

INSPECTION CHECKLIST SOLAR WATER HEATERS

Date:

Signature:

General data¹

		All right?	
		Yes	No
*1	Registration no.		
*2	Inspection		
	type of inspection installation/maintenance ²		
	date		
	inspector name		
*3	SWH user		
	name		
	address		
	postal code, city		
	phone		
*4	SWH		
	brand and type		
	kind of system thermosyphon/forced circulation ²		
	year of manufacture		
	manual available yes/no ^{2 3}	—	—
*5	Collector		
	area (m ²)		
	number of collectors		
	type of collectors		
	orientation		
	slope (°)	—	—
6	Backup heating		
	energy source electricity / gas / oil		
	hot water storage integrated / separate tank / flow through		
	brand and type		
	power in kW		

¹ For follow-up inspections at a later stage (e.g. for checks after one year) answer only those questions marked with *.

² Delete as applicable.

³ Indicate with a 'X' in the right-hand column.

Visual inspection

	All right		not appl.	un-known
	Yes	No		
7 Supporting frame (strong, attached to roof/grouting)	___	___	___	
*8 Storage tank (location, no leaks, material)	___	___		
*9 Storage tank insulation (tight, no gaps) If known: overnight temperature drop °C	___	___		
10 Connection of pipes from storage tank to collector and user points (right position, insulation, air release valve, proper roof penetrations)	___	___		___
11 Non-return valve (right position)	___	___	___	
12 Positioning of circulation pipes between collector and tank (right slope, no sharp bends, air release valve)	___	___		
*13 Insulation circulation pipes (complete length, weather-resistant material, condition of insulation)	___	___		
14 Position expansion tank, vent pipe or safety valve	___	___	___	
15 Collector sensors (correctly attached to hot and cold water circulation pipes)	___	___	___	
*16 Circulation pump (position, power W)	___	___	___	
17 Control unit (position, settings)	___	___	___	___
18 Sensor cables (proper connections, right size and insulation cables)	___	___	___	___
*19 Backup heating a manual switch (location) b thermostat setting °C, range °C c proper electrical wiring	___	___	___	___
*20 Collector glass cover (clean, no cracks, water-tight, no condensation)	___	___	___	___
*21 Absorber (no corrosion, no leaks, paint/coating in good condition)	___	___	___	___

Visual inspection

	All right		not appl.	un-known
	Yes	No		
*22 Check (Chinese) vacuum tube systems Check vacuum (vacuum lost ⇔ hot tubes) Check tube / tank seals on leakage Check condition 'getter' (silver part white or small)	___	___	___	___

Testing and measurements

*23 Hot water outlet temperature °C	___	___	___	___
*24 Circulation with thermosyphon systems (temperature difference between hot and cold junctions)	___	___	___	___
*25 Forced circulation Important: for this test, the sun should be shining and the pump running: Check circulation by feeling or measuring the temperature difference between the hot and cold pipes	___	___	___	___
Differential Temperature Control (DTC)				
26 1) Switch on test: Note DTC-setting: $T_{DTC} = \dots\dots \text{°C}$ Measure collector inlet temperature $T_{in} = \dots\dots \text{°C}$ Measure collector outlet temperature $T_{out} = \dots\dots \text{°C}$ Check: $(T_{out} - T_{in})$ should be higher than T_{DTC}	___	___	___	___
2) Switch off test (optional): If possible cool down the 'hot' sensor or warm up the 'cold' sensor: Check: pump should switch off	___	___	___	___

