



Level



Pressure



Flow



Temperature



Liquid
Analysis



Registration



Systems
Components



Services



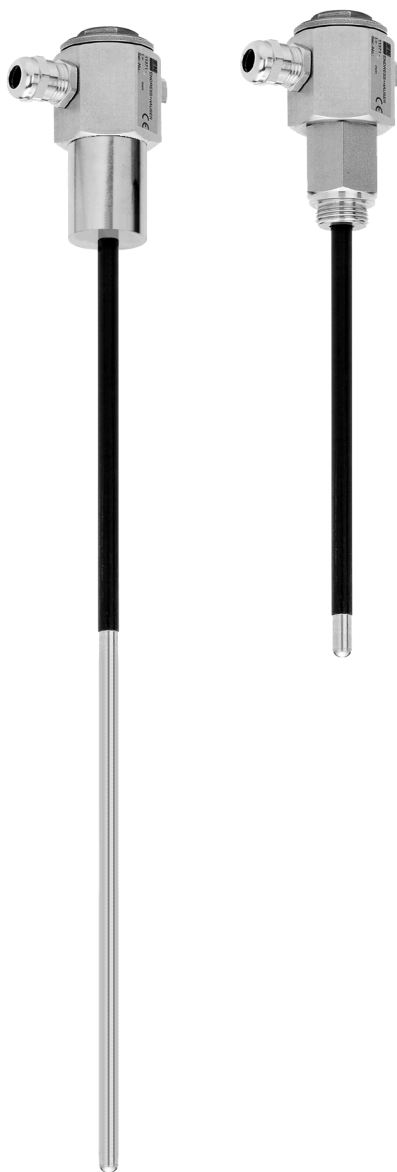
Solutions

Technical Information

Rod probe 11371

Conductive level limit detection

Partially insulated probe for use in liquid foodstuffs



Application

- Conductive level limit detection in process or storage tanks for all kinds of liquids:
 - e.g. for milk, beer, fruit juice
 - for temperatures from -10°C to 100°C
 - for pressures up to 10 bar
- For minimum or maximum detection in tanks
- As pump protection in pipes
- Can be used for two-point control

Your benefits

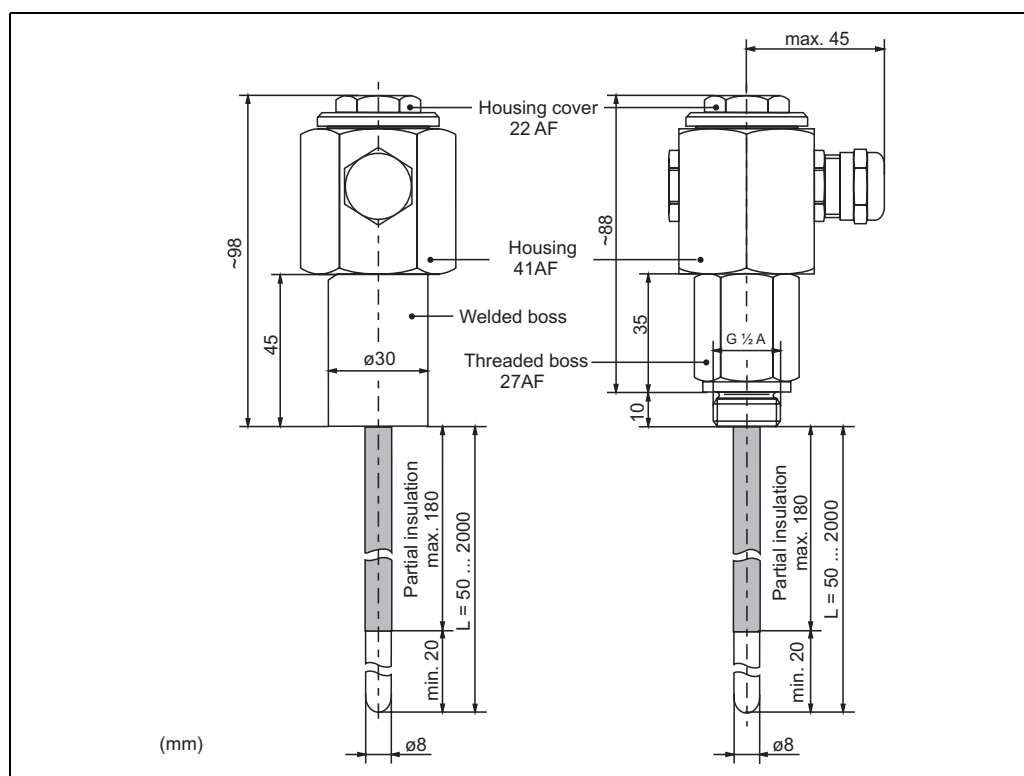
- Corrosion resistant materials for rod and insulation = can be used with aggressive materials
- For CIP and steam sterilisation = no special cleaning procedures required
- Various process connections = optimum compatibility to the application
- Probe can be shortened as required = useful for maintaining reserves tock

Function and system design

Measuring principle	An electrically conductive connection is made between the probe and vessel wall as soon as material in the vessel is in contact with the tip of the probe.
Modularity	<ul style="list-style-type: none"> ■ Probe 11371 in vessels containing liquid. ■ Nivotester FTW325 conductive level limit switch in the control room.
Signal processing	<ul style="list-style-type: none"> ■ The probe in contact with the material causes a very low current to flow. ■ The Nivotester FTW325 amplifies the signal and activates any switching devices connected.
Galvanic isolation	In the Nivotester FTW325.

