



Cert. No. LRQ 0963008

ISO 9001

## Probe Clearance Test Instructions for use of Checking Wires

- A test to ensure minimum recommended clearance for low level limiters
- Suitable for checking new and existing installations
- Requires an Insulation Resistance Tester

### Introduction

**Warning. It is essential that the probe tip of the low level alarm probe LP30 does not touch any part of the boiler. Standards require that the tip is at least 14 mm from the protection tube, and this must be checked when the probe is installed.**

This test is intended to ensure the satisfactory installation of new systems and may also be used for fault finding on existing systems. A pair of 'checking wires' are used in conjunction with an Insulation Resistance Tester (meter) to test if there is less than 14 mm radial clearance from the tip end. This is indicated by a 'short circuit' (i.e. a reading less than infinity).

This test is particularly useful for probe lengths over 800 mm. Shorter probes may be checked for alignment by visual means alone. When correctly carried out, the test will ensure that the final probe tip position is at least 14 mm from the protection tube. See Figure 1.

### Test method:

1. Drain water level to at least 50mm below alarm level and vent boiler or vessel to atmosphere.
2. Remove probe (if installed) and fit a pair of checking wires to the end of the probe tip, 90° relative to each other and a maximum 10 mm from the tip end - see Figures 2 and 3.
3. Carefully pass probe through screwed connection and into the protection tube. The checking wires will deflect to allow them to pass through, and then spring back to their original positions.
4. Screw down probe by hand.
5. Attach the earth lead of the meter to the boiler and the live lead to pin 1 of the probe connector. Check the contact to boiler with the meter.
6. Activate meter and observe display. Slowly unscrew probe one full turn (without unduly rocking the probe).
7. If no short circuit is found, disconnect the meter leads, unscrew and withdraw the probe, taking care not to catch the checking wires on the underside of the screwed connection.
8. Remove checking wires and install probe as described in the Installation and Maintenance Instructions.
9. Low alarms must be functionally tested by lowering the water level before the boiler is allowed to run unsupervised. Separate literature describes this procedure.

**Warning. It is essential to remove the checking wires from the probe before commissioning the boiler or vessel. Failure to do this could lead to the low alarms not working.**

If a short circuit was found during the test then further investigation is needed. Some possible reasons are listed below:-

- Probe tip bent or not attached properly.
- Protection tube and/or screwed connection out of alignment.
- Protection tube not of large enough bore and/or not deep enough (the tube should be least 40 mm deeper internally than the end of the probe).

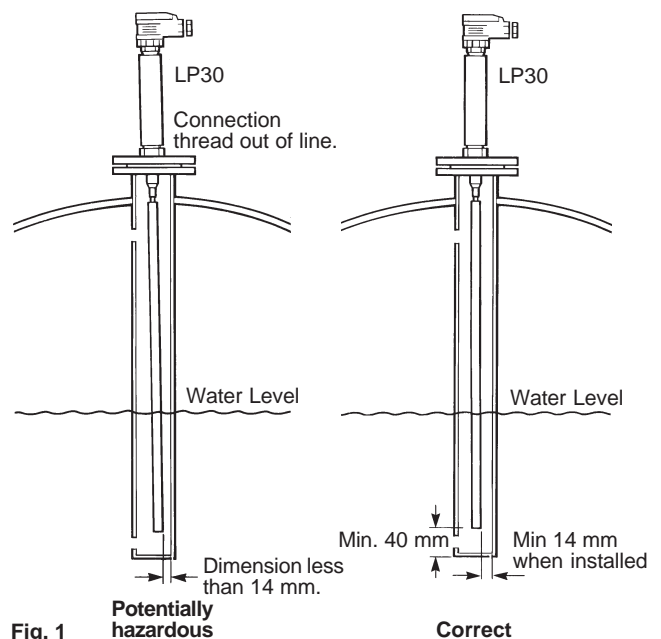


Fig. 1

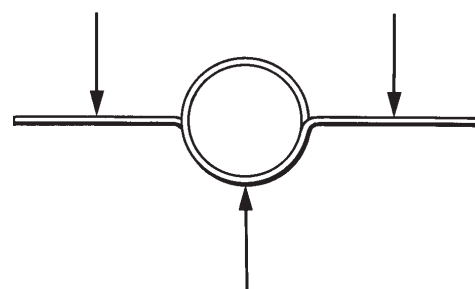


Fig. 2

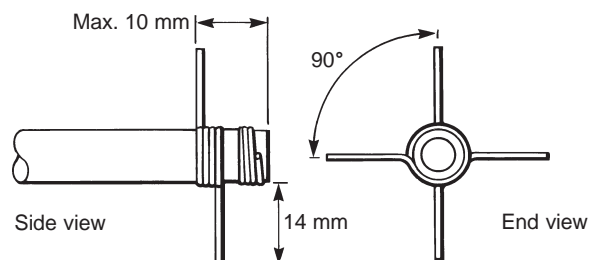


Fig. 3