Get started

Spowdi user manual

spowdi®


The Spowdi mission is to provide affordable solar powered water distribution solutions to enhance your everyday life while being sustainable for our planet.
We hope you enjoy and benefit from our product

Table of content

System components

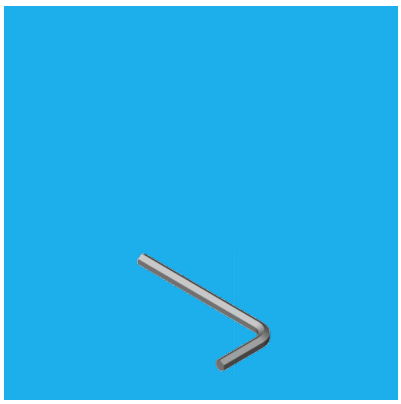
This is the basic components of the Spowdi system – robust, durable and easy to use

1 x
Pressure vessel with T-connector

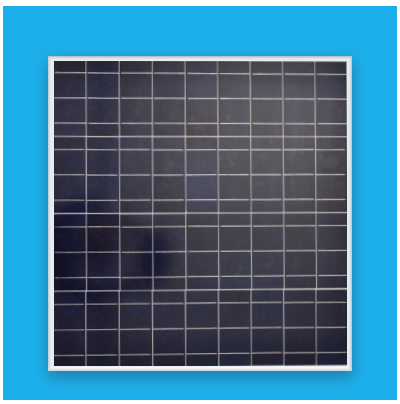
1 x
Power Management Box (PMB)

1 x
Pump unit

1 x
Extra membrane



1 x
Spowdi tool



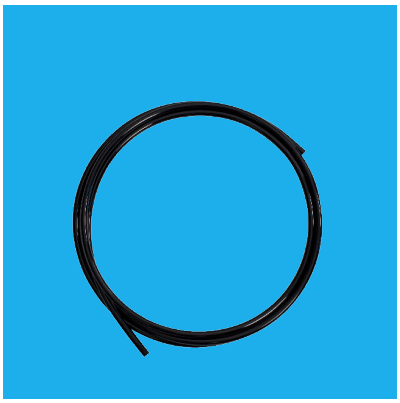
1 x
120-watt foldable solar panel

Installation kit

To install the system you will need tubes, pipes, and connectors.
You will find everything you need for an optimal installation at your local Spowdi dealer.

25 mm tube

16 mm tube



8 mm hose

Straight connector
25 mm

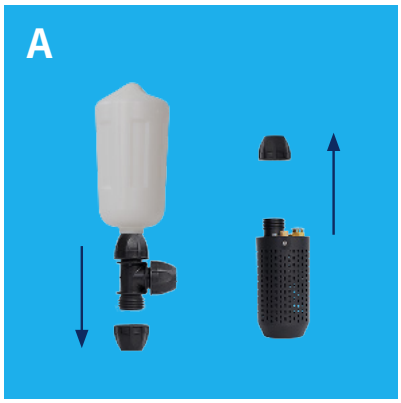
Straight connector
16 mm

Straight connector
8 mm

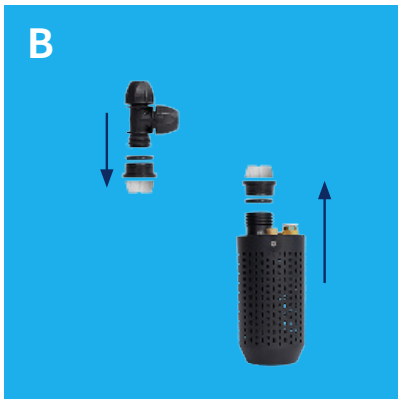
NOTE:
Make sure you always use equipment recommended by your local Spowdi dealer.

