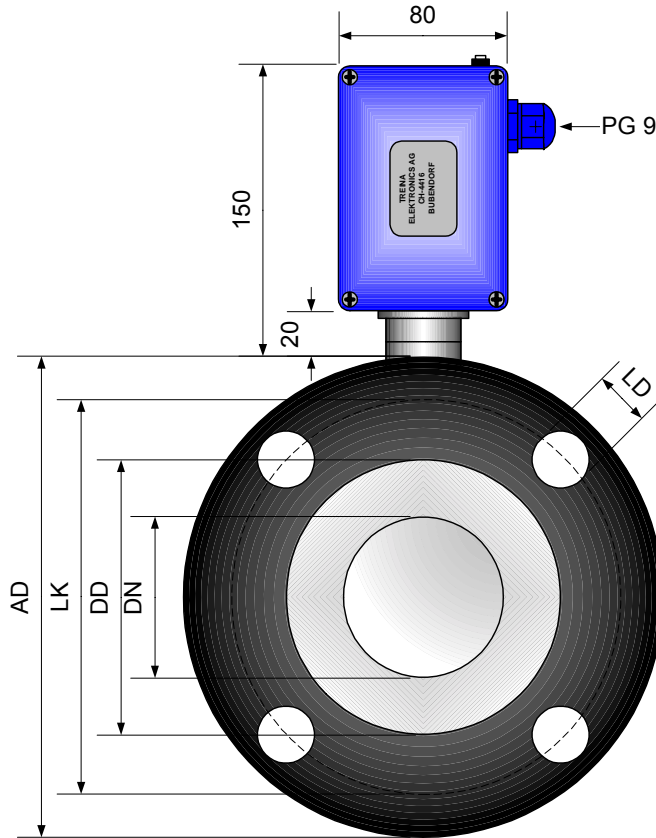


# Pipe Probe TSS 80 SF MTI FIX

TREINA Electronics AG

Pipe probe with fix mounted measuring electronic (impedance measure)



**Use:**

After separators/decanter, built into pipe line for the batch phase separation of liquid products  
 chemicals / solvents / full-empty switch on reactor drain / pipe line monitoring

**Probe structure:**

- Probe body with optimized corrosion protection
- Parts in contact with product: full PTFE element
- Probe mounting height 70 – 92 mm
- Must be mounted with additional flat seals
- Measuring electronic rotatable 360°
- Measuring electronic calibrated at factory, no probe calibration required

**Temperature range:**

- -20 up to +100 °C Medium
- -20 up to + 60 °C connection head
- Medium up to 170 °C: Probe version with coax cable

**Ambient temperature:**

At a medium temperature of +100 °C, the max. allowed temperature of +60 °C in the fix mounted measuring electronic is not over passed, if the measuring electronic is placed laterally

**Connection:**

Universal measuring unit QTI 800 K  
 full/empty level switch measuring units

**Article-No.:** 02.29.11.0000 ...

**Probe type according to type code:**

Example:	TSS	80	DN50	SF	MTI	50/0	A	G	2	FIX
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<b>Your version:</b>	TSS	80		SF	MTI		A	G		FIX
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<b>Pipe probe version:</b>	TSS	80		SF	MTI	50/0	A	G	2	FIX
TSS	= pipe probe	TSS								
80	= Teflon PTFE body element	80								
<b>Probe mount flange size:</b>										
DN40	= flange DN 32/40 PN 16 form G, flat									
DN50	= flange DN 50 PN 16 form G, flat		DN50							
DN80	= flange DN 80 PN 16 form G, flat									
DN100	= flange DN 100 PN 16 form G, flat									
ANSI 2"	= flange ANSI 2" 150 lbs. form G, flat									
ANSI 3"	= flange ANSI 3" 150 lbs. form G, flat									
SF	= connection to steel flange			SF						
	> see probe specs									
<b>On site measuring electronic:</b>										
MTI	= measuring electronic insert, angular				MTI					
50/0	= measuring range for interfacial layer, full/empty switch					50/0				
20/0	= measuring range for product monitoring, concentration measures									
A	= analogue measuring technique for interfacial layer, monitoring, concentration						A			
D	= digital technique for full/empty switch									
G	= measuring electronic in protection housing IP 65 blue, powder coated							G		
0	= without protection for hazardous area									
2	= with protection for hazardous area EEx ia T6 IIC / CE								2	
FIX	= Fix connection MTI rotatable 360°									FIX



