

## MONITOR TUBES

- 17 cm diagonal rectangular flat face
- 70° deflection angle
- high resolution
- quick heating cathode
- bonded face plate
- metal band for mounting
- M17-143WE: for use in precision monitors and as a viewfinder in television cameras
- M17-145WE: for use in photographic equipment (see Optical Data)

### QUICK REFERENCE DATA

---

Deflection angle, diagonal	70 °
Face diagonal	17 cm
Neck diameter	28 mm
Overall length	max. 240 mm
Screen dimensions	min. 124 mm x 93 mm
Resolution at $V_a = 16$ kV	min. 1250 TV lines

---

**ELECTRICAL DATA**

Capacitances

final accelerator to metal band	$C_{g3,g5(l)}/m'$	135 pF
final accelerator to external conductive coating	$G_{g3,g5(l)}/m$	240 pF
cathode to all other elements	$C_k$	3,6 pF
grid 1 to all other elements	$C_{g1}$	7 pF

Focusing method

electrostatic

Deflection method

magnetic\*

Deflection angle, diagonal

70°

Heating

indirect by AC or DC \*\*

heater voltage

$V_f$  6,3 V

heater current

$I_f$  240 mA

Heating time to attain 10% of the cathode

current at equilibrium conditions

approx. 5 s

**OPTICAL DATA**

Screen

metal-backed phosphor

Phosphor type

WE ▲

fluorescent colour

white

persistence

medium short

Useful screen dimensions

diagonal

min. 155 min.

horizontal axis

min. 124 min.

vertical axis

min. 93 min.

Light transmission of screen

approx. 88%

**Note:** The M17-145WE has an improved screen blemish specification, to meet the extreme requirements of photographic recording equipment.

\* To obtain the best tube performance, deflection unit AT1071/05 should be used.

\*\* Not to be connected in series with other tubes.

▲ Other phosphors available to special order.

**MECHANICAL DATA** (see also the figures on the next page)

Overall length	232 ± 8 mm
Neck diameter	min. 27,8 mm
Base	neo eightar, B8H; IEC 67-I-31a
Final accelerator contact	cavity contact, CT8; IEC 67-III-2
Implosion protection	bonded face plate
Net mass	approx. 1 kg

**Mounting**

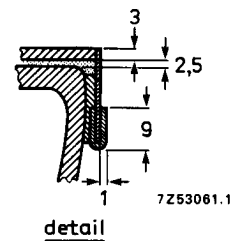
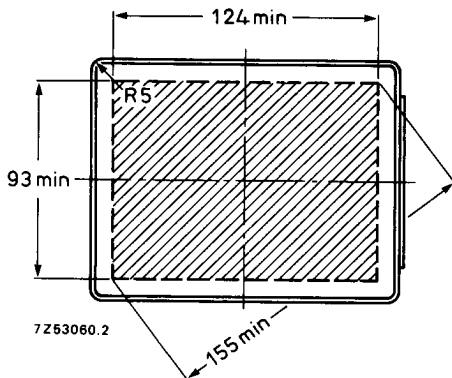
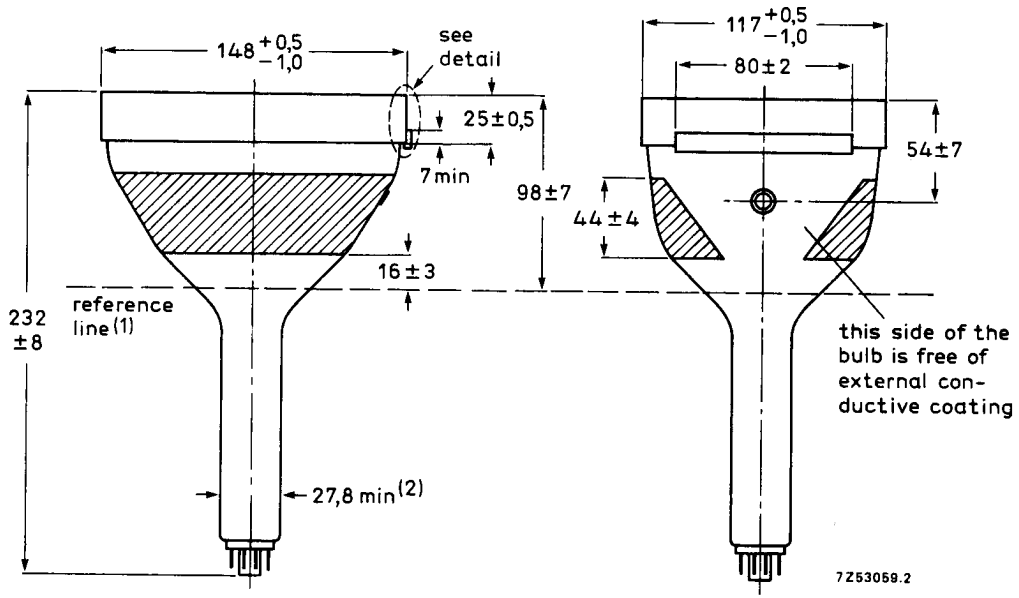
The tube can be mounted in any position. It must not be supported by the socket and not by the base region alone.

