



## PRESSURE SOLUTIONS

### C305: Temperature Switch Test (VK)

Like pressure switches, temperature switches have a dynamic response, i.e. the setpoint varies according to the rate of change of temperature.

Temperature switches have another potential problem, and that is deadband, which tends to be relatively large. More than one cooling circuit has come to a halt because the deadband on the switch was so large that it took forever to cool the cooling water enough for the switch to reset and allow the pump to start.

The best way to set temperature switches is using a modern dry-block calibrator.

This facility is available on the following Jofra calibrators:-

ATC model B  
ITC  
CTC

The unit should be set approximately by generating the set-point temperature, allowing the switch to stand at the setpoint, and adjusting the unit until it changes state.

Now the desired slope-rate, matching anticipated problems, should be set up in the calibrator, and the range of temperatures between which the calibrator will search for a change of state, defined.

When the automatic switch test is started, the calibrator will first stabilize at the starting temperature. When stability has been achieved, the calibrator will start ramping up to the maximum programmed temperature. If a change of state is not detected, the system will stop and give an error message. If a change of state is detected, the temperature at which this takes place is substituted for the maximum programmed temperature, and the calibrator will stabilize at this temperature, then ramp downward to the starting temperature.

At the end of the test, the calibrator will display the set and reset points, plus the deadband or hysteresis.

Doing it right is long-winded, but the test is automatic once configured, and the attendance of a technician is no longer necessary.