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18 mm Image Intensifier Tube, XR-5, ANVIS Type, Inverting Flat output

Description:

The Image Intensifier Assembly, 18 millimeters micro-channel wafer, shall have a minimum useful photocathode and phosphor screen diameter of 17.5 millimeters (mm). The assembly shall employ a micro-channel electron multiplier plate with proximity focus on the input and output. The assembly shall include the high voltage multiplier and oscillator and shall be encapsulated within a hard surface insulating sleeve or boot and assembled in a hard plastic housing. The Tube is equipped with **Auto-Gating**.

Phosphor : P-22 / P-43
 Input window : AVG Glass
 Output window : Inverting Fiber-optic, Plane

Construction:

The assembly shall be fabricated in accordance with drawing on Page No. 4 of 4.

Limiting Values:

	<u>Min.</u>	<u>Max.</u>	<u>Unit</u>
Continuous input Supply voltage	2.0	3.5	V
Reversed Polarity (60 sec)	-3.7	+3.7	V
Storage temperature (4 hours max.)	-30	+70	°C
Operating temperature (4 hours max.)	-30	+55	°C
Force on bearing surface		200	N

Operating conditions and characteristics:

Operating Supply voltage : 3.0 ± 0.5 V
 Ambient Temperature : 20 ± 1 °C

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When the image intensifier is operated under the conditions mentioned above, unless otherwise specified, the characteristic values that follow are attainable:

(AJAY SINGH)
 HOS/DO.

(SAURABH BHASKAR)
 AWM/Opt.

(VIMAL KUMAR)
 CM/R&D.

SHTS.- 4

SHT. No.- 1

**DRAWING No.-
 MCT-3476**

18 mm Image Intensifier Tube, XR-5, ANVIS Type, Inverting Flat output

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Characteristics:

	<u>Minimal</u>	<u>Maximal</u>	<u>Unit</u>
Figure of Merit (FoM) * * = SNR x Resolution	1,600		
Operational life T = 10,000 hours (signal to noise ratio)	9		
Gain at 2×10^{-5} lx	9,554	17,516	cd/m ² /lx
Maximum Output Brightness			
Photocathode illuminance 10 lx & 200 lx	3	15	cd/m ²
Input current at 2×10^{-5} lx		35	mA
High Light Resolution at Centre (at 200 lux)	55		lp/mm
Resolution (At Centre)	64		lp/mm
E.B.I. at 23°C		0.25	μlx
Burn-in	50		Hours
Image Inversion	178	182	Degrees
Shear Distortion		61	μm
Gross Distortion		75	μm
Useful Cathode Diameter	17.5		mm
Output uniformity over Ø17.0 mm @ 2850K		3:1	

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(AJAY SINGH)
HOS/DO.

(SAURABH BHASKAR)
AWM/Opt.

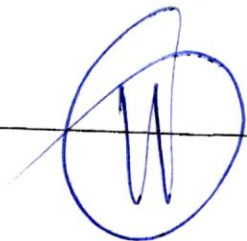
(VIMAL KUMAR)
CM/R&D.

SHTS.- 4

SHT. No.- 2

DRAWING No.-
MCT-3476

3 mm Image Intensifier Tube, XR-5, ANVIS Type, Inverting Flat output



Characteristics:

	<u>Minimal</u>	<u>Maximal</u>	<u>Unit</u>
Bright source protection	60		sec
One (1) millilumen on an area of 1 mm ²			
Fixed Pattern Noise at 2mlx (mean luminance deviations)	-10	+10	%
Halo (illumination spot 0.35mm)		1.25	mm
Image Alignment		0.5	mm
Mass		80	gram

Spots:

Maximum number of dark spots will be according to the following table:

SPOTS DIAMETER IN MICROMETERS	ZONE 1 dia. 5.6mm	ZONE 2 dia. 5.6mm-14.7mm	ZONE 3 dia 14.7mm-17.5mm
> 380	0	0	0
300 - 380	0	0	0
230 - 300	0	0	0
150 - 230	0	1	2
75 - 150	0	2	3
< 75	Minimal	Minimal	Minimal

Bright Spots which are merging at 10⁻⁵ lux are acceptable, as per MIL-I-49052F.
All other parameters and inspection method as per MIL-I-49052F.

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(AJAY SINGH)
HOS/DO.

(SAURABH BHASKAR)
AWM/Opt.

(VIMAL KUMAR)
CM/R&D.