**Accessories**

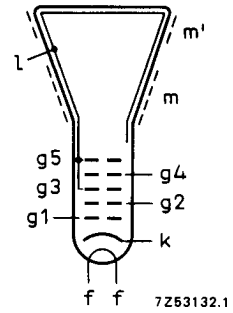
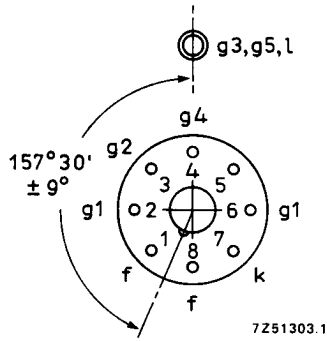
Final accelerator contact connector	55563 A
-------------------------------------	---------

MECHANICAL DATA

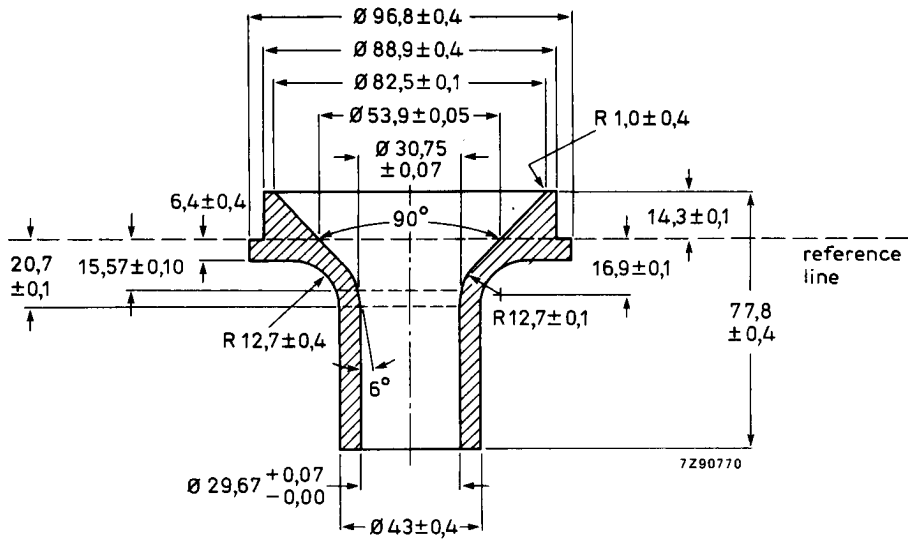
Dimensions in mm



- (1) Reference line, determined by the plane of the upper edge of the flange of the reference line gauge when the gauge is resting on the cone.
- (2) The maximum dimension is determined by the reference line gauge.



Reference line gauge



**RECOMMENDED OPERATING CONDITIONS**

Final accelerator voltage	$V_{g3,g5(\ell)}$	14	16 kV
Focusing electrode voltage	$V_{g4}$	0 to 400*	0 to 400 V*
First accelerator voltage	$V_{g2}$	400	600 V
Cut-off voltage for visual extinction of focused spot	$-V_{g1}$	30 to 62	40 to 90 V

