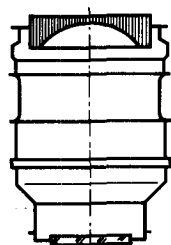


# Image intensifier tubes

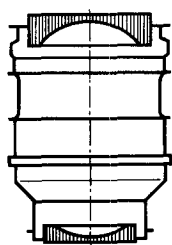
## Single stage

Type	XX 1110	XX 1111	XX 1190	XX 1191	XX 1200	XX 1201
Configuration	Tetrode	Tetrode	Diode	Diode	Diode	Diode
Focusing method	electrostatic					
Input face plate	Fiber optics, flat					
useful $\varnothing$ in mm	38	38	25	25	18	18
Photocathode	Spectral type S 20 r					
Paraxial image magnification	variable: 1 : 0.3 ... 1 : 0.7			fixed: ca. 1 : 94		
Output face plate	Glass	Fiber optics		Glass	Fiber optics	Glass
Output fluorescent screen	Type P 20, yellow-green					
Average luminance gain <sup>2)</sup> in $\text{cd} \cdot \text{m}^{-2}/\text{lx}$	300 <sup>1)</sup>	210 <sup>1)</sup>	35	32	35	30
Average center resolution in Lp/mm	40	35	60	65	60	65
Typical operating and max. ratings						
$U_{\text{FOC 1}}$ in V	-70...-200 <sup>1)</sup>	-70...-200 <sup>1)</sup>	-	-	-	-
$U_{\text{FOC 2}}$ in kV	4...5 <sup>1)</sup>	4...5 <sup>1)</sup>	-	-	-	-
$U_{\text{A}}$ in kV	16...20 <sup>1)</sup>	16...20 <sup>1)</sup>	14 max. 15	14 max. 15	12 max. 13	12 max. 13
Length in mm	90	90	62	62	49	47
Diameter in mm	69	69	60	60	45	45
Weight in g	ca. 220	ca. 240	ca. 200	ca. 190	ca. 180	ca. 170

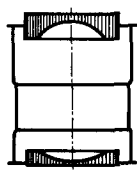
**Remarks:** <sup>1)</sup> Paraxial image magnification 1 : 0.5 <sup>2)</sup> Photocathode irradiated by a tungsten-filament lamp:  $T_{\text{Farb}} = 2850 \text{ K}$ ,  $t_{\text{amb}} = 20^\circ\text{C}$



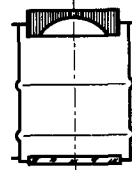
XX 1110



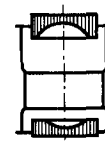
XX 1111



XX 1190



XX 1191



XX 1200



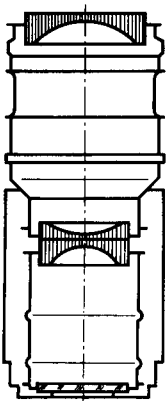
XX 1201

Measure ca. 1 : 3

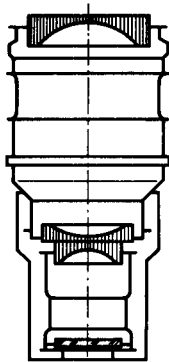
# Image intensifier tubes

## /3 stages

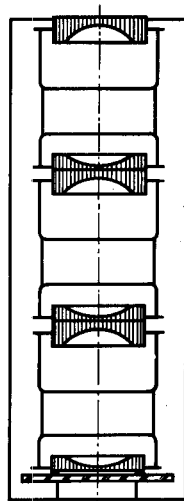
Type	XX 1112	XX 1350	XX 1060	XX 1210	XX 1250
Type combination			3 x XX 1190	3 x XX 1200	2 x XX 1200
Input stage Output stage	XX 1111 XX 1191	XX 1111 XX 1201	with voltage multiplier	with integral oscillator and voltage multiplier	coupled
Configuration	Tetrode + Diode		3 diodes		2 diodes
Focusing method	electrostatic				
Input face plate	Fiber optics, flat				
useful $\varnothing$ in mm	38	35	25	18	18
Photocathode	Spectral type S 20 r				
Paraxial image magnification	variable: 1 : 0.3 ... 1 : 0.6		fixed: 1 : 0.8 ... 1.1		fixed: 1 : 0.9 ... 1.0
Output face plate	Glass		Fiber optics		
Output fluorescent screen	Type P 20, yellow-green				
Average luminance gain in $\text{cd} \cdot \text{m}^{-2}/\text{lx}$	$4 \cdot 10^3$	$4 \cdot 10^3$	$1,4 \cdot 10^4$	$1,4 \cdot 10^4$	600
Average center resolution in $\text{Lp}/\text{mm}$	30	30	32	35	42
Typical operating and max. ratings					
$U_{\text{FOC 1}}$ in V	-60...-160 <sup>1)</sup> min. -70...max. +300		-	-	-
$U_{\text{FOC 2}}$ in kV	+4,1...+4,6 <sup>1)</sup> max. +8,5		-	-	-
$U_{\text{A 1}}$ in kV	-20 <sup>1)</sup> max. +20,5		-	-	-
$U_{\text{A 2}}$ in kV	+32 <sup>1)</sup> max. +33	-	-	-	-
$U_{\text{B}}$ in V	-	-	2700 ~	min. 2,5, max. 3	-
Length in mm	152	150	194	148	96
Diameter in mm	70	70	70	53	47
Weight in g	ca. 420	ca. 400	ca. 950	ca. 750	ca. 360
Remarks:	1) Paraxial image magnification 1 : 0.5; 2) Photocathode irradiated by a tungsten-filament lamp: $T_{\text{Farb}} = 2850 \text{ K}$ , $t_{\text{amb}} = 20 \text{ }^\circ\text{C}$				



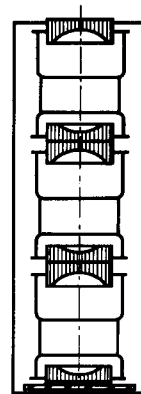
XX 1112



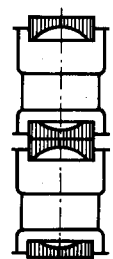
XX 1350



XX 1060



XX 1210



XX 1250

Measure ca. 1 : 3