

# spirax/sarco®



## LP 20 Capacitance Level Probe

- For modulating or on/off level control, and level alarm systems
- Suitable for pressures up to 464 psig, 462°F - (32 barg, 239°C)
- Multiple control/switching points possible
- Easy to install - no cutting to length required
- No maintenance required

### Description

The Spirax Sarco LP 20 is a capacitance probe designed for continuous level detection in conductive liquids, in conjunction with a pre-amplifier, which is supplied separately. It can also be used for adjustable on/off control.

It can 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 grounded through the 1/2" NPT taper connection, the boiler or tank forming the ground return path.

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

A pre-amplifier, (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.

### Limiting conditions

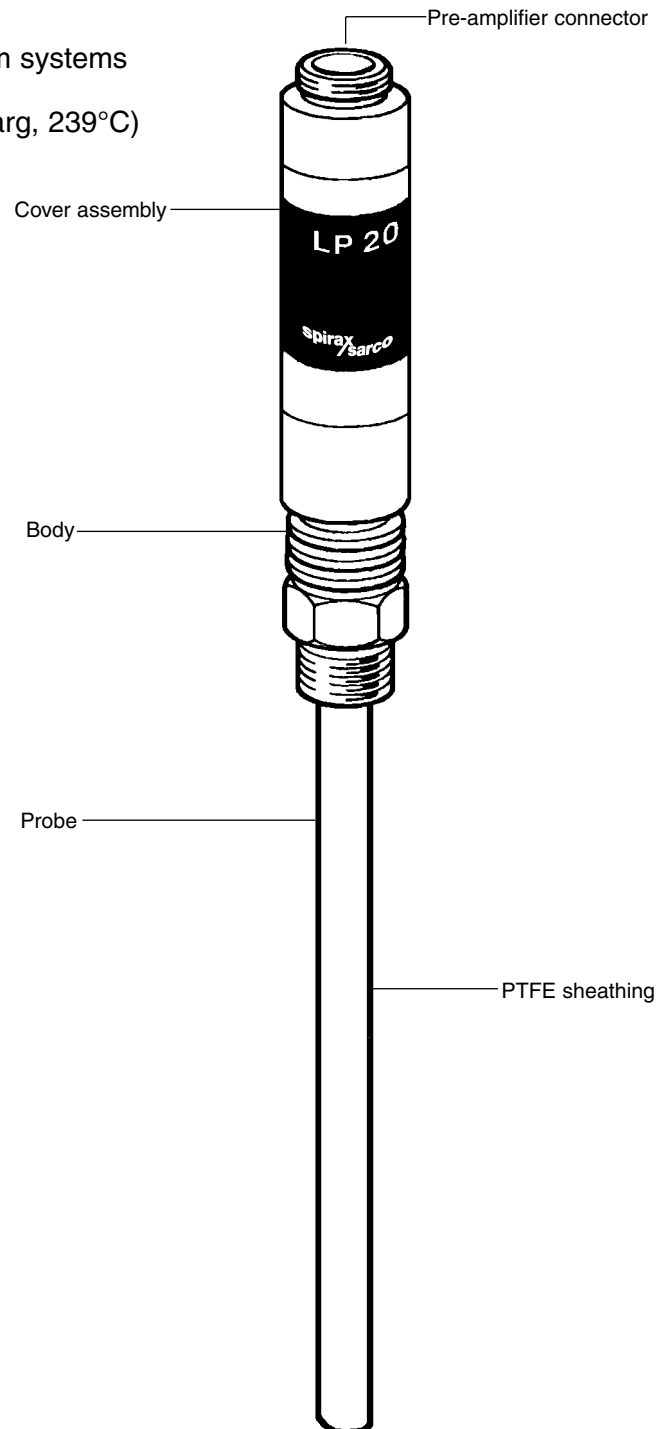
Maximum pressure	464 psig	(32 barg)
Maximum temperature	462°F	(239°C)
Hydraulic test pressure	870 psig	(60 barg)

### Materials

Probe body	Austenitic stainless steel	Type 316Ti W/S 1.4571
Cover assembly	Austenitic stainless steel	Type 316L
Probe (Sheathed)	Austenitic stainless steel alloy	UNS N08028
Probe sheathing	PTFE	BS6564 Grade UA Type 1
Pressure seal	Fluorocarbon elastomer	
'O' Ring	Nitrite Rubber	