Installation: step 1

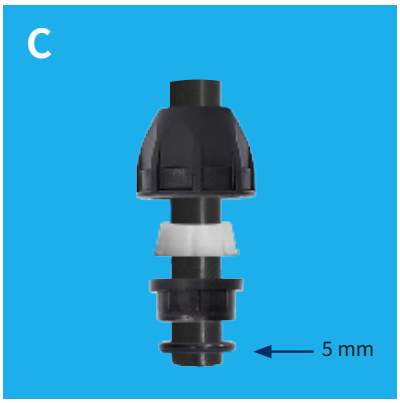
1. Connect the 25 mm tube to the pump unit and T-connector



Remove the capo from the T-connector and pump unit



Take out the black and white plastic parts and rubber O-ring from the T-connector and pump unigt



Put back the cap, black and white plastic parts and rubber O-ring to the 25 mm tube

Press the 25 mm tube with the plastic parts and rubber O-ring down 2 cm into the pump unit. Screw the cap clockwise to secure the tube to the Pump unit

Fit the tube in the T-connector

NOTE:
Press down in to the pump unit

NOTE:
The rubber O-ring should be 5 mm from the end of the hose

Installation: steps 2 – 4

2. Connect the 16 mm tube to the Pump unit

NOTE:
To remove the 16 mm tube and, hose, press and hold the white ring and release the tube/hose by pulling them gently

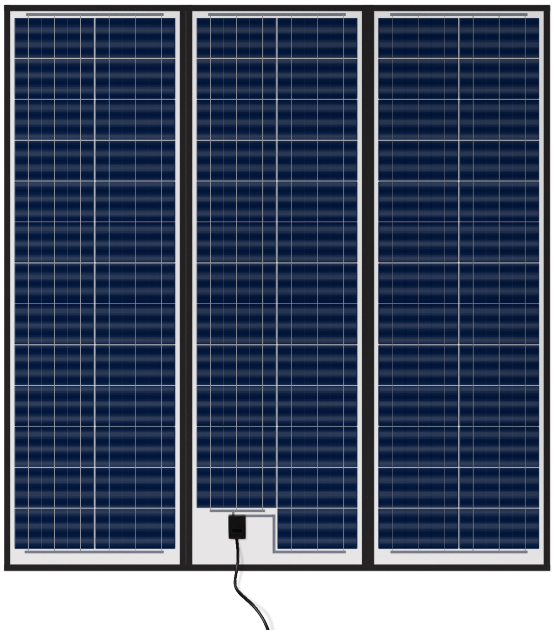
3. Connect the 8 mm hose to the Pump unit and PMB

NOTE:
Press the hose into the connector. To release, press and hold the white ring and gently pull the hose out

4. Connect the 25 mm tube (water outlet) to the T-connector

Installation: 5

5. Connect the solar panel to the back of the PMB



A: Make sure the solar panel is directed towards the Sun.

B: Place the PMB in the shadow of the solar panel. Never place the PMB in direct sunlight.

NOTE:
The system is at 100% capacity when the power of the Sun is 750 watt/m^2 or more

Installation: step 6

6. Starting the system

Set the main switch on the back of the PMB to ”ON”

Press and hold the Power button on the front of the PMB for three seconds. If the solar panel provides sufficent power or the battery is full, the system will start operation

NOTE:
When the power from the Sun is at minimum of 750 watt/m², the system will start automatically and charge the battery during operation

Above 750 watt/m²

When the Sun is above 750 watt/m² the system performance is 100%

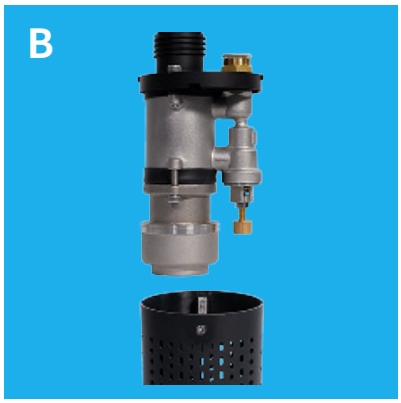
Below 750 watt/m²

When the radiation of the Sun is below 750 watt/m² the system will operate on the battery until it is empty, then it will stop

