

PRODUCT SPECIAL | NOVEMBER 2019

DO'S AND DON'TS OF A DC PIPE INTERRUPTER

Let's explore some scenarios below

DC PIPE INTERRUPTERS CAN BE VERY USEFUL TO INSTALLERS AND DESIGNERS WHERE FLUID CATEGORY 5 PROTECTION IS REQUIRED. THEY ARE CONSIDERABLY SMALLER THAN A TRADITIONAL BREAK TANK WITH AN AIR GAP, AND AS WELL AS THIS THE COST DIFFERENCE IS QUITE SUBSTANTIAL.

HOWEVER, DUE TO THEIR NATURE, DC PIPE INTERRUPTERS ARE ONLY DESIGNED TO OPERATE FOR VERY SPECIFIC APPLICATIONS. THEY ARE INTENDED FOR OPEN OUTLET APPLICATIONS AND THEY CAN'T BE USED FOR ANY APPLIANCE THAT HAS A CONTROL VALVE OR RESTRICTION – OTHERWISE WATER WOULD ULTIMATELY DISCHARGE THROUGH THE VENT HOLES.

YES: URINAL FLUSHING DIRECT FROM THE MAINS

Urinals that are cistern fed with a type AA or Type AB air gap do not require any backflow protection, however many urinals are fed directly from the mains and require fluid category 5 protection. Our Model DC15C257 is designed to "break" the mains water pipe above the sparge outlet for each individual urinal. The Pipe Interrupter needs to be mounted a minimum of 300mm above the outlet or higher if possible. The only time where a problem would occur would be if there was a control valve downstream – for example an infra-red sensor.



NO: SERVING A WASHING MACHINE OR DISHWASHER

Washing machines, washer-dryers and dishwashers in healthcare facilities are deemed to be Fluid Category 5, due to a potential risk caused by the high-risk items that are being washed (Schedule 2, section 6.2 – clause R15.16 of the Water Regulations Guide). Whilst some models will have built in Fluid Category 5 protection, however if this is not adequate, you must provide additional protection. Due to the nature of a DC pipe interrupter – it is not possible to fit one on the supply pipe to these machines as it will create a restriction downstream of the pipe interrupter and water would ultimately leak through the vent holes. For this application the smallest unit in the BTMIDI range – the BTMIDI-1 provides a physical break in the system by means of an AB air gap and the small pump set boosts the pressure back up.



YES: WASHING OUT CHEMICAL TOILETS (OR OTHER OPEN OUTLET APPLICATION) WITH HOSE UNION TAP

Washing out chemical toilets – an application primarily associated with caravan parks and camping sites – is classed as a Fluid Category 5 risk. For this application a Type DC arrangement is acceptable – our model DC20F257 is designed to screw onto the outlet of a hose union tap and has a hose connector on the outlet. This is acceptable provided the hose pipe has a length of at least 150mm between the DC Device and outlet of the spillover level, the max length of the hose pipe is 600mm and there is no restriction or control valves downstream of the pipe interrupter.



CONTINUED OVERLEAF...

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NO: BIN STORE WASH DOWN OR JET WASHING

By default, all hose union taps, and hoses used in bin stores are a Fluid Category 5 risk (topic B30). As touched upon above, DC Pipe Interrupters cannot be used with hose longer than 600mm and there can be no restriction downstream i.e. a wash-down gun, as water would ultimately leak through the vent holes in the pipe interrupter. As well as this, installing a Type DC Device reduces the water pressure, and so it is not suitable for applications where higher water pressure may be required. For Single Tap applications where, we recommend using the model BTMIDI-3A – break tank and pump set. This model has a max flow rate of 0.3 l/s, which is what a ½” would generally require. For multiple taps, or where the pipe run would exceed 20m, we have a larger range of Boost-A-Break models that would suffice.



YES: SCHOOL LABORATORY TAPS

The water regulations guide stipulates that laboratories (under the medical and commercial installations) are a Fluid Category 5 risk (Table G6.1e). Although school laboratories are not specifically mentioned in the guide, these are classed as Fluid Category 5 unless Risk Assessed (Topic B01). A type DC device can be used in this instance – our model DC15F257 is designed to be screwed to the outlet of a laboratory tap that has the removable nozzle taken off. A hose pipe can be fitted, but this must be at least 150mm length between the DC Device and the outlet or the spillover level.



NO: BIDET HOSE

Bidets that have a flexible hose and spray handset fitting below the spillover level of the appliance, or with submerged water inlets are deemed to be a Fluid Category 5 risk (G15.9). Whilst diagram R15.10.1 shows that a Type DC device can theoretically be used to provide backflow protection, in practice this would not be suitable as the shut off valve would create restriction downstream, and water pressure would not be adequate through the pipe interrupter. Our model BTHW (Ablution Plant) provides point of use Fluid Category 5 backflow protection – complete with a Break Tank with an AB air gap, booster pump for adequate pressure, water heater and thermostatic mixing valve to provide water at a safe temperature.



YES: SWIMMING POOL TOP UP

Swimming pools are risk assessed as fluid category 5. Conventional float valves (connected directly to mains water) mounted in Pool top-up chambers do not allow fluid category 5 protection as in the event of spill over the top up chamber would be immersed in water. A simple solution is the DC filler, a pipe interrupter mounted 150 mm above the top up chamber will allow category 5 protection. Normally the DC filler would be installed in the plant room, and the SEN108 controller will activate the electronic float valve which replaces the conventional float valve in the top up chamber and a convenient route for the cable is inside the connecting water pipe, or there is a wireless option. When there is a demand for water a solenoid will open before the dc device and water will trickle into the top up chamber, once demand is met the valve will close. To prevent unnecessary cycling of the valve and the chance of water hammer occurring, the float switch incorporates a delay, filling would generally occur under still conditions.

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