



# Operation Manual System Fill

Issue 1

# RM Solar System Fill Operating Instructions

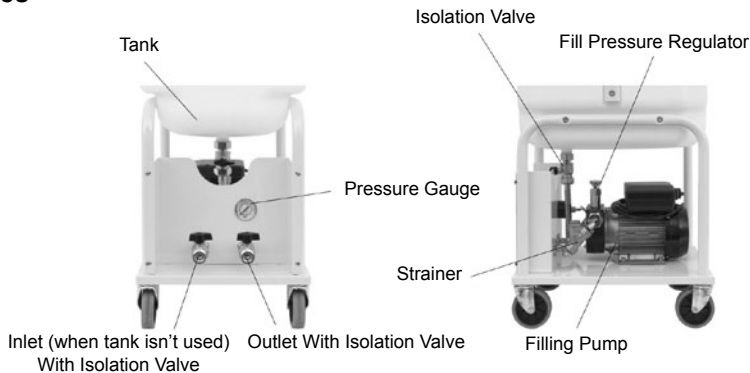
## Description

The RM Solar System Fill is a solar thermal system filling set designed to make the filling and flushing of aqueous-glycol based systems easy. A robust trolley type design with swivel wheels allows the solarfill to be easily manoeuvred into the plantroom.

## Other features include:

- 25 litre solar fluid tank with large lid for easy filling
- Filling port with shut-off ball valve and flexible connection hose
- Flushing / deaeration port with shut-off ball valve and flexible hose
- Strainer
- Pressure gauge
- High output filling pump with cast iron body and brass impeller
- Cleaning, draining, venting and filling of pipe systems is made much easier and can take place in a single operation.
- Servicing work can be completed in the quickest possible time.
- No longer necessary to work on the roof (solar systems), solar air vents on the roof can be omitted.
- Integrated connection hoses.
- Debris can be flushed out through the strainer
- Fill pressure regulator.

## Features



## Notes before operation

- Never run the pump set unmanned.
- Avoid running the pump without fluid.
- As hot fluid can return from the collectors there is a possibility it will pose a scalding risk i.e. > 60°C.
- On sunny days (if possible) cover collectors for 30 minutes prior to filling or avoid filling solar thermal systems at peak periods of the day.
- Ensure the flexible connection pipes are fitted to the correct corresponding connections on the pump set and system.
- Only use on aqueous and aqueous-glycol systems
- If necessary clean or flush the solar fluid tank with the strainer open.
- Use bund trays and avoid operation with wet hands.

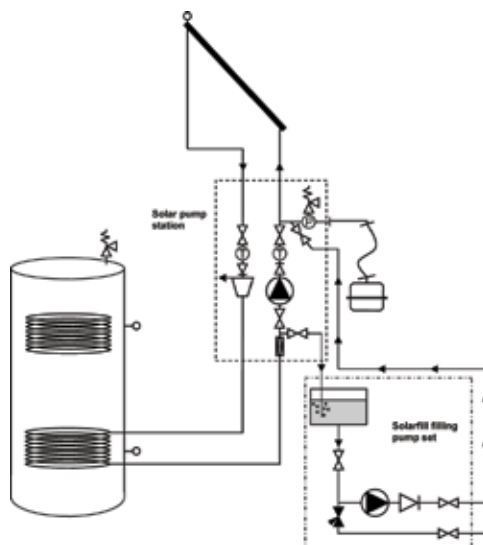
## Filling and Flushing

Before filling and flushing carry out system checks and ensure the solar expansion vessel has the correct gas charge. These instructions should be used in conjunction with the installation instructions for the components within the solar thermal installation.

- Securely fit the connection hoses to the solar thermal system. Use connections on solar pump station, if installed.
- When using the integral tank, use a funnel and bund tray and carefully fill the integral tank. When using IBC or external solar fluid containers / tanks dip flexible inlet hose in the container.
- Depending on the source of fluid either open the isolation valve below the integral tank or the isolation valve at the side of the pump set outlet. Whichever one is open the other must be shut.
- Open the outlet isolation valve.
- Close the isolation valve between the flushing and filling points on the solar pump station.
- Open the flushing and filling isolation valves on the solar pump station.
- Switch on Solarfill pump set and refill the tank when necessary. Always turn the filling pump off when refilling the tank. No need to use the isolation valves as there is a non return valve on the discharge side of the filling pump.
- Fill and flush until no more bubbles are visible in the integral tank. Once no more bubbles are visible continue for 60 minutes to deaerate.
- Close flushing isolation valve and pressurise to required fill pressure.
- Switch of filling pump and shut-off the filling isolation valve on the solar pump station.
- Where vents are used deaerate the system and recharge using the filling pump set when necessary.
- Switch on the solar circulation pump using manual output on the solar controller and allow to run for 1 hour.
- Deaerate again using vents where provided and refill to required pressure if necessary.
- Shut-off inlet and outlet isolation valves on the filling set.
- Carefully remove connection pipes from the solar pump station, avoid spills using a bucket or container. And drain down flexible pipes.

### Important:

Most collector manufacturers recommend not to fill the system when the collectors are hot. Therefore, either fill the system during times of the day when the collectors are cooler (i.e. 1st thing in the morning or late afternoon) or better still cover the collectors.





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