

## MONITOR TUBES

- 17 cm diagonal rectangular flat face
- 70° deflection angle
- high resolution
- quick heating cathode
- M17-142WE: for use in precision monitors and as a viewfinder in television cameras
- M17-144WE: for use in photographic equipment (see Optical Data)

### QUICK REFERENCE DATA

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|                            |                     |
|----------------------------|---------------------|
| Deflection angle, diagonal | 70 °                |
| Face diagonal              | 17 cm               |
| Neck diameter              | 28 mm               |
| Overall length             | max. 234 mm         |
| Screen dimensions          | min. 124 mm x 93 mm |
| Resolution                 | min. 1050 TV lines  |

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## ELECTRICAL DATA

### Capacitances

final accelerator to external conductive coating  
cathode to all other elements  
grid 1 to all other elements

$C_{g3,g5(l)/m}$  300 pF  
 $C_k$  3,6 pF  
 $C_{g1}$  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 mm

horizontal axis

min. 124 mm

vertical axis

min. 93 mm

### Light transmission of screen

approx. 92%

**Note:** The M17-144WE has an improved screen blemish specification, to meet the extreme requirements of photographic recording equipment.

\* To obtain the best tube performance, use either the AT1071/05 or the AT1071/07 deflection unit.

\*\* 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            | 227 ± 7 mm                       |
| Neck diameter             | min. 27,8 mm                     |
| Base                      | neo eightar, B8H; IEC67-I-31a    |
| Final accelerator contact | cavity contact, CT8; IEC67-III-2 |
| Net mass                  | approx. 0,7 kg                   |

**Mounting**

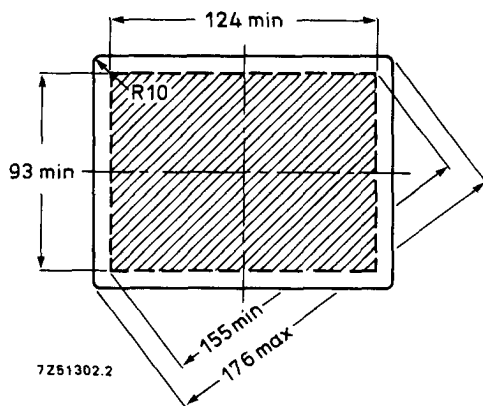
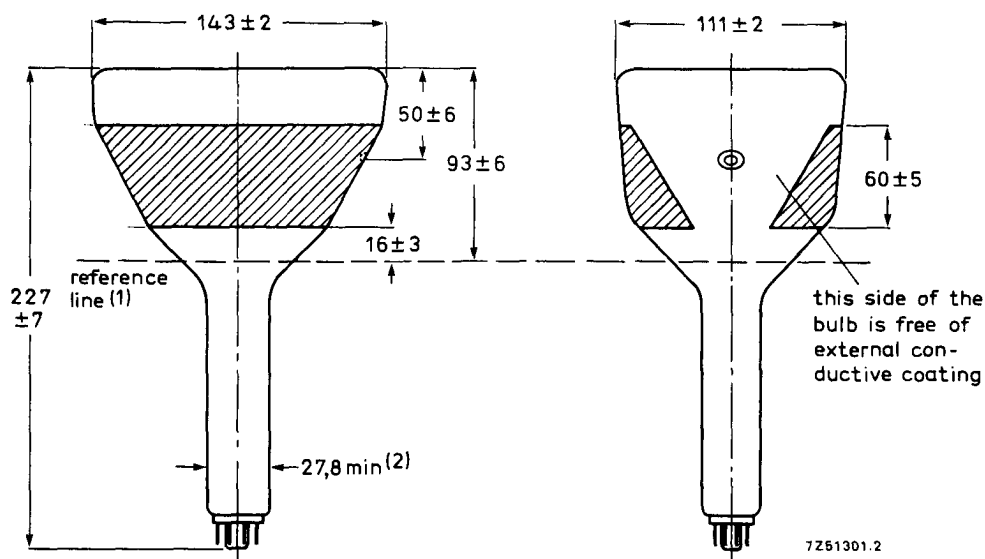
The tube can be mounted in any position. It must not be supported by the socket and not by the base region alone.

**Accessories**

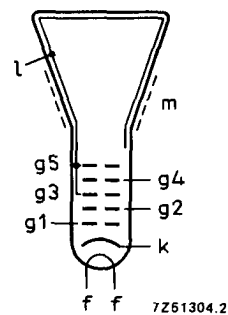
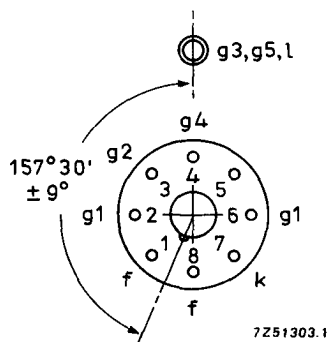
|                                     |        |
|-------------------------------------|--------|
| Final accelerator contact connector | 55563A |
|-------------------------------------|--------|