Mechanical construction

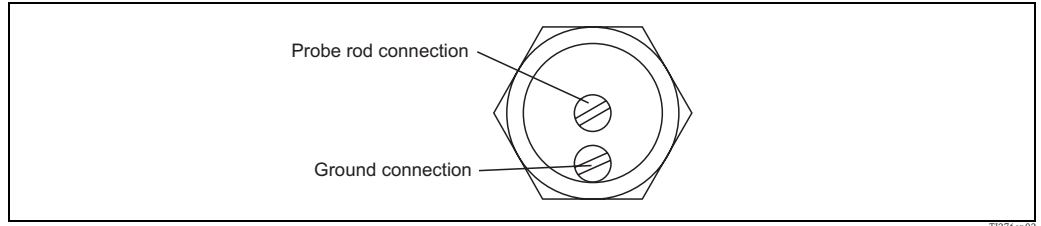
Design, Dimensions	<ul style="list-style-type: none"> ■ Rod probe, diameter 8 mm, length 50 mm to 2000 mm ■ Process connection: welded or threaded boss $G\frac{1}{2}A$, ■ Housing as hex-nut 41AF ■ Weight: see product structure → 3 ■ Electrical connection: Two terminals for wires with spade terminals
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Left: with welded boss, right: with threaded boss, Length of partial insulation: 20 mm shorter than the probe length, max. 180 mm

Mounting	<p>Caution!</p> <ul style="list-style-type: none"> ■ Steam sterilisation may split the insulation of the probe rod if the surface is scratched. Care should be taken to protect the insulation when transporting, shortening and mounting the probe. ■ When mounting the probe, there should be sufficient space outside the vessel so that it can be inserted into it without using force. ■ Before welding: unscrew the boss from the housing and remove the rod. ■ When screwing in: screw the housing in as far as possible into the welded or threaded boss. If the cable gland is not in the correct position after the probe has been screwed in, it can be exchanged with the stop on the other side.
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Electrical connection



central terminal for the probe rod; side terminal for ground connection

Terminals in the housing are for wires with spade terminals for M4 screws.
The M16 cable gland is designed for cable diameters from 5.5 mm to 10 mm.

Ordering information

Rod probe 11371

10	Approval		
	1	Non-hazardous area	
20	Process Connection		Basic weight ¹⁾
	1	Weld-in socket 30 mm	0.59 kg
	2	Thread ISO 228 G1/2, 316 Ti	0.53 kg
	3	w/o process flange connection ²⁾	0.41 kg
	9	Special version	
30	Probe length		Additional weight
	1 mm L, 316 Ti + PFA	0.04 kg/dm
	2	200 mm L, 316 Ti + PFA	0.08 kg
	3	500 mm L, 316 Ti + PFA	0.20 kg
	9	Special version	
995	Marking		
	1	Tagging (TAG)	
11371		Product designation	

1) Basic weight: Complete probe without stated length
2) For installation in apre-mounted welding neck adapter



Note!

Please state probe length in mm when ordering. Probe length is always measured from the lower edge of the process connection.

Technical Data

Application

Limit detection: Maximum or minimum detection in vessels with liquid, conductive food stuffs.

Input

- Measured variable: Height (limit value, binary)
- Measuring range (detection range): Length specified by vertically mounted probe (50 to 2000 mm from above). Specified by installation point when probe mounted horizontally.

Output

- Probe: current, supplied by Nivotester.
- Nivotester FTW325: See Technical Information.

Mounting

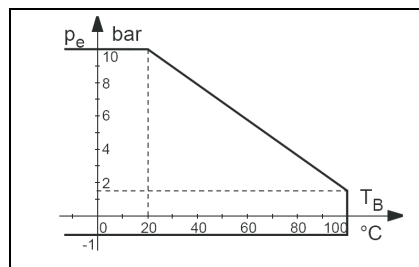
At any orientation; vertical from above preferred; probe length up to approx. 500 mm when mounted from the side, tip of sensor points slightly downwards for liquid to run off and prevent build-up of material.

Ambient conditions

- Ambient temperature and ambient temperature range: -20°C to $+120^{\circ}\text{C}$ (0°F to 250°F)
Note temperature resistance of connecting cable!
- Storage temperature: -20°C to $+120^{\circ}\text{C}$ (0°F ... 250°F)
- Ingress protection: With cable gland M16 x 1,5: IP66/ IP68 (1m, 1h) to EN 60529
- Electromagnetic compatibility (EMC): Interference immunity and interference emission: see Nivotester FTW325 limit switch

Process conditions

- Process temperature (operating temperature T_B): -10°C to $+100^{\circ}\text{C}$ (10°F to 210°F)
- Process temperature limit: $+150^{\circ}\text{C}$ (300°F)
(cleaning temperature, max. 30 min)
- Process pressure (operating pressure p_e): -1 bar to $+10$ bar (-14.5 psi to $+150$ psi)
- Maximum process pressure: 10 bar (150 psi)
- Conductivity of liquid: min. 0.02 mS/cm, see Nivotester FTW325 limit switch



Materials

part	material
probe rod	stainless steel 1.4571 (AISI 316 Ti)
welded boss	
threaded boss	
housing	
partial insulation	0,2 mm PFA, sinter-fused
gasket in process connection	silicone
cable gland M16	brass, nickel-plated, with silicone gasket

Ordering information

- Probe 11371: see ordering information → 3
- Welded boss (for probe "without process connection") Order No. 517211-1000
- Supplementary documentation: Technical Information on the Nivotester FTW325 limit switch on request

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