**RESOLUTION**

Resolution at screen centre, measured with beam centring magnet\*\*

at  $V_{g3,g5(\ell)} = 14$  kV,  $V_{g2} = 400$  V,  
 $I_{\ell} = 20 \mu\text{A}$ , luminance = 400 cd//m<sup>2</sup> ▲

min. 1050 TV lines ←

at  $V_{g3,g5(\ell)} = 16$  kV,  $V_{g2} = 600$  V,  
 $I_{\ell} = 20 \mu\text{A}$ , luminance = 500 cd/m<sup>2</sup> ▲

min. 1250 TV lines ←

**LIMITING VALUES**

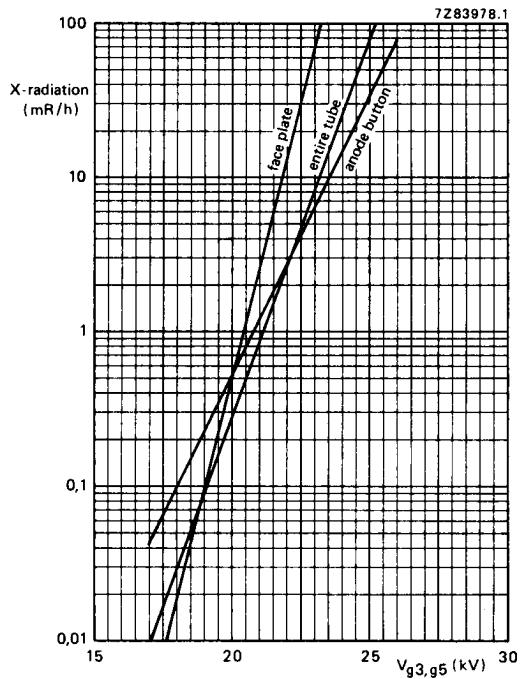
Final accelerator voltage	$V_{g3,g5(\ell)}$	max. 18 kV min. 12 kV
Focusing electrode voltage	$V_{g4}$ $-V_{g4}$	max. 1 kV max. 0,5 kV
First accelerator voltage	$V_{g2}$	max. 800 V min. 300 V
Control grid voltage		
negative	$-V_{g1}$	max. 150 V
positive	$V_{g1}$	max. 0 V
positive peak	$V_{g1p}$	max. 2 V
Cathode to heater voltage		
positive	$V_{kf}$	max. 125 V
negative	$-V_{kf}$	max. 125 V

\* For optimum focus at a beam current of 50  $\mu\text{A}$ .

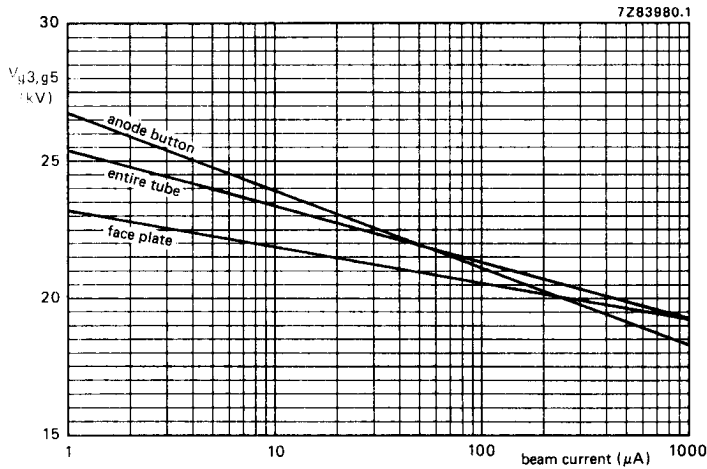
\*\* Catalogue number 3322 142 11401; supplied with directions for use with each tube.

▲ Luminance is measured with a photocell, of which the spectral response curve is identical to that of the human eye, on a 312-lines raster with dimensions 70 mm x 70 mm.

X-RADIATION LIMIT



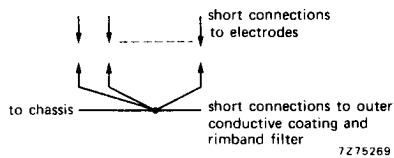
X-radiation limit curves, at a constant anode current of 250  $\mu$ A, measured according to TEPAC103A.



0,5 mR/h isoexposure-rate limit curves, measured according to TEPAC103A.

**FLASHOVER PROTECTION**

With the high voltage used with this tube internal flashovers may occur. These may destroy the cathode of the tube. Therefore it is necessary to provide protective circuits, using spark gaps. The spark gaps must be connected as follows:



No other connections between the outer conductive coating and the chassis are permissible.