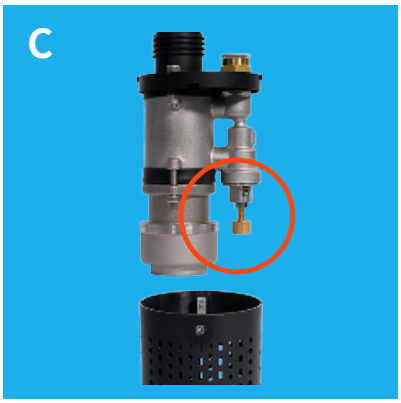
Optimizing the water flow

If installed with a low head (5 m or less), the air regulator inside the filter may need to be adjusted

Remove the filter can by removing the two screws at the top

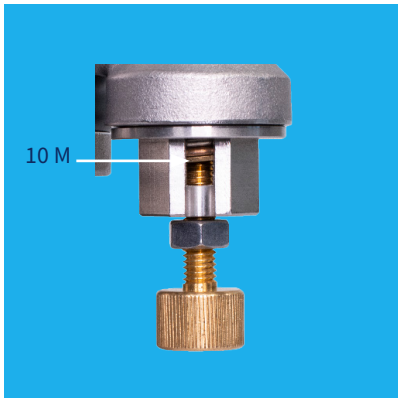


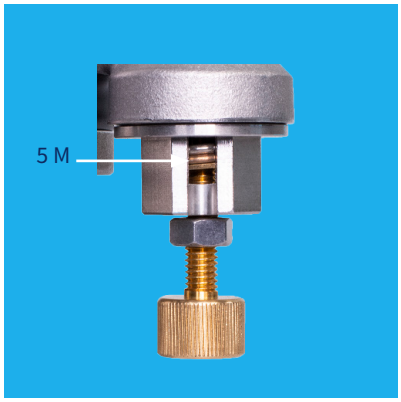
Pull down the filter can

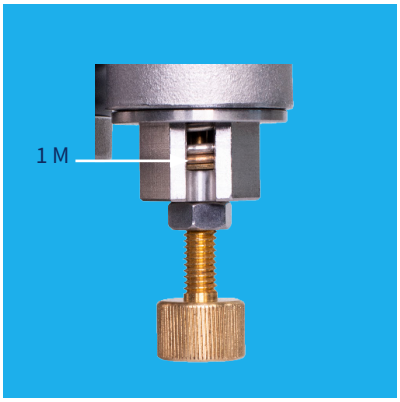


Reduce the air pressure by screwing the air regulator screw counterclockwise until there is no resistance from the spring inside the air regulator

Pump head settings







Extending the system

Depending on the type of installation, you may need optional tubes, pipes and connectors. You will find everything you need for an optimal installation at your local Spowdi dealer.

A: Disconnect the T-connector from the water tube by the extension point.

B: Mount the 25 mm straight connector on the 25 mm tube.

C: Connect the 25 mm extension tube to the straight connector and T-connector.

D: To extend the 16 mm tube, use the 16 mm straight connector and 8 mm connector to extend the 8 mm hose.

NOTE:
It is possible to extend the water tube between the Pump unit and T-connector up to 10 meters.
Only extend using a water tube recommended by Spowdi.

System checks

Checklist
Pressure vessel should always be at the **highest point** of the system
Distance between water surface and highest point (pressure vessel) should **not** be more than 10 M
Pump body should be placed **30 cm under the water surface** for best performance
16 mm tube has to be above the water surface
Pump unit needs to be **filled with water** to start the pumping process
Never place the PMB in direct sunshine
Keep the 8 mm hose **as short as possible**
Make sure the solar panel is at an **optimal angle** to the sun
Always use tubes and hoses **recommended by Spowdi**
Clean the filter can regularly

