



TI-P402-39
 AB Issue 9

LP20 Capacitance Level Probe

Description

The Spirax Sarco LP20 is a capacitance probe designed for modulating level control in conductive liquids, in conjunction with a PA20 preamplifier, which is supplied separately. It can also be used for adjustable on/off control.

The LP20 may be used with one or more controllers or transmitters to provide level control, level alarms, and/or outputs to a building management system.

The probe is normally installed in a steam boiler or metal tank where it is earthed through the 1/2" BSP screwed connection, the boiler or tank forming the earth return path.

It may be used in a non-conductive tank (e.g. plastic or concrete) if an earth rod is provided.

The PA20 preamplifier (described in separate literature), is screwed to the top of the probe and hand tightened, enabling easy removal without the need to disturb the probe.

Approvals:

The LP20 is also available with a 1/2" NPT screwed connection, approved to UL61010. **Please note that this version will not be CE marked and is not suitable for Europe.**

Caution:

The probe is not suitable for outside installation without additional environmental protection.

Available probe lengths (approximate) in mm

370, 470, 550, 600, 650, 750, 800, 900, 950, 1050, 1200, 1350 or 1500.

Note: Probe length includes the 25 mm 'dead' length at its tip. **The probe must not be cut to length.**

Pressure / temperature limits

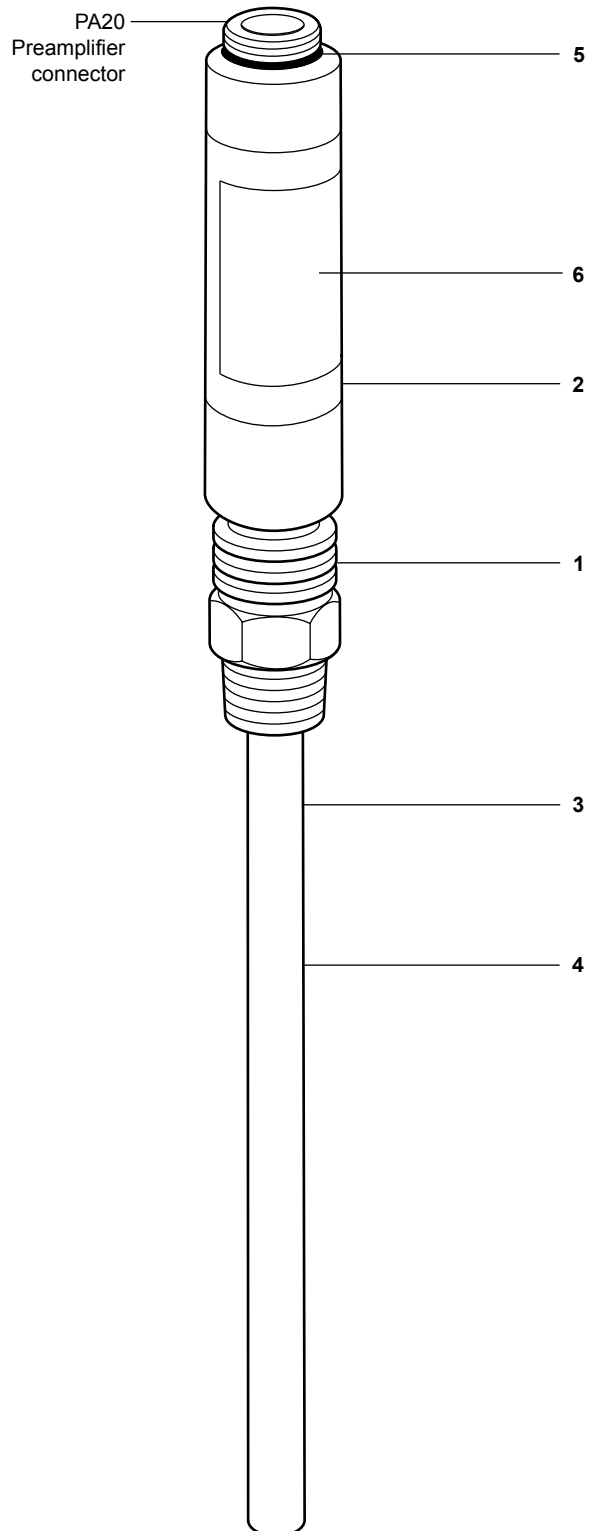
Nominal pressure rating	PN40	
Maximum pressure	32 bar g	
Maximum temperature	239°C	
Ambient temperature	Maximum	70°C
	Minimum	5°C
Designed for a maximum cold hydraulic test pressure of 60 bar g		

