Technical
Information
TI 276F/00/en

Operating
Instructions
017299-1000

Conductive Limit Detection
Rod Probe 11371

Partially insulated probe for use in liquid foodstuffs

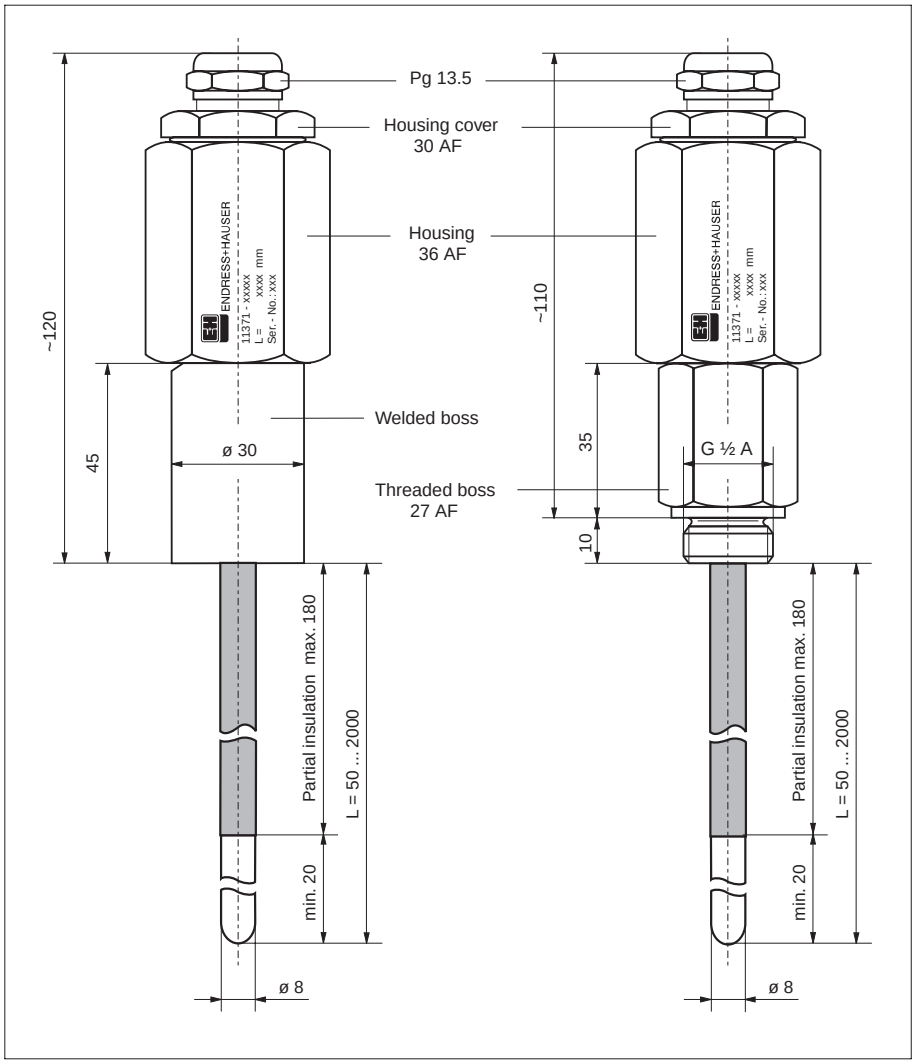
Application
Conductive limit detection in vessels with liquid foodstuffs, e.g. milk, beer, fruit juice.

Features and 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 reserve stock.

Construction
The probe consists of
- stainless steel rod with sintered PFA partial insulation
- stainless steel welded or threaded boss
- gasket for use with foodstuffs
- stainless steel housing
- cable gland Pg 13.5

Endress+Hauser
Nothing beats know-how

Dimensions



Dimensions of the probe 11371 in mm

Left:
with welded boss

Right:
with threaded boss

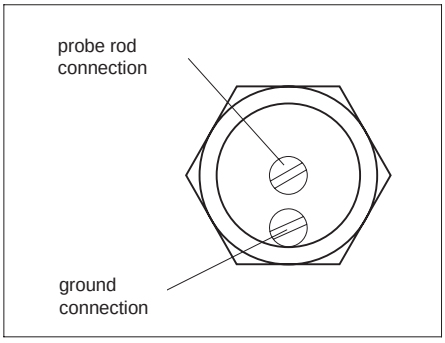
Length of partial insulation:
20 mm shorter than the probe length,
max. 180 mm

100 mm = 3.94 in

Mounting

- Caution!
  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.

