			
Collecting area(m <sup>2</sup> )	3.68	5.52	7.36	9.2
Circulating material	Water or other heat conduction material			
Circulating flow(Recommended)(kg/m <sup>2</sup> . s)	0.02			
Brackets type	Sloping roof( galvanized sheet + outdoor powder)			
Auxiliary heating element	Gas boiler(28KW)	Gas boiler(28KW)	Gas boiler(36KW)	Gas boiler(48KW)
Bath number	3-4	5-6	7-8	9-10
Heating supply area(m <sup>2</sup> )	≤200	≤200	≤300	≤400