

## Datasheet PU Sound Probe



### **Sensor configuration**

- 1\* Microflow Titan sensor element
- 1\* miniature Knowles FG45 1/10" pressure microphone

### **Physical characteristics**

- diameter 1/2"
- length: 90mm
- weight : 38gr
- fixed protective pillars causing 10dB packaging gain

### **Acoustical properties microphone element**

- frequency range: 20Hz – 20kHz
- upper sound level 110dB (SPL re. 20 $\mu$ Pa)
- sensitivity: 20mV/Pa
- directivity: omni
- signal to noise ratio (at 1kHz in 1Hz bandwidth): 105dB

### **Acoustical properties Microflow element**

- frequency range: 1Hz – 20kHz
- upper sound level 125dB (PVL re. 50nm/s)
- sensitivity: 200mV/Pa\*=50mV/(mm/s)
- directivity: figure of eight
- signal to noise ratio (at 1kHz in 1Hz bandwidth): 107dB

### **Electrical properties**

- powering: 4 channel signal conditioner
- connector: LEMO 7 pins male

### **Environments**

- temperature maximum 60 degrees Celsius

## Model Microflown

$$Sensitivity(f) = \frac{2.5}{\sqrt{1 + \left(\frac{50}{f}\right)^2} \sqrt{1 + \left(\frac{f}{1000}\right)^2} \sqrt{1 + \left(\frac{f}{10.000}\right)^2}} \left[ \frac{mV}{mm/s} \right]$$

$$phase = \operatorname{tg}^{-1} \frac{60}{f} - \operatorname{tg}^{-1} \frac{f}{1100} - \operatorname{tg}^{-1} \frac{f}{11000}$$

## Model microphone (Valid up to 6kHz)

$$Sensitivity(f) = \frac{15}{\sqrt{1 + \left(\frac{35}{f}\right)^2}} \left[ \frac{mV}{Pa} \right]$$

$$phase = \operatorname{tg}^{-1} \frac{35}{f}$$

## Selfnoise and intrinsic frequency response