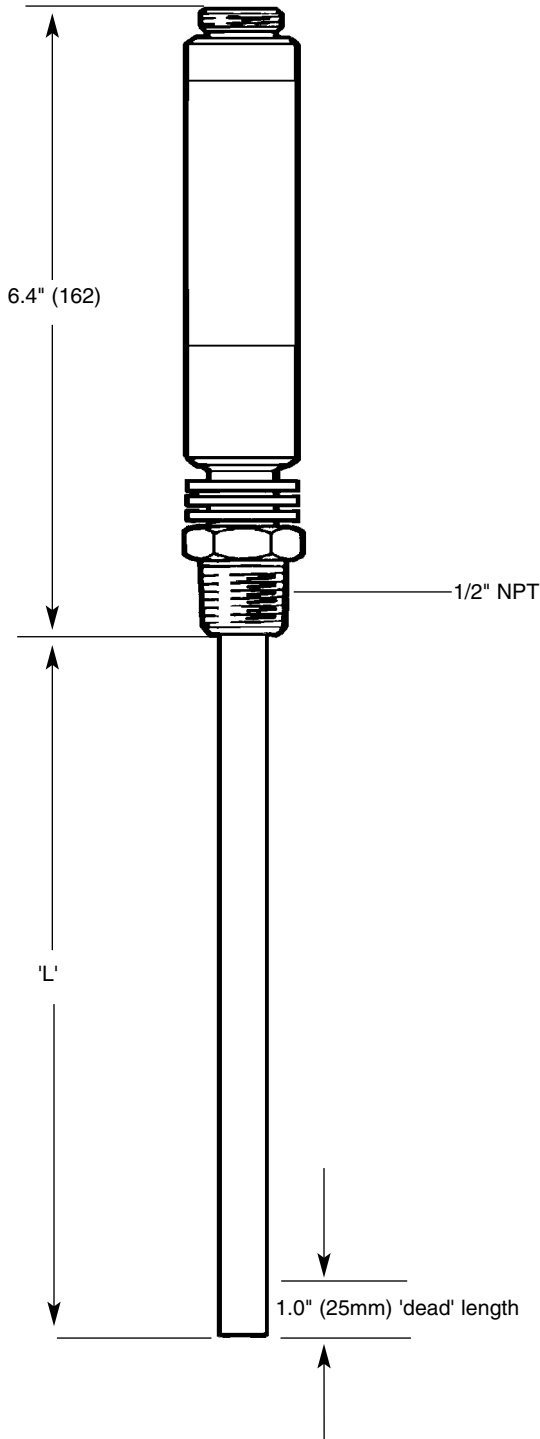
### Approvals

UL	UL 508
United States Standard	Industrial Control Accessory (E203559)
cUL	C22-2 Number 14
CSA Canadian Standard	Industrial Control Accessory (E203559)



# LP 20 Capacitance Level Probe

**Dimensions** (approximate) in inches and millimetres



## Available probe lengths 'L'

(approximate) in inches and millimetres

14.6", 18.5", 23.6", 29.5", 35.4", 41.3", 47.2", 53.1", 59.1"  
370, 470, 600, 750, 900, 1050, 1200, 1350, 1500.

Note:- Probe length includes the 1.0" (25mm) 'dead' length at its tip.

## Installation

**WARNING: Do not install the probe outside without additional weather protection.**

The probe is installed in a 1/2" NPT female connection. If the probe is to be installed in a boiler or turbulent tank, fit a protection tube. This should be as long as possible, and at least long enough to cope with the expansion of the probe at higher operating temperatures. The table below shows the maximum probe expansion possible 32-462° F (0-239° C).

Probe Length		Max. expansion (inc. 'dead band')	
(inch)	(mm)	(inch)	(mm)
14.6	370	0.4	10
18.5	470	0.5	13
23.6	600	0.6	16
29.5	750	0.8	20
35.4	900	0.9	23
41.3	1050	1.1	27
47.2	1200	1.2	30
53.1	1350	1.3	34
59.1	1500	1.5	38

Both the PA20 pre-amplifier and the probe are supplied with an 'O' ring to provide a water tight seal. Ensure one of these are fitted between the probe and pre-amplifier.

**WARNING: Do not block drain or vent holes.**

## Maintenance

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 probe with all wetted parts in austenitic stainless steel/PTFE, taper thread, and screwed connector for pre-amplifier.

## How to order

Spirax Sarco LP 20 (UL) capacitance level probe, length 18.5" (470mm).

## Weights (approximate) including immediate packaging

Probe length (ins)	14.6	18.5	23.6	29.5	35.4	41.3	47.2	53.1	59.1
Weights (lbs)	1.7	1.7	2.0	2.2	2.6	2.9	3.1	3.4	3.4
Probe length (mm)	370	470	600	750	900	1050	1200	1350	1500
Weight (kg)	0.82	0.84	0.98	1.08	1.26	1.42	1.50	1.64	1.68

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