### Dimensions of the TSS 80 pipe probes:

Nominal diameter	AD	DN	LD bore holes	LK	DD	mounting h	FLA including seals
DN 32/40	150	32/40	8 x ø 18	100/110	77	70	74
DN 50	165	50	4 x ø 18	125	97	92	96
DN 80	200	80	8 x ø 18	160	123	74	78
DN 100	220	100	8 x ø 18	180	146	74	78
ANSI 2"	152.4	50	4 x ø 19.1	120.7	97	92	96
ANSI 3"	190.5	80	4 x ø 19.1	152.4	123	74	78

### Pipe probe mounting:

- Mounting position from 1% inclination up to vertical, depending on application
- Mounting position independent of flow direction
- Mounting between 2 flat flanges
- Caution: observe the flange distance (FLA) for the different nominal diameters
- The PTFE body/lining element protrudes 0.5 mm on each side
- Additional flat seals are protecting the PTFE body element
- The black probe body is optimally protected against corrosion

### Installation of pipe probes:

- Observe the installation instructions for pipe probes type TSS80 (*VEI-TSS80-Montagevorschriften.doc*)!

### Uninstallation of pipe probes:

- Empty pipe line and rinse with nitrogen or water as per operation instructions (observe internal safety instructions)
- Uninstall pipe probe
- Build in the new pipe probe as per installation instructions (observe internal safety instructions for opened pipe lines)

### Certifications / Tests:

#### Pressure Equipment Directive

- PED Pressure Equipment directive 97/23/EG category II module A1
- Test report no. P-CH-SVTI-02-05-35614-001 **CE 0036**

#### ATEX

- Hazardous area certification as per directive 94/9EG (ATEX 100 A)  
Design type test certificate SNCH 02 ATEX 3357 X  
confidential test report no. 01-IK-0330.01 **CE 0499**

### Description

The interfacial layer pipe probes of the type series TSS \*\*\*\*\*; MTI\*\*\*/\* or FIX\* with separate measuring electronic (MTI) or fix mount connection (FIX) is in connection with the control unit type .TI...K or ...S (SEE99 ATEX 2469), used as signal acquisition of the different product phases (batch phase separation) in the hazardous area (observe MTI datasheet)

**Hazardous area classification:**  II 1/2 G EEx ia IIC T6

The best measure

certified ISO 9001:2000



### Condition of use for pipe probes group II category 1 zone 0

1. The pipe probe Treina of the type series TSS\*\* with fix mounted impedance measuring electronic type MTI \*\*\*/\* (FIX\*) or separated measuring electronic can be used, as per EN 60079-14:1997 in the category 2 and in the category 3 (zone 1 and zone 2) as well as in the gas groups IIA, IIB and IIC which are explosion endangered by combustible substances in the range of the temperature classes T1 up to T6.
2. Only the sensor in contact with the products of the pipe probe Treina of the type series TSS\*\* can be used in zone 0 and must be included in the periodical pressure test of the pipe line.
3. As per EN 50284 chapter 4.4.5 Avoidance of an electrostatic charging on PTFE coated electrodes in pipelines by non conductive, blowby medium (electrical conductivity  $<10^{-9}$  S/m) the following is valid:

Zone 0 gas group IIA / IIB no restriction coating  $s < 2$  mm

Classification C:	hydrogen	H <sub>2</sub>
	acetylene	C <sub>2</sub> H <sub>2</sub>
	carbon bisulphide	CS <sub>2</sub>

Zone 0 gas group IIA / IIB and IIC when pipe is inertised

When the liquids have an electric conductivity of  $>10^{-9}$  S/m, so that an electrostatic charging of the PTFE inner body is, also in rare abnormal occurrences, impossible, then no restriction applies to zone 0

Zone 0 gas group IIA / IIB and IIC no restriction for coatings with PTFE-L  
PTFE-L = conductive PTFE with resistance toward earth  $<10^9 \Omega/\text{cm}^2$

The indication on the equipment type plate must be observed

4. As the probe electrical circuit is on earth on the plant side, a common equipotential bond must exist in the entire wiring of the electrical probe wiring and in the supply and signal electrical circuit (inside and outside of the hazardous area).

