## X-Ray Tubes

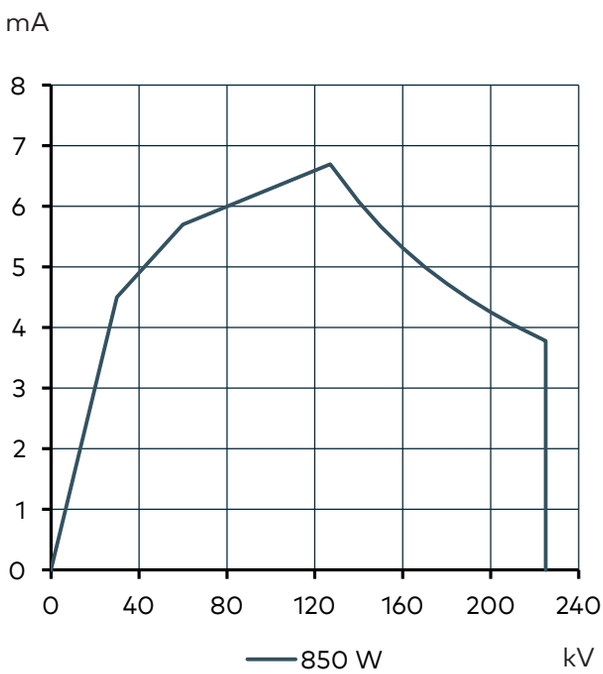
# MXR-225HP/15/04-04

### Product Description

The MXR-225HP/15/04-04 is an unipolar water-cooled X-ray tube assembly with integrated radiation protection. It comprises two thermally separated focal spots, a high power tungsten anode and a directional beam. The tube is designed for inline CT applications.

### Power rating chart

**Power rating at a given filament current**




x-ray

## Product Specifications

| | |
|---|---|
| Nominal tube voltage | 225 kV |
| Continuous rating | 850 W |
| Maximum cycling rating[1] | 650 W |
| Focal spot acc. ASTM E1165-20[2] | d = 0.4 mm \| d = 0.4 mm |
| Focal spot class acc. ASTM E1165-20[2] | FS 11 |
| Filament current, max | 3.0 A \| 3.0 A |
| Filament voltage, typical | 2.9 V \| 2.9 V |
| Inherent filtration | 0.8 ± 0.1 mm Be |
| Target material | W |
| Target angle | 15° |
| Radiation coverage | 50° x 40° |
| Leakage radiation, max at loading factors in 1 m distance PTB Type Approval | 5 mSv/h |
| Weight | 9.6 kg |
| Terminal type | R24 |
| Gapping spring-loaded HV-cable | 2 rings visible (~ 7 mm) |
| Gapping non-spring-loaded HV-cable | 5.5 - 6 mm |
| Grease quantity for HV-cable terminal | 1.2 ml |
| Product No. | 915430.51 |

### Cooling

| | |
|---|---|
| Cooling medium | Water |
| Cooling medium flow, min. | 4 l/min |
| Cooling medium temp. at inlet, max. | 35° C |
| Pressure at cooling medium inlet, max. | 6 bar |
| pH value of cooling medium | 6.8 - 8 |
| Hardness of cooling medium | ≤ 10 °fH |
| Mesh size of cooling medium filter | 150 µm |
| Post-cooling time after switchoff, min. | 2 min |

1 Definition of cyclic rating: More than 15 ON/OFF cycles per day or more than 3000 cycles per year. Cycles include both ON/OFF and changes in set-points (kV and mA).

2 ASTM E1165-20 and DIN EN ISO 32543-1:2025-12 describe the same focal-spot size measurement procedure.

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## General Information

### General

The control of high-voltage, tube current and filament current as well as the design of the cooling system and the radiation protection are within the responsibility of the integrator. Settings in the generator must assure that the X-ray tube will be protected against overcurrent, overvoltage and lack of cooling. Otherwise the tube and/or the radiation protection may be damaged and become a hazard. For detailed instructions always refer to the "X-Ray Tube Manual."

### Radiation protection

When installing an X-ray tube assembly into an X-ray equipment and/or operating an X-ray equipment, the responsibility for radiation protection is with the integrator. Compliance with local regulatory requirements and limit values must be assured. After each tube exchange, repair, modification or upgrade of the unit, radiation protection integrity should be performed. Any modification of a Comet product will result in the warranty being invalidated.

### Connection of the X-ray tube

High-voltage cables must be installed by trained personnel only. Please proceed with the installation as follows: Cleaning, greasing and gapping. Respect the cleanliness, the correct amount of grease and the correct pressure of the plug inside the high-voltage receptacle.

### Cooling

The integrator is in charge that the cooling circuit is properly connected to the cooling system. Prior to operating the tube, the cooler must be turned on. Make sure that the coolant flow meets the required cooling conditions and is monitored. If any of the cooling conditions is not met, the high-voltage has to be switched off immediately. When the tube is switched off intentionally, the coolant flow must continue for at least two minutes in order to protect the anode and the lead protection from overheating.

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