

Title (en)

CONTROL CIRCUIT AND SPEED CONTROL OF THE ROTATION OF A ROTOR, ESPECIALLY THE ONE OF A ROTATABLE-ANODE X-RAY TUBE

Publication

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Application

EP 81401155 A 19810721

Priority

FR 8016491 A 19800725

Abstract (en)

[origin: EP0045675A1] 1. Circuit for control and regulation of the speed of rotation of a rotor (1), in particular for the drive of a rotating anode in an X-ray tube of the type in which said rotor (1) disposed in the interior of a glass envelope (2) is driven with the aid of a rotating magnetic field produced by means of a stator (3) situated on the outside of the envelope (2) and comprising at least two pairs of windings (4, 5), of which the first constitutes the main phase (4) and the second the auxiliary phase (5) and of which the respective axes of symmetry perpendicular to the axis of rotation of the rotor are angularly offset with respect to each other, said two phases (4, 5) being connected together by one of their terminals to form a common supply terminal (9) coupled to one of the terminals (13) of a monophasic alternating voltage source (10), the other terminal (6) of the main phase (4) being connected directly and the other terminal (7) of the auxiliary phase (5) being connected by way of a phase shift capacitor (8) to the other terminal (11) of the monophasic source (10), the circuit comprising first comparison means (54) for comparing the voltage of the main phase (4) with a fixed and predetermined reference level, which furnish a first signal when the main phase voltage exceeds the reference voltage, and second comparison means (80) for comparing the voltages of the main phase (4) and the auxiliary phase (5) with an adjustable value, characterized in that the second comparison means (80) supply a second signal which indicates that the ratio of the voltages taken respectively from the terminals (6-9, 7-9) of the auxiliary phase (5) and of the main phase (4) has reached or exceeded an adjustable value corresponding to a chosen desired speed, and that it comprises combination means for combining the first and the second signal furnishing on the simultaneous presence of said signals a third signal indicating that the two aforementioned conditions are fulfilled, in particular to permit the application of the very high voltage to the electrodes of the X-ray tube.

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