MECHANICAL DATA

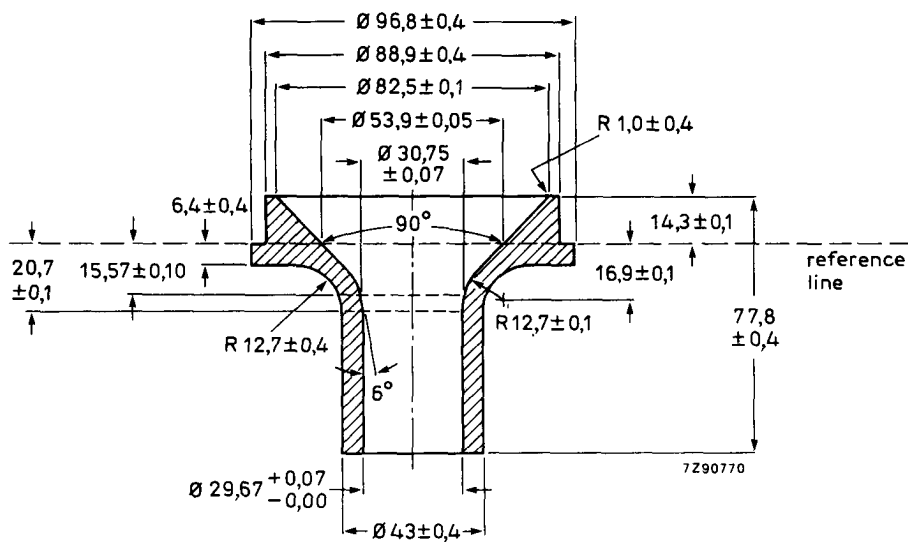
Dimensions in mm



- (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                             | $V_{g3,g5(l)}$ | 14 kV       |
| Focusing electrode voltage                            | $V_{g4}$       | 0 to 400 V* |
| First accelerator voltage                             | $V_{g2}$       | 400 V       |
| Cut-off voltage for visual extinction of focused spot | $-V_{g1}$      | 30 to 62 V  |

# RESOLUTION

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

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

min. 1050 TV lines

# LIMITING VALUES

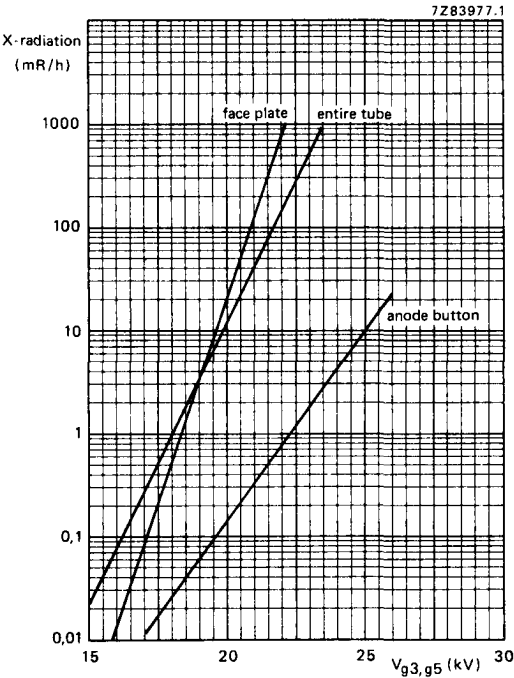
|                            |                       |                          |
|----------------------------|-----------------------|--------------------------|
| Final accelerator voltage  | $V_{g3,g5(l)}$        | max. 16 kV<br>min. 12 kV |
| Focusing electrode voltage | $V_{g4}$<br>$-V_{g4}$ | max. 1 kV<br>max. 0,5 kV |
| First accelerator voltage  | $V_{g2}$              | max. 800 V<br>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  $\mu\text{A}$ .

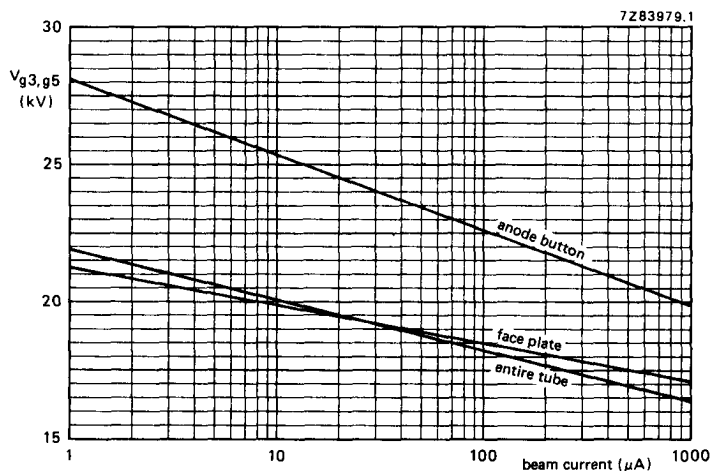
\*\* Catalogue number 3322 142 11401; supplied with directions for use with each tube.

▲ 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.



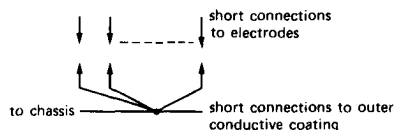
0,5 mR/h isoexposure-rate limit curves, measured according to TEPAC103A.

### Product safety

X-ray shielding of the cone is advisable to give protection against possible danger of personal injury arising from prolonged exposure at close range to this tube when operated above 14 kV.

### 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:



7Z75269

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