

WATER SWITCH

Prevent water from entering the DRYSTIK and other devices

User Manual

1 Water Switch Description

The Water Switch is a device to cut off power to a DURRIDGE device in the event that water enters the switch. It is specifically designed for the DRYSTIK Models ADS-2 and ADS-3 (ruggedized and non-ruggedized). The Water Switch consists of a reed switch surrounded by a float that contains a magnet. If the float rises it will turn off the switch.



2 Water Switch Setup

It is essential that the Water Switch remain airtight, otherwise fresh air will enter the sample path and dilute the sample. There is a groove in the lid that seals it to the jar, but to make sure it remains tight, a little vacuum grease is used. If the switch is taken apart and emptied, it may need additional grease during reassembly.

If in any doubt, the airtightness of the assembly can easily be checked. A meter of tubing, half full of water and hung like a U-tube, forms a manometer. Connect it to one of the hose connectors on the Water Switch. Connect a hand pump (such as a bicycle pump) to the other hose connector, with plastic tubing with a hose clip in it. Pump the pressure up to around 50cm of water, and apply the clip to seal the switch. Watch the manometer. After relaxing as the air cools back to room temperature, the pressure should drop by no more than 2.5 cm in 10 minutes.

If the switch is found to be leaking, place it under water while it is pressurized to see where it is blowing bubbles. If the leak is occurring around the rim, add grease to the inside groove in the lid. If at one of the fittings, remove the fitting and add RTV or other sealant.

The Water Switch is placed along the power supply to the DRYSTIK. If water enters the Water Switch it will turn off the power to the DRYSTIK, stopping the device's pump. Please note that the Water Switch will not cut power to the pump of an unmodified RAD7, because the RAD7's internal batteries will take over if the external power is interrupted, and this will cause the RAD7's internal pump to remain active. For this reason the DRYSTIK pump should be used to control all airflow, while the RAD7 pump should be turned Off turned off (using the RAD7 keypad, choose SETUP, PUMP, OFF [ENTER]). The full recommended configuration is shown in the diagram on the next page.

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