DPR2000 : on-line density measuring system : measuring cell DPR417 NYE / Anton Paar K.G.

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DPR 2000 on-line density measuring system

measuring cell

DPR 417 NYE

PAAR

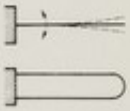
DPR 2000 on-line density measuring system

DPR 417 NYE MEASURING CELL

The measuring cell contains all the elements required for transformation of the "density" value into a frequency-analog output signal. Basic elements are the oscillator tube with housing and mounting plate as well as an excitation amplifier and terminal blocks for cable connection and furthermore, the necessary components for both the measurement and transmission of sample temperature. All precautions to ensure intrinsic safety have been taken.

DESCRIPTION

The DPR 417 NYE oscillator tube is built into a splash-proof and coated cast aluminium housing. As seen from the drafting, the U-shaped oscillator is caused to vibrate in the Y-mode by an excitation amplifier. The sample temperature detected by a Pt 1000 sensor is coded with the oscillation signal and connected to evaluation electronics via a two-wire line.
This measuring cell stands out for utmost easy handling and installation. Furthermore, the thermal inertia is small and the oscillator tube is hardly sensitive to pressure. The pressure drop in the cell corresponds to that of a tube of 500 mm length and 6.6 mm id.



TECHNICAL DATA

Material of oscillator tube	stainless steel 1.4571 (316 ti)
Id of oscillator tube	6.6 mm
Measuring range	0 to 3 g cm^{-3}
Accuracy	0.1% of selected span
Sensitivity and repeatability	$\pm 1 \times 10^{-5}$ g cm^{-3} (overall range at constant measuring conditions)
Sample temperature range	-25 to + 125° C
Ambient temperature range	-25 to + 75° C
Temperature coefficient of oscillator tube	$+9 \times 10^{-4}$ g $cm^{-3} K^{-1}$ typically
Pressure range	0 to 50 bars
Pressure coefficient of oscillator tube	-5×10^{-5} g $cm^{-3} bar^{-1}$ typically
Recommended flow range (water)	approx. 100—500 l/h

TYPES OF MEASURING CELLS

"E" electronic temperature measurement
The standard measuring cell is equipped with a Pt 1000 temperature sensor, the value of which is decoded at the evaluation electronics with a resolution of 0.1 K and either displayed, transmitted or used for density calculations — dependent on the instrument's version. Temperature compensation is possible within a wide range.

"Z" additional housing heating
For samples freezing at low or critical temperature, the housing can be heated up to a desired temperature. Supply voltage as well as temperature must be specified on order.

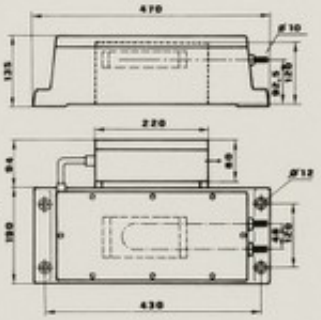
Temperature range	ambient temperature up to +100° C
Heating power	4 (6) × 125 VA at 220 Vac 50 Hz

„I" Intrinsically safe version
The measuring cycle consisting of excitation system and temperature measurement (built to the measuring cell) and the buffer (which must be situated outside the hazardous area) meets in it's design the requirements EN 50 014 and EN 50 020 concerning kind of protection "Intrinsic Safety EEx ia IIC T6".

INSTRUCTIONS FOR MOUNTING

The measuring cell is to be mounted to a stable base by four screws M 10. We recommend an installation with the connectors directed horizontally or downwards in order to avoid sedimentations in the oscillator tube. Connection to the sample flow is by a thread R 3/8". Take care that no vibrations are transmitted to the measuring cell. This can be prevented by either supporting the pipes or using flexible tubings. No specified direction of flow is given. Direct sample flow-through up to max. 1 m^3/h; higher flow rates require a by-pass pipe.
The measuring cell is connected to the electronic evaluation unit by a two-wire line (line resistance 100 ohms max.). Splash proof feedthrough from the terminal block.

External dimensions of the cell	470 × 190 (284) × 135 mm (L×W×H)
Mounting dimensions (a×b)	430 × 120 mm
Mass	26 kg



ORDERING DATA

Cat. No.	
60 698	DPR 417 NYE standard measuring cell (SS 316 ti)

Special versions of measuring cells available upon request

Specifications subject to change without notice

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