Technical data

Sensing depth	Probe length minus 25 mm
Minimum conductivity	5 µS/cm or 5 ppm

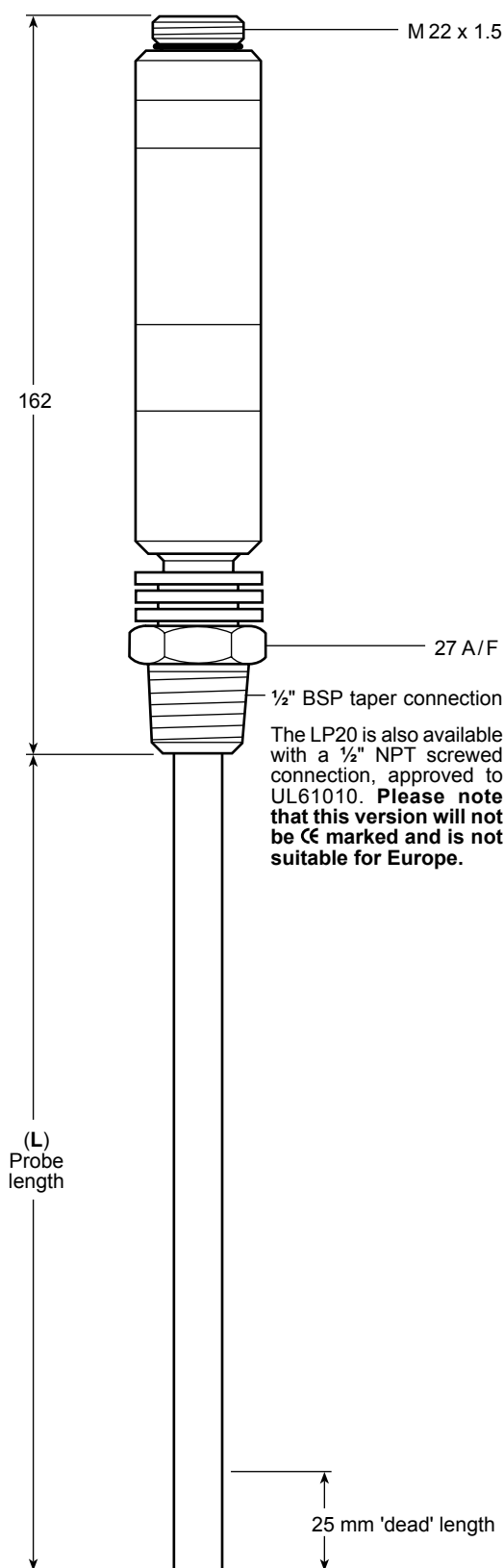
Materials

No.	Description	Material	
1	Probe body	Austenitic stainless steel	BS EN 10088-3 (1.4306)
2	Cover assembly	Austenitic stainless steel	Type 316L
3	Probe (sheathed)	Stainless steel tube	ASTM A269 Gr. 316L
4	Probe sheathing	PTFE	BS 6564 Grade UA Type 1
5	'O' ring	Nitrile rubber	
6	Name-plate	Polycarbonate	



Dimensions (approximate) in millimetres

L - Probe length	370	470	550	600	650	750	800	900	950	1 050	1 200	1 350	1 500
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Safety information, installation and maintenance
 This document does not contain sufficient information to install the system safely. See the Installation and Maintenance Instructions supplied with the probe for full details.

Installation note:
 Do not install the probe outdoors without additional weather protection.

The probe is installed in a 1/2" BSP female connection. If the probe is to be installed in a boiler shell or a turbulent tank, fit a protection tube. This should be as long as possible, and at least long enough to cope with expansion of the probe at higher operating temperatures. The Table below shows the maximum probe expansion possible 0 - 239°C.

Probe length in mm	Maximum expansion in mm (inc. 'dead' length)
370	10
470	13
550	15
600	16
650	17
750	20
800	21
900	23
950	25
1 050	27
1 200	30
1 350	34
1 500	38

Do not cover the vent and drain holes on the body.

Maintenance note:
 No special maintenance is required. Boiler water level controls and alarms do, however require periodic testing and inspection, which is described in separate literature.

How to specify
 Capacitance level probes shall be Spirax Sarco type LP20 with stainless steel body, cover assembly and probe, and PTFE probe insulation. They shall be suitable for modulating and on/off level control and be fitted with a screwed connection for attaching a Spirax Sarco PA20 preamplifier.

How to order
Example: 1 off Spirax Sarco LP20 capacitance level probe with BSP connection. Probe length 470 mm.

Weights (approximate) in kg including immediate packaging

Probe length	370	470	550	600	650	750	800	900	950	1 050	1 200	1 350	1 500
Weight	0.82	0.84	0.91	0.98	1.03	1.08	1.17	1.26	1.34	1.42	1.50	1.64	1.68