



# AG 66

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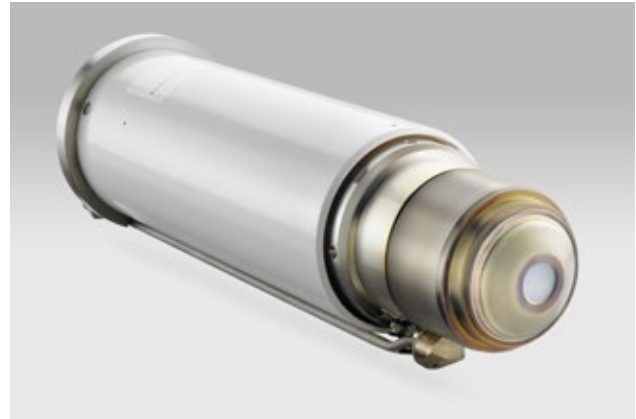
# Intended use

## Non-medical application area

The X-ray tube assemblies AG 66\* are designed for XRF (X-ray Fluorescence spectrometry) applications.

## Abstract

The X-ray tube assemblies AG 66 have a stationary anode tube with a water cooled anode that is at high voltage potential. The circular tungsten filament (cathode) is at ground potential. The exit window is made of beryllium\*\*.



# Technical data

Electrical data (Direct Current Voltage) depending on the anode material (see table below).

### Electrical data

Anode material:	Rh	W	Mo	Au	Cr
Max. power in kW	3.00	3.00	3.00	3.00	2.70
Tube voltage:	Max. 60 kV				
Tube current:	Max. 100 mA (150 mA for Rh)				
Continuous filament current:	Max. 12.0 A ( $U \leq 11.5$ V)				
Fuse protection of heating circuit:	Max. 12.5 A				
Emission reached at 20 kV:	150 mA (for Rh)				
Damping resistance in the generator:	10 k $\Omega$ (20 kHz)				

### Analytical data

Radiation exit window:	0.127 mm Be
	0.075 mm Be
Circular focal spot dimensions:	$\varnothing_{\text{inner}}$ approximately 8.5 mm
	$\varnothing_{\text{outer}}$ approximately 18.0 mm

\*AG 66 is a general name for this type of X-ray tube assembly, which is available with different anode materials (Rh, W, Mo, Au and Cr) and two different types of Be exit window: 0.075 mm and 0.127 mm. The anode material is given on the type label.  
The 0.075 mm window option is indicated by the "W-75" designator on the type label.

\*\*Please note: beryllium (Be) is dangerous to human health: please avoid touching the exit window of a tube!

### Cooling system

#### Cooling system at cathode side:

Cooling water temperature:	$\leq 40^{\circ}\text{C}$
Cooling water quantity:	$\geq 2\text{ l/min}$
Nominal pressure:	0.7 MPa
Pressure drop at 4 l/min:	Max. 0.32 MPa

#### Cooling system at anode side:

Conductance:	Max. $2.5\text{ }\mu\text{S/cm}$
Cooling water quantity:	4 l/min

The cooling of the anode is realized in a closed loop with recycled and deionized water.

**Note:** The anode cooling and the cathode cooling can be organized in one cooling water circuit that is connected in series.

### Radiation leakage

Threshold:	$\leq 12\text{ }\mu\text{Sv/h}$
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Tube assembly tested by single conformity inspection.

### Transport and storing

Permissible air pressure:	570 ... 1052 hPa
Permissible humidity:	According to DIN 50016 (at $50^{\circ}\text{C}$ 92%)
	According to DIN 50016 (at $23^{\circ}\text{C}$ 83%)
Permissible temperature range:	$-20^{\circ}\text{C} \dots +80^{\circ}\text{C}$
Permissible temperature gradient:	Max. $20^{\circ}\text{C/h}$

### Operating conditions

The X-ray tube is suitable for operations in vacuum, dry air and helium.

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