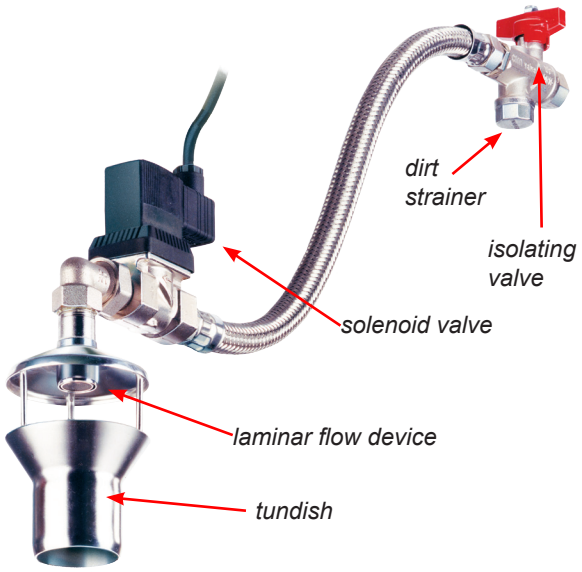
OPERATION AND MAINTENANCE

Wisy Mains Water Top-up Unit

These mains water top-up units are manufactured in Germany by rainwater specialist *Wisy AG*. The unit is designed to be activated by float switch or other level detection device, in order to provide a supply of mains water to a tank when there is no rainwater available.



The device consists of four parts factory-assembled into a bespoke unit:

- Stainless steel tundish with laminar flow outlet
- Solenoid valve, normally closed
- Braided steel flexible hose
- Isolating valve with integral dirt strainer

The solenoid valve opens when it receives power from a float switch or similar source, thereby allowing water to flow through the tundish and be directed to the rainwater tank. As the water level rises, the float switch lifts and turns the solenoid off again.

The purpose of the tundish is to provide a physical break or 'air gap' to eliminate the possibility of water from the rainwater tank (which could be contaminated) from back-siphoning into the mains water supply pipe. The air gap is a legal requirement of the UK Water Regulations. The tundish is fitted with a laminar flow device, which ensures a straight column of water through the air gap and eliminates risk of splashing.

The solenoid valve is only powered when needed, so uses no energy when in its' closed state.

The manual isolating valve at the opposite end of the braided hose contains a dirt strainer. This is designed to prevent any debris that may come through the mains water pipework from reaching the solenoid valve, where it could cause problems.

Location

The unit must be indoors and is normally found near to the *Controlmatic* pump controller in the case of direct pumped systems. In header tank systems the unit will be fitted to the header tank itself. The tundish must be in a vertical position and should be connected to a 50mm diameter pipe.

With a header tank system, the 50mm pipe will be fitted into the top of the header tank. In a direct pumped system the 50mm pipe will lead down to connect with the storage tank.

Maintenance

Under normal circumstances the only maintenance required is to clean the dirt strainer inside the isolating valve. We recommend that this is done annually.

Begin by switching off the power supply to the unit. Then close the isolating valve to shut off the water supply. The large nut underneath the valve can now be undone and the dirt strainer removed. Clean this as required and replace both strainer and nut before turning on the water supply and the power. Note that it is normal for the solenoid valve to open briefly when the power is turned on.

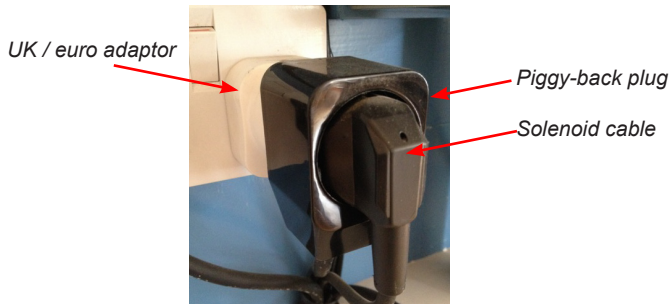
Troubleshooting

Nature of fault	Cause	Remedy
Solenoid valve does not open, but is cold to touch. Tank has run dry and the system has stopped working.	a. No power to solenoid valve.	a. Check the power supply is OK and check fuse. Remedy as required.
	b. Solenoid valve has failed.	b. Check solenoid operation by connecting directly to power supply#. Replace if faulty.
	c. Float switch is stuck in the raised position.	c. Check float switch. If in the raised position but above the water line, float switch has got stuck or become caught on something.
Solenoid valve does not open but feels warm. Tank has run dry and the system has stopped working.	a. Solenoid valve has jammed close.	a. Test by connecting the solenoid directly to a power supply#. If it stays closed, switch off power until problem is solved. Dismantle and clean solenoid and try again.
	b. Mains water supply is off.	b. Check that manual valve is open, and that mains water supply is present.
Solenoid valve appears to work but only a small flow of water passes through the tundish.	a. Poor mains water supply.	a. Check and remedy the cause of the weak mains water supply. If this cannot be remedied, then consider raising the level of the float switch in the tank. (call for advice)
	b. Solenoid valve is only partically open.	b. Solenoid valve is jammed. Dismantle and clean.
Water flows through the tundish continually. Solenoid valve appears not to close.	a. Solenoid valve has jammed open.	a. Test by switching off power supply. If valve remains open, it has jammed. Dismantle and clean solenoid valve. If it closes, problem may be with the float switch.
	b. Float switch has failed or is stuck in the down position.	b. Check float switch. If in the down position but below the water line, float switch has got stuck or become caught on something.

The solenoid valve is only powered when it receives a signal from the float switch; this will normally only happen with the float switch in the down position. The operation of the solenoid can be checked by connecting it directly to a power supply:

If the solenoid is connected via an intermediate 'piggy-back' plug, it can be checked as follows; unplug the solenoid cable from the piggy-back plug, then remove the piggy back from the white 2-pin adapter. Check the 3A fuse in the adaptor. Now plug the solenoid cable directly in to the adapter. If the solenoid opens, it is OK, if not, it is faulty.

Piggy-back plug



Solenoid cable, piggy-back and adaptor

Solenoid cable plugged directly into adapter

If the solenoid is connected via a fused outlet (hard wired), then the same result is achieved by linking the blue and brown conductors of the float switch cable. N.B. - This must ONLY be carried out by a qualified electrician.