

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 up to 200 bar
- Temperature up to 220 °C
- Fittings or BSP or NPT
- Connection head in aluminum

PRINCIPLE

Electrical resistance variation, caused by the presence of a liquid between two electrodes, converted by level relay as ON/OFF signal (see data-sheets relay ES 2001, 530-01 and 233-01 for RXM).

Electrode length is adjusted according to distance of trigger point.

APPLICATIONS

- Level control or regulation, on open tanks or closed tanks, piping, open channels, etc.
- Detection of presence or lack of liquid (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 (Excepted on MINITEV)
- 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.

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27-05-2020

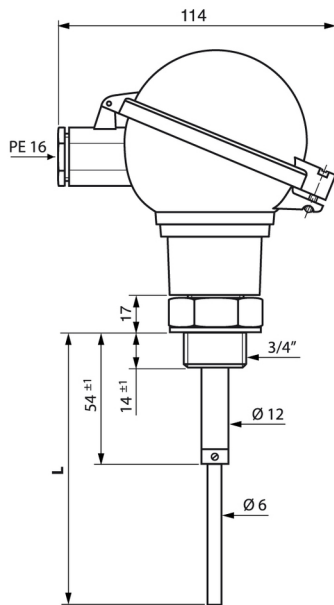
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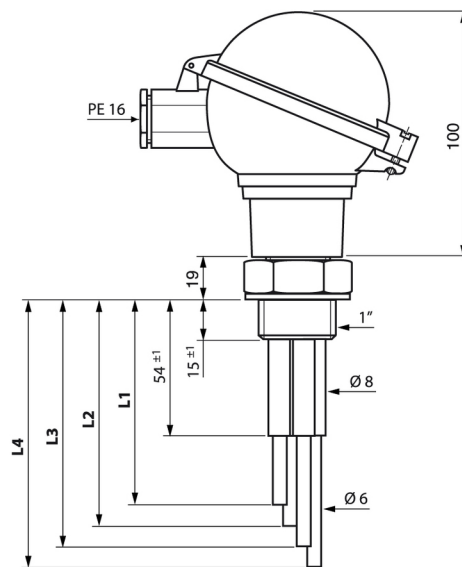
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CODE NUMBERS AND FEATURES

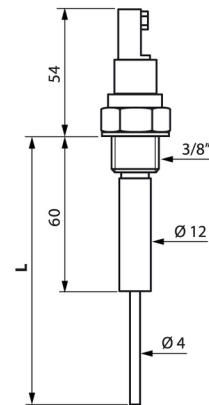
Reference	TVI-1E	TVI-2E	TVI-3E	TVI-4E	MINITEV
Code	541 310	541 420	541 430	541 440	541 330
Number of electrodes	1	2	3	4	1
Fitting	3/4" G (Option : 1/2" G)		1" G		3/8" G
Insulator	Insulator PTFE				
Length Min.	54 mm	-			60 mm
Length Max.	3000 mm			1000 mm	
Temperature Max.	220 °C	80 °C		220 °C	
Pressure 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			<i>(Without head housing)</i>	
Fitting	AISI 316 L			AISI 316 L	
Electrode(s)	AISI 316 L			AISI 3016 L	



TVI-1E



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



MINITEV

PRECAUTIONS FOR COMMISSIONING

- Provide the correct number of electrodes: 1 per level point + 1 as a reference (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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