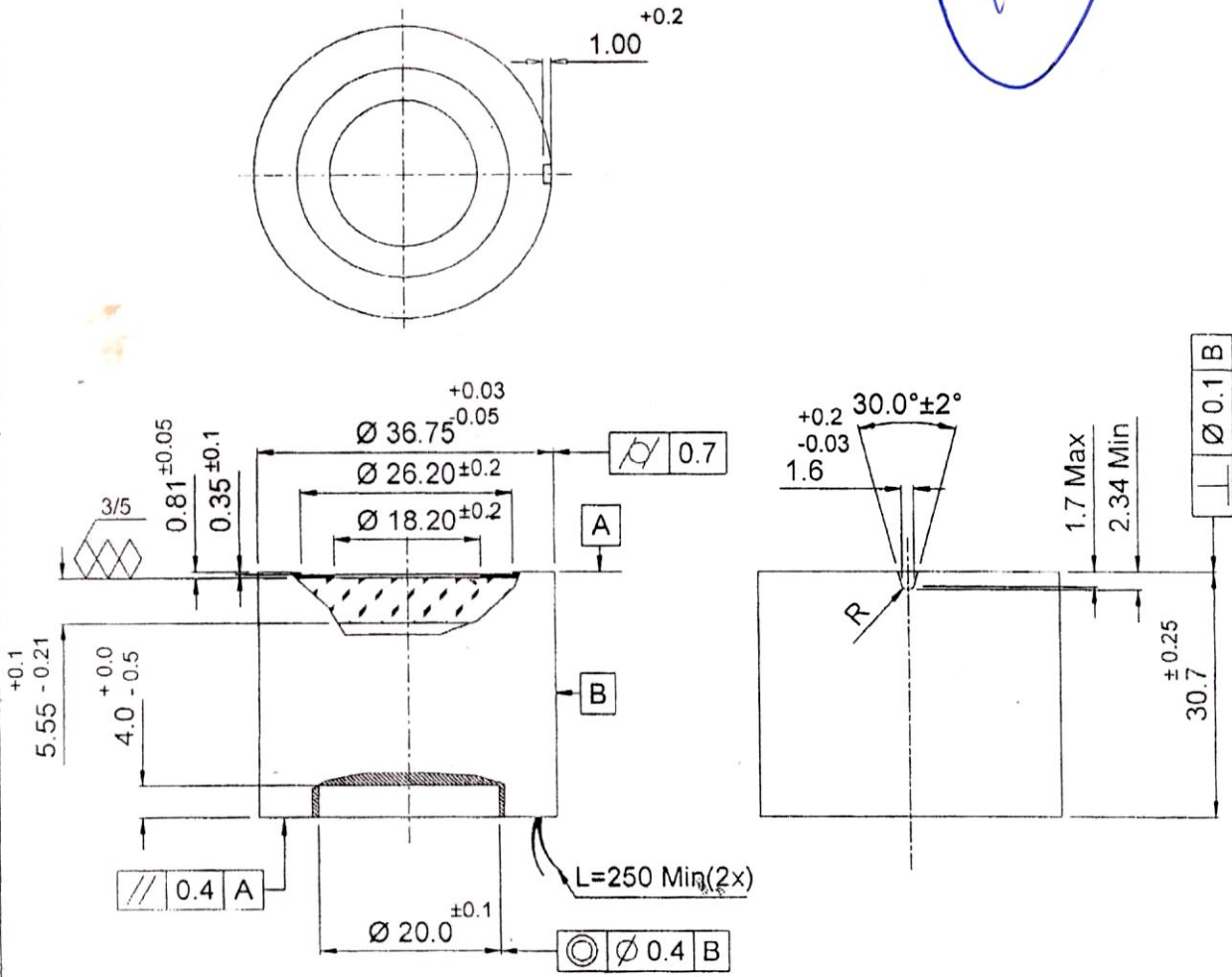
SHTS.- 4

SHT. No.- 3

DRAWING No.-
MCT-3476

DIMENSIONAL SPECIFICATION OF 18mm.IMAGE INTENSIFIER TUBE , XR-5, ANVIS TYPE, INVERTING FLAT OUTPUT

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ALL DIMENSIONS ARE MM.
IMPORTANT DIMENSIONS MARKED THUS *
INFORMATION MARKED THUS † TO BE MARKED ON.

	DR.- R.K.SHARMA	DT.-31.05.2018	SCALE- 1:1
	TR.-	MATL.	TREAT.
	CH.- VIMAL KUMAR	SHTS.- 4	SHT. NO.- 4
AMENDMENTS.	APPROVED.	DRAWING No.- MCT-3476	
OFD/DO/002	(AJAY SINGH) HOS/DO.		

ORDNANCE FACTORY, DEHRADUN.