

**Technical details for parasitic X-ray emitters
(pursuant to Annex 2 no. 5 RöV)**

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To be submitted in duplicate to: Bundesamt für Strahlenschutz, Bauartzulassungen, Postfach 10 01 49, 38201 Salzgitter, Germany (contact: bauartzulassung@bfs.de)

PLEASE NOTE: Details that are to be treated as a company secret or trade secret and are not meant to be reproduced in the approval document must be marked accordingly.

1. Applicant (company, address, contact details including email and/or phone nr.)

	<input type="checkbox"/> Manufacturer <input type="checkbox"/> Distributor
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2. Details on the appliance

2.1 Type designation / trade name

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2.2 Manufacturer (company, address, if different from 1)

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2.3 Type of appliance / usage

<input type="checkbox"/> Vacuum interrupter <input type="checkbox"/> Electron beam facility / electron microscope <input type="checkbox"/> Other usage: _____
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2.4 Maximum operating conditions

Details for vacuum interrupters	Details for other parasitic X-ray emitters
Attention should be paid to BfS communication as of 9 August 2005 (see p. 4) Minimum contact clearance: _____ mm RMS rated voltage (test value): _____ V _{eff} Further information:	Maximum voltage used for electron acceleration (high voltage): _____ kV Information on operating method:

2.5 Description of the appliance

e.g. model, design and material, origination and radiation pattern of the parasitic radiation, essential radiation protection features, details on casing, insulating gas (if applicable) and/or details on the touchable surfaces of the appliance (cf. page 4: BfS communication as of 9 August 2005, item 2)

Supporting documents enclosed

3. Documents required for type determination

3.1 Type drawings of the appliance

Technical drawings conforming to standard, which provide a precise and complete overview of the design, dimensions and material of the appliance with respect to the essential radiation protection features

Drawing number	Subject	Version / date

- Technical details required for type approval procedures pursuant to RöV, Annex 2 no. 5 (parasitic X-ray emitters) -

3.2 Further application documents, existing certificates

in addition, if available, drawings and documents in electronic form

Documentation number / data medium	Documentation name / subject	Version / date

3.3 Additional technical measures

Description of additional technical measures and safety components ensuring radiation protection (if applicable), references to further technical regulations (if applicable)

3.4 *Operating instructions*

The appliance is operated independently; operating instructions in German language are enclosed indicating the essential radiation protection features.

Title: _____

No. _____ Published as of _____

The X-ray tube housing assembly is intended for integration into X-ray equipment, remarks:

Documents and/or copies enclosed

Operating instructions in German language will be filed later

Further information:

Date

Signature and company stamp

BfS communication

Type approval and operation of vacuum interrupters pursuant to Articles 5, 8 and Annex 2 no. 5 of the X-ray Ordinance (RöV)

here: vacuum interrupters, normal operating conditions, operating parameters

In the case of Articles 5, 8 and Annex 2 no. 5 RöV compliance with the following framework conditions must be ensured.

1. With respect to the voltage of 30 kV used for electron acceleration as stipulated in Article 5 RöV para. 2 and 3, the reference value to be considered in the case of vacuum interrupters shall be the rated voltage (peak value).
Consequently, types of vacuum interrupters with a rated voltage peak value of $\leq 30\text{kV}$ do not require type approval; such equipment may be operated without authorization or notification.

It must be noted, however, that a local dose rate of 1 microsievert per hour at a distance of 0.1m from the touchable surface must not be exceeded for the RMS rated value relating to normal operating conditions. The parasitic X-ray emitter (appliance) must bear sufficient labelling indicating the requirements pursuant to Article 5 para. 2 no. 2 RöV.
2. The distance of 0.1m as set out in Article 5 para. 2 no. 1 and in Annex 2 no. 5.1 RöV shall be measured from the actual touchable surface of the appliance. Existing electrotechnical safety arrangements and/or safety components may be taken into account in this respect.

In the case of vacuum interrupters with a rated voltage peak value exceeding 30kV compliance with the requirements (distance is ensured, local dose rate is observed) with respect to the appliance in question has to be demonstrated in the course of the relevant type approval procedure. In the event that compliance is not demonstrated the vacuum interrupter's surface shall be taken into account, as before.
3. According to Article 6 para. 1 RöV commercial testing, trial, service and maintenance (no. 1) of vacuum interrupters as well as testing and trial on the manufacturer's premises (no. 2) must be notified to the competent authorities, irrespective of the fact whether the operation of the vacuum interrupters is subject to a type approval or authorization pursuant to the X-ray Ordinance (RöV).
4. With immediate effect, the Physikalisch-Technische Bundesanstalt (PTB) will use the RMS rated voltage as test voltage for the type examination of vacuum interrupters instead of the rated short-duration power-frequency withstand voltage.

Berlin, 9 August 2005