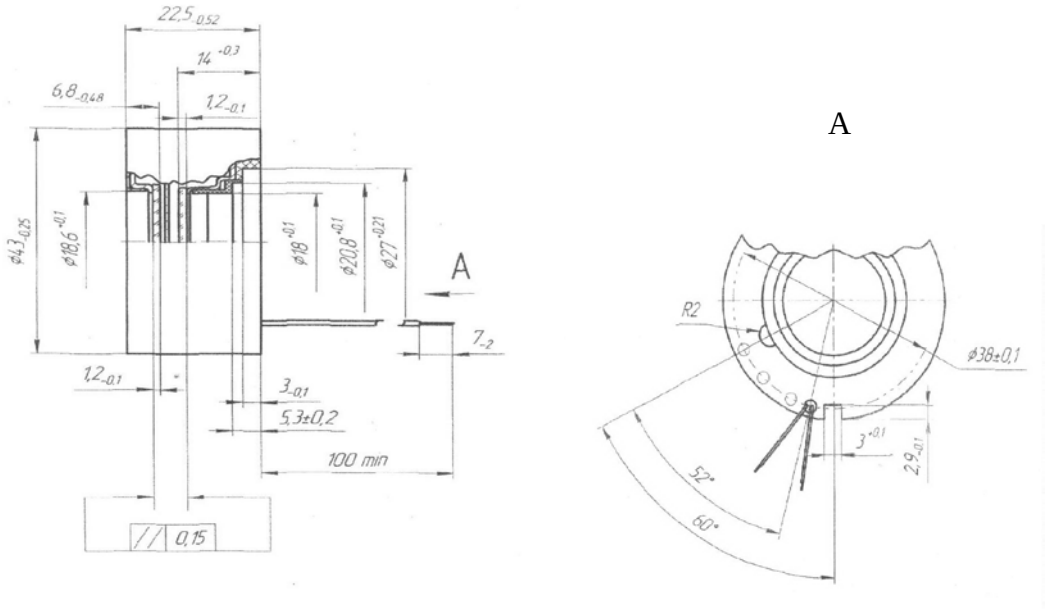
Image Intensifier Tube Quarzit

Quarzit is a proximity focused microchannel plate image intensifier (IIT) with a built-in high-voltage power supply having a circuit for protecting photocathode against high exposure rate, and automatic screen brightness control. Quarzit comprises a cesium-telluride photocathode on a magnesium fluoride substrate and a yellow-green screen on a glass disk. The IIT is intended for UV imaging (for operation in the wavelength range 115-360 nm).



Basic Parameters

Parameter, unit	Normal range		
	Min	Nominal value	Max
1.Photocathode spectral response range, nm	115		360
2. Photocathode spectral response at λ = 250 nm, mA/W	20		
3.Photocathode active area diameter, mm	18		
4. Limiting resolution in the center of the photocathode, l.p./mm	40		
5. Spectral gain at λ=254 nm (photocathode illuminated by input flux of 10^{-5} W/m^2), W/W	$2,5 \cdot 10^3$		
6. Background brightness, cd/m^2			$3 \cdot 10^{-5}$
7. Screen brightness in automatic brightness control mode, cd/m^2	7		12
8. Supply voltage range, V	2,0	2,8	3,6
9. Supply current, mA			20
10. Weight, g			59

Modifications with the screen deposited on a non-inverting and inverting fiber-optic plate can be custom-made.

Typical Spectral Response Curve of the IIT Quarzit Cesium-Telluride Photocathode

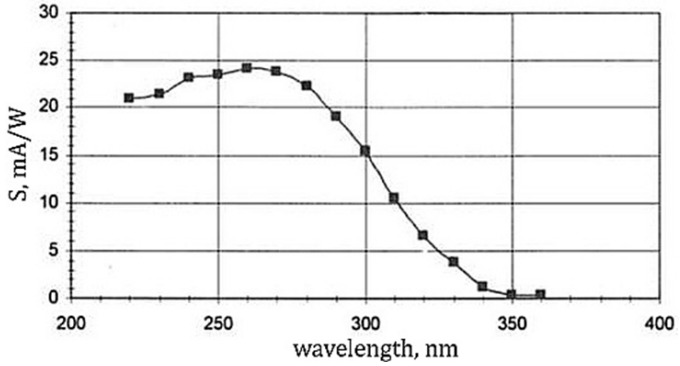


Image Quality within the Photocathode Active Area

Zone #	Zone diameters within the photocathode, mm	Dark and bright spot sizes, mm		Dark and bright spots with maximum admissible diameter, pcs.	Admissible total area of spots, mm^2
		negligible	allowed		
1	Circle, Ø 9	up to 0,05	>0,05 up to 0,15 inc.	3	0,05
2	Ring, Ø 9-14,4	up to 0,05	>0,05 up to 0,2 inc.	3	0,1
3	Ring, Ø 14,4-18	up to 0,07	>0,07 up to 0,25 inc.	4	0,2

Admissible External Impact

Sinusoidal vibration:	
-frequency range, Hz	100-500
-acceleration amplitude, $m \cdot sec^{-2}$ (g)	50 (5)
Repeated mechanical shock:	
- shock acceleration peak value, $m \cdot sec^{-2}$ (g)	1618,7 (165)
- duration, msec	1±0,3
- number of shocks	4000
Single-action mechanical shock:	
- shock acceleration peak value, $m \cdot sec^{-2}$ (g)	2943 (300)
- duration, msec	1-3
- number of shocks	6
Superambient temperature:	
- operational temperature,°C	50
- limiting temperature,°C	60
Subambient temperature:	
- operational temperature,°C	– 45
- limiting temperature,°C	– 60
Temperature change, °C	– 60 to 60
High air humidity at 25°C, %	98

BASPIK

44 Nikolayev Str., building 6, Vladikavkaz,
Republic North Ossetia-Alania, Russian Federation
market@baspik.com
+7 867 224-19-61