



Triode Type BW189

HF AMPLIFIER AND OSCILLATOR

General. The BW 189 is a water-cooled transmitting triode fitted with a thoriated tungsten filament.

Cooling. The anode forms part of the valve envelope and is designed for cooling by water circulating in direct contact with the valve envelope. The rated flow of the cooling water is 15–20 gallons per minute. The temperature of the cooling water at the outlet must not exceed 65°C and the temperature rise across the jacket must not exceed 15°C.

The external grid and filament seals require air cooling, the volume of air necessary being 20 cu. ft. per minute, directed vertically downward from a 1-in. nozzle. The temperature of the grid and filament seals must not exceed 140°C.

The anode seal also requires forced air cooling. An air blast must be supplied through the corona ring which is fitted to the valve jacket. The pressure at the ring is required to be 1 in. water gauge. The temperature of the anode seal must not exceed 180°C.

All cooling supplies must be started before the application of any supply voltage and must be continued for at least one minute after the removal of all supply voltages.

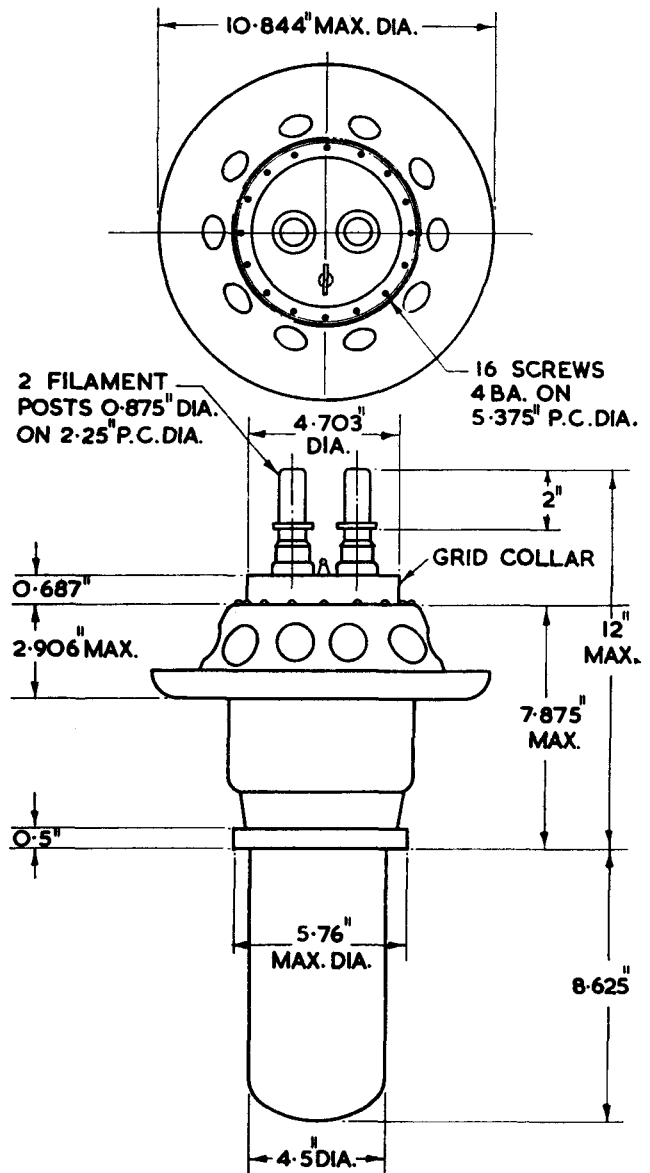
Filament Starting. The cold filament resistance is approximately 0.004Ω. The filament current must not exceed 600 A, even momentarily, at any time.

APPROXIMATE DATA

$*V_f$	9	V
I_f	240	A
I_k (pk.) (max.)	70	A
V_a (max.)	12	kV
P_{a+pgl} (max.)	35	kW
P_{gl} (max.)	1.25	kW
μ	34	
g_m	27.5	mA/V
$\dagger f$ (max.) (at full ratings)	20	Mc/s
C_{a-gl}	61	pF
C_{a-k}	1.5	pF
C_{gl-k}	68	pF

* The valve must be operated at marked filament voltage.

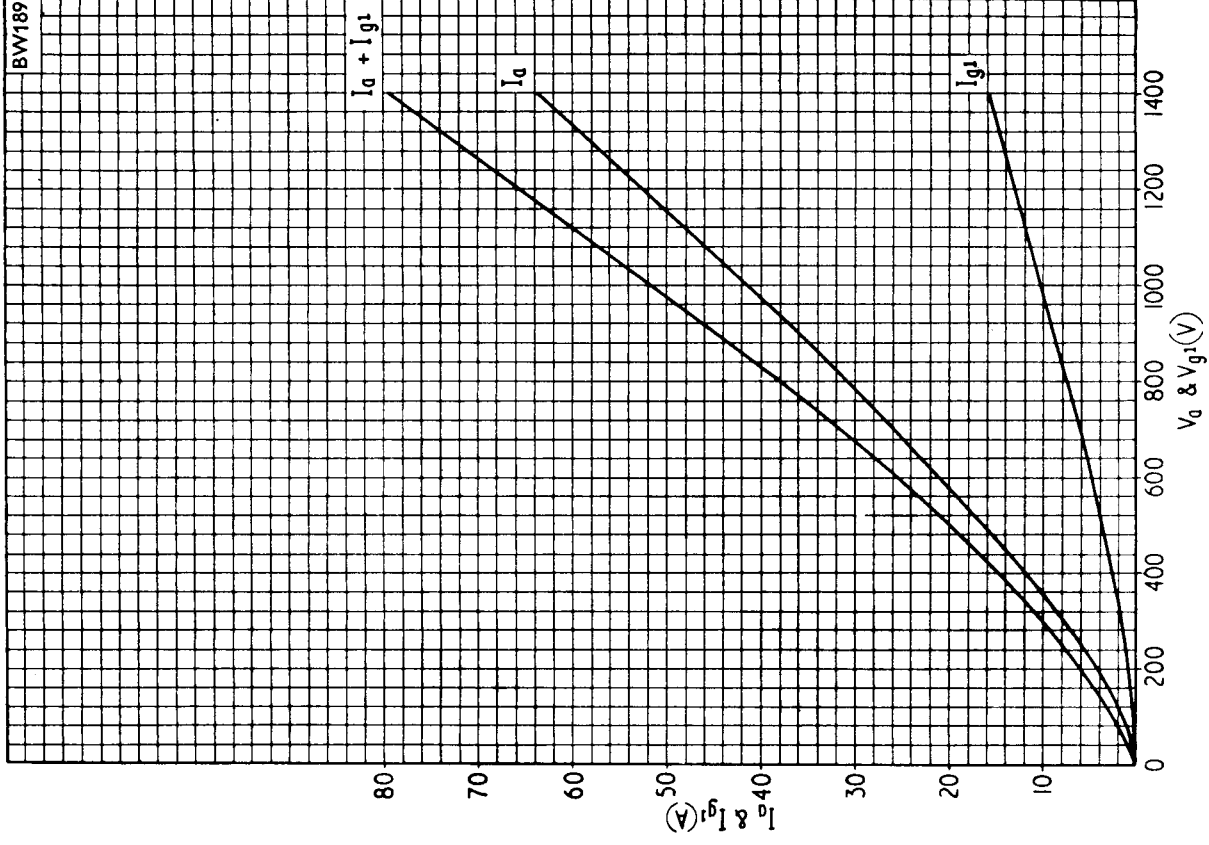
