

## DOWNHOLE QUARTZ PRESSURE AND TEMPERATURE TRANSDUCER PDTK-P-MS

### APPLICATIONS

The quartz pressure transducer PDTK-P-MS provides precision pressure measurement in a hostile environment with a capability to compensate the temperature impact in the operating temperature range. The bellows or stainless steel membrane are set as separator.

The remarkable performance of these transducers is achieved through the use of a precision quartz crystal resonator whose frequency of oscillation varies with the pressure-induced stress. A quartz crystal temperature signal provides a capability to thermally compensate the measured pressure and to achieve high accuracy over a wide temperature range.



### FEATURES

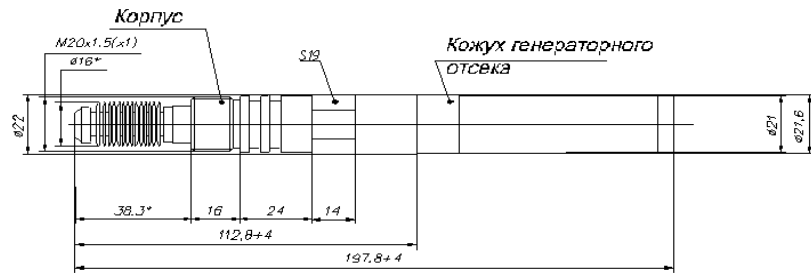
- Down hole, geophysical and barometric reference
- High accuracy pressure standard (0.06%FS)
- Stainless steel and duralumin enclosure

PARAMETERS	SPECIFICATIONS				UNITS
	PDTK-P-MS-22	PDTK-P-MS-10 PDTK-P-MS-23	PDTK-P-MS-24	PDTK-P-MS-25	
Pressure ranges P	from 0.07%FS to 20.0 ; 40.0 ; 60.0 ; 80.0 ; 100.0				MPa
Working temperature range	0 ... +130 (140)				°C
Temperature range of availability	-40...+140				
Pressure accuracy	0.06; 0.1; 0.15				%
Resolution	Pressure	0.0005			%
	Temperature	0.01			°C
Zero drift	±0.05				%/yr
Temperature error	±0.3				°C
<b>Pressure frequency dependence temperature and pressure channel polynomial:</b>					
1) $P=P_0+a_1(Ft)+a_2(Ft)^2+a_3(Fp)+a_4(Fp)^2+a_5(Ft)*(Fp)$ ;					
2) $P=P_0+b_1(Ft)+b_2(Ft)^2+b_3(Fp)+b_4(Fp)^2+b_5(Ft)*(Fp)+b_6(Ft)^2*(Fp)+b_7(Ft)*(Fp)^2+b_8(Ft)^2*(Fp)^2$ .					
Frequency output	Pressure channel output	45000...46000 or 500...4000**			Hz
	Deviation in pressure working range	2000+1500			
Output amplitude, load = 600 Ω	≥ 0.9·V <sub>S</sub> (buffer amplifier or open collector)				V
Supply voltage V <sub>S</sub>	3±0.5 or 5±0.5 or 2.8...5**				V
Current consumption	2;10 or 0,8**				mA
Size	∅ 22 x 198	∅ 30 x 217 ∅ 30 x 204	∅ 22 x 106	∅ 30 x 204	mm
Weight	350				g
Warranty period of maintenance	1				year

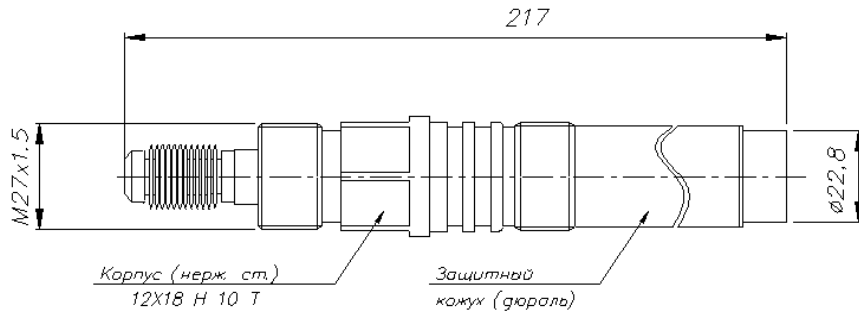
\*\* - beat-frequency oscillator (reference resonator RK206 is matched as pair with the sensor resonator)

## EXTERNAL DIMENSIONS (Units: mm)

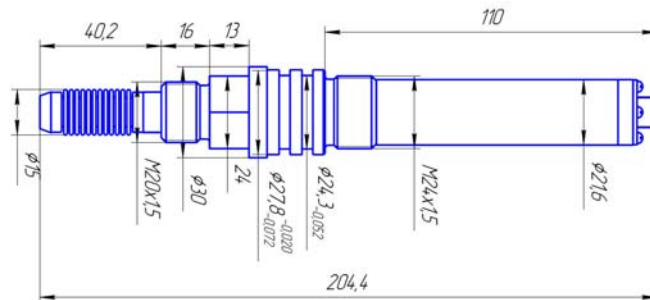
### PDTK-P-MS-22



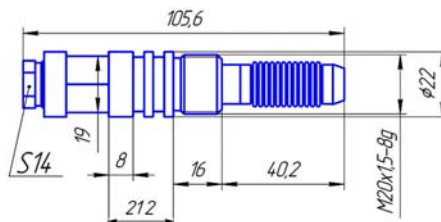
### PDTK-P-MS-10



### PDTK-P-MS-23



### PDTK-P-MS-24



### PDTK-P-MS-25