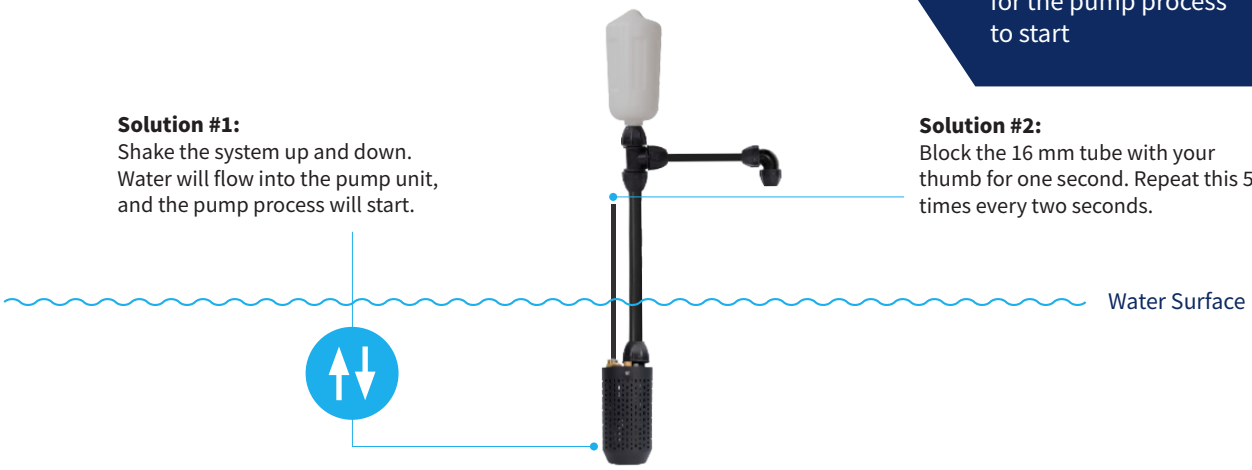
Troubleshooting

Q: I started the PMB and can hear it operating, but no water is coming out of the system

NOTE:
The pump unit has to be **filled with water** for the pump process to start

Solution #1:
Shake the system up and down. Water will flow into the pump unit, and the pump process will start.

Solution #2:
Block the 16 mm tube with your thumb for one second. Repeat this 5 times every two seconds.



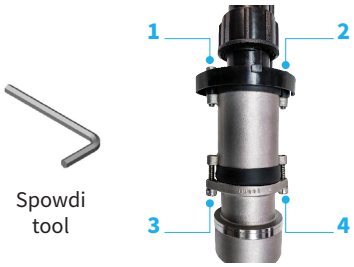
Q: Water is coming out from the 16 mm tube

NOTE:
If water comes out from the 16 mm tube, the membrane is **broken**

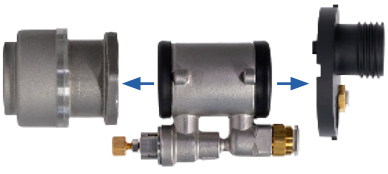
Replacing the Membrane

A: Remove the filter can (see page 11; Optimizing the water flow).

B: Use the Spowdi tool to remove the four screws holding the membrane.



C: Release the pump body from the check valve and top flange.



D: Remove and replace the membrane.

1. Flip up.

2. Pull out and insert new membrane.

3. Flip over the pump body and adjust the edges.

E: Connect the pump body to the check valve and top flange.

Product features

Characteristics	Comments
Start and stop automatically?	Yes, when it is connected to the solar panel
Can go dry?	Yes, without any negative impact on the system
Pump dirty water?	Yes, dirty water, i.e. with gravel and mud, will not be a problem
Easy to maintain?	Yes, it can be maintained easily if scheduled maintenance is followed
Mobile?	Yes, it can be easily carried by one person (total weight: 15 kg)
Backup battery?	Yes, a backup battery for 20 min operation is inbuilt
Pump head over 15 m?	Not recommended
Connect to grid?	Yes, by using the Spowdi adapter
Connect to an external battery?	Yes, any 10 – 20 V external source can be used with the Spowdi adapter
Compatible with drip irrigation?	Yes, drip irrigation is recommended
Compatible with spinklers?	Yes, it is compatible with most types of sprinklers

