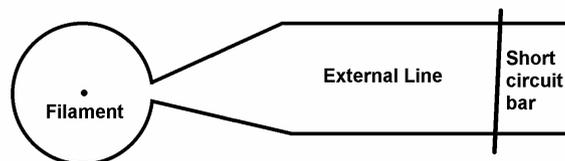


GEC Type 5 - Experimental Magnetron



This magnetron is quite small, about 100 mm high by 25 mm diameter. The anode split cylinder measures about 10 mm by 2 mm, tapered ends welded to the L-shaped top pins. The filament looks very tiny, 0.1 mm diameter or so. A number 395 is stamped on a small label in the bulb nearby the glass press. The construction appears simple but very clean, sturdy and accurate.

Our sample is an improved split-anode magnetron with back loop, usually designed to operate at very-high frequencies. The edges of the single opening in the anode cylinder go the external section of the resonant line, the tuning being adjusted through the moving short-circuit bar.



The magnetron could oscillate at any frequency for which the length of the line is $n\lambda/2$, where λ is the wave-length of the oscillation. The length of the internal line section up to the top pins is about 3 cm. Even if it is difficult to imagine what the circuit was on the bench in which the prototype was tested, we can assume based on the dimensions of the electrodes that it was made to work around 10 cm or even at higher frequencies. The size of the electrodes is comparable with that of the magnetron described by [Runge](#) for 10 cm operation. It could be dated from 1937 onwards. It cannot be excluded that it was designed between July 1940 and the first half of 1941 as a local oscillator for the 10 cm radar receiver, as an alternative solution to the 'Sutton oscillator'.