Connection



The Pg 13.5 cable gland is designed for cable diameters from 4.0 mm to 6.5 mm.

The terminals in the housing take strands up to 2.5 mm² (AWG 14) in cable sleeves.

– central terminal for the probe rod,
– side terminal for ground connection.

Product Structure

11371 Partially Insulated Rod Probe

Certificate
1 Standard, no special approval
9 Other

Process Connection

1	Welded boss, ø 30 mm	Basic weight 0.46 kg
2	Threaded boss G ½ A	Basic weight 0.52 kg
9	Other	

Probe Length

		Additional weight
1	……mm (50 … 2000 mm)	0.04 kg/dm
2	200 mm	0.08 kg
3	500 mm	0.20 kg
9	Other	

Please state probe length in mm when ordering

Probe length is always measured from the lower edge of the process connection

100 mm = 3.94 in

Basic weight: Complete probe without stated length

1kg = 2.2 lbs

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Product designation

Technical Data

General specifications

Manufacturer	Endress+Hauser GmbH+Co.
Designation	Rod probe 11371
Function	Sensor for conductive level limit detection

Application

Limit detection	Maximum or minimum detection in vessels with liquid, conductive foodstuffs

Operation 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	Probe 11371 in vessels containing liquid Nivotester FTW… conductive level limit switch in the control room
Signal processing	The probe in contact with the material causes a very low current to flow. The Nivotester FTW amplifies the signal and activates any switching devices connected
Galvanic isolation	In the Nivotester FTW

Input

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

Output

Output signal	Probe: current, supplied by Nivotester Nivotester: See Technical Information

Operating conditions

Installation

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

Technical Data (continued)

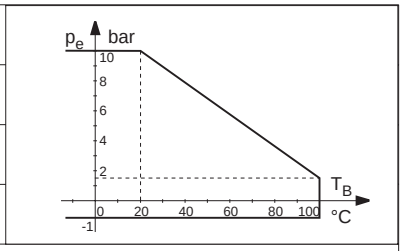
Operating conditions (continued)

Ambient conditions

Ambient temperature	–20 °C … +120 °C; Note temperature resistance of connecting cable!
Ambient temperature range	–20 °C … +120 °C; Note temperature resistance of connecting cable!
Storage temperature	–20 °C … +120 °C (0 °F … 250 °F)
Ingress protection	With cable gland Pg 13.5: IP 66 / IP 68 (1 m, 1 h) to EN 60 529
Electromagnetic compatibility	Interference immunity and interference emission: see Nivotester FTW limit switch

Process conditions

Process temperature (operating temperature T_B)	–10 °C … +100 °C (10 °F … 210 °F)
Process temperature limit	+150 °C (300 °F) (cleaning temperature, max. 30 min)
Process pressure (operating pressure p_e)	–1 bar … +10 bar (–14.5 psi … +150 psi)
Maximum process pressure	10 bar (150 psi)
Conductivity of liquid	min. 0.02 mS/cm, see Nivotester FTW limit switch



Mechanical construction

Design	Rod probe, diameter 8 mm, length 50 mm to 2000 mm, Process connection: welded or threaded boss G ½ A, Housing as hex-nut 36 AF
Dimensions	See dimensional sketches on Page 2
Weight	See Product Summary
Materials	Probe rod: stainless steel 1.4571 (AISI 316 Ti) Partial insulation: 0.2 mm PFA, sinter-fused Welded boss: stainless steel 1.4571 Threaded boss: stainless steel 1.4571 Gasket in process connection: silicone Housing: stainless steel 1.4571 Cable gland: brass, nickel-plated, with silicone gasket
Electrical connection	Two terminals for strands up to 2.5 mm² (AWG 14) in cable sleeves

Ordering information

Probe 11371	See Product Structure on Page 3
Supplementary documentation	Technical Information on the Nivotester FTW limit switch on request

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