

Resistive level probes TVI & MINITEV



TVI 1E / TVI 3 E



MINITEV



ES 2001

- For all electrically conductive liquids.
- 1 to 4 electrodes
- Materials: Metals - PTFE
- Pressure: 200 bar Max.
- Temperature: 220 °C Max.
- Fittings: threads BSP or NPT
- Housing: Cast aluminum alloy

PRINCIPLE

Electrical resistance variation, caused by a fluid presence between two electrodes, is converted by level relay as ON/OFF signal, (see data-sheets relay ES 2001, 530-01 and 233-01 for RXM).
Electrodes length is adjusted according to distance of trigger point.

APPLICATIONS

- Level control or regulation, on open tanks or closed tanks, piping, open channels, etc.
- Presence or lack of fluid detection (leaks, empty piping, dry run detection for pumps).

DESCRIPTION

Each probe has three parts:

- Cast aluminum head (IP 55) with screw terminals and cable gland.
- Fitting: AISI 316 L with PTFE insulator(s).
- Electrodes: AISI 316 L, 1 to 4 electrodes (according the model) at necessary length.

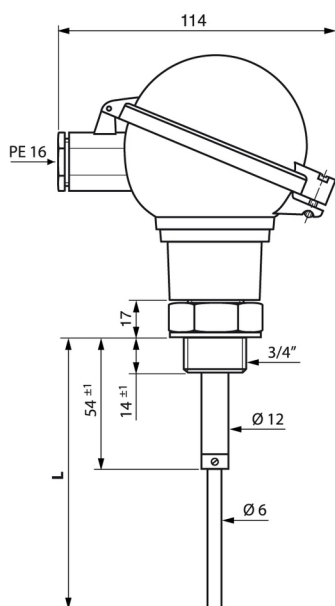
Electrical connection: with end tip to the terminal.
A ground connection is available inside the housing IP55.

TERMINOLOGY

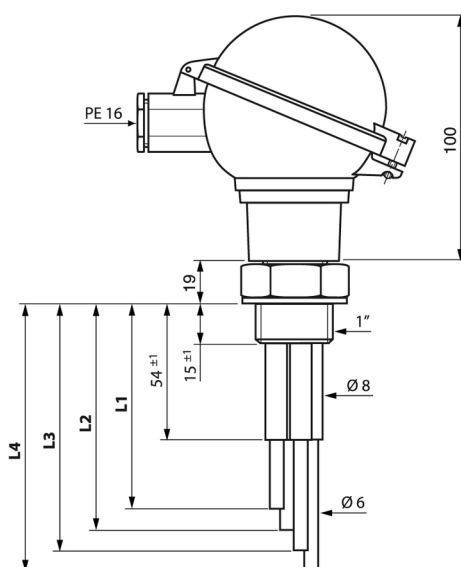
The term "Bougie", very often used at CIEMA (1998), refers to an electrode or a single-electrode probe.
The "Probe" or "Holder" is a set, electrode and connection head.

CODE NUMBERS AND FEATURES

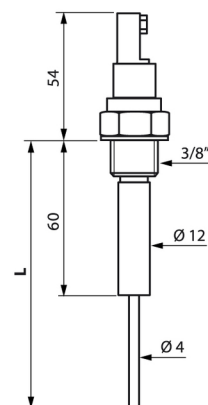
Reference	TVI-1E	TVI-2E	TVI-3E	TVI-4E	MINITEV
Code	541 310	541 420	541 430	541 440	541 330
Number of electrodes	1	2	3	4	1
Fitting	¾" G (Option : ½" G)	1" G			⅜" G
Insulator	Insulator PTFE				
Length Min.	54 mm	-			60 mm
Length Max.	3000 mm				1000 mm
Temperature Max.	220 °C	80 °C			220 °C
Pressure Max. (at T° Max.)	25 bar (at 220 °C)	25 bar (at 80 °C)			25 bar (at 220 °C)
Pressure Max. at 20 °C	200 bar	50 bar			200 bar
MATERIALS					
Head housing	Cast aluminum				(Without head housing)
Fitting	AISI 316 L				AISI 304
Electrode(s)	AISI 316 L				AISI 304



TVI-1E



TVI-2E - TVI-3E - TVI-4E



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PRECAUTIONS FOR COMMISSIONING

- Provide the correct number of electrodes: 1 electrode by level point + 1 reference electrode (if tank is not used as reference).
- Mount the probe on the top of the tank, in vertical position.
- If it is not possible, use a lateral position with an angle of 45° downwards (always think of conductive liquid bridges that create false alarms).
- Check the limits of temperature vs. pressure and the chemical resistance of wet part materials in contact with the fluid.
- **Beware of vapors, it is recommended to coat the connectors after wiring or use a pierced lid to avoid possible condensation.**
- In case of agitated liquid, make sure that rods cannot touch each other by using spacers, or using coated rods, or by isolating them from turbulences inside a transquilization tube.
- For clogging liquids or with vapours, be sure not to have any electrically conductive bridge between two electrodes.

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07-08-2018

D-541.01-EN-AA

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