Technical specifications

Power (volt)	Head (meter)	Water flow (L/min)	Water flow (L/day)	Energy consumotion (Watt)	Power source (Watt)	System total weight (kg)
12	1	42	20160	40	Solar Panel 100 Watt	7
12	5	20	9600	50	Solar Panel 100 Watt	7
12	10	12	5760	70	Solar Panel 120 Watt	8
12	15	8	3840	70	Solar Panel 150 Watt	9

Power source: Solar Panel 100–150 watt

Solar power: >750 watt/m

Hours of operation/day: 8–10 hours

Warranty: 24 months providing the service schedule is followed

Warranty card

Thank you for using Spowdi Water Distribution System. Spowdi Water Distribution System comes with a 24-month Warranty, which is valid from the date of purchase and will apply only if the warranty card has been filled in and sent to your local Spowdi dealer.

Note that the warranty applies only if the system has been used as described in the user manual and in this document.

Read the user manual carefully before installing and starting the system for the first time.

Please visit www.spowdi.com to download our user manual and
general tips on how to get the most out of your Spowdi system, and also to register for updates, offerings, and the latest news.

Purchase and owner information

Product model number: _____

Date of purchase (MM/DD/YY): _____

Purchased from: _____

Name: _____

E-mail: _____

Address: _____

Place and date:	Signature:

My signature above acknowledges that I have read, fully understand, and accept this limited warrenty agreement

Your local Spowdi dealer

Print the form and fill it out and submit it to:

Spowdi AB
Registration number: 559098-2954
Box 1240, Augustendalsvägen 7
SE131 28 Nacka Strand, Sweden
www.spowdi.com | info@spowdi.com

Service schedule

For the warranty to be valid the service schedule below needs to be followed.
System service has to be carried out by a certified Spowdi service representative.

Your local Spowdi service representative

Service intervals

500 The first service should be carried out after the first 500 hours of operation

1000 Service intervals after the first service are every 1000 hours of operation

Service schedule

Service	Date: (MM/DD/YY)	Signature	Comments
500 h			
1500 h			
2500 h			
3500 h			

Terms and conditions

§ 1. System components covered under warrenty

To claim warranty, you must make sure you follow these instructions:

1. Solar panel
- Make sure you always keep the solar panel clean. Wipe dust off it and make sure it stays dry.
- Make sure your solar panel is in the right position, facing the sun, and that nothing casts a shadow over it.
- Use extension cables provided by Spowdi.

2. Power Management Box (PMB)
- Never expose the PMB to direct sunlight. Keep it in the shadow behind the solar panel.
- Protect the PMB from dust, water, and rain.
- Do not open the PMB.
- Never connect a solar panel not recommended by Spowdi to the PMB.

3. Pump unit
- Remove the filter can and clean it with water regularly.
- Make sure that no water gets in the “air out tube”.
- Never use force to adjust the air regulator on the Pump unit.

4. Pressure vessel
- The water level inside the pressure vessel should never be higher than ¼ of the vessel. If the level exceeds ¼, the pressure in the system is too high. Adjust the pressure on the air regulator screw, which is mounted on the Pump unit, by turning it counter-clockwise.

§ 2. System components not covered under warrenty

- The back-up battery inside the Power Management Box.
- The membrane inside the Pump unit.

§ 3. Warranty terms

- Warranty is valid if the instructions in § 1 are followed.
- Warranty is valid if the service schedule has been followed.
- Warranty is valid if the instructions in the user manual are followed.
- Warranty is valid if the warranty card has been filled out and sent to your Spowdi dealer.
- Warranty is valid with receipt of purchase.
- Warranty is not valid if any original system component is modified, replaced or changed, or if components unapproved by Spowdi are added to the system.
- Warranty is not valid if the system has been damaged due to negligence.


Find your local dealer at: www.spowdi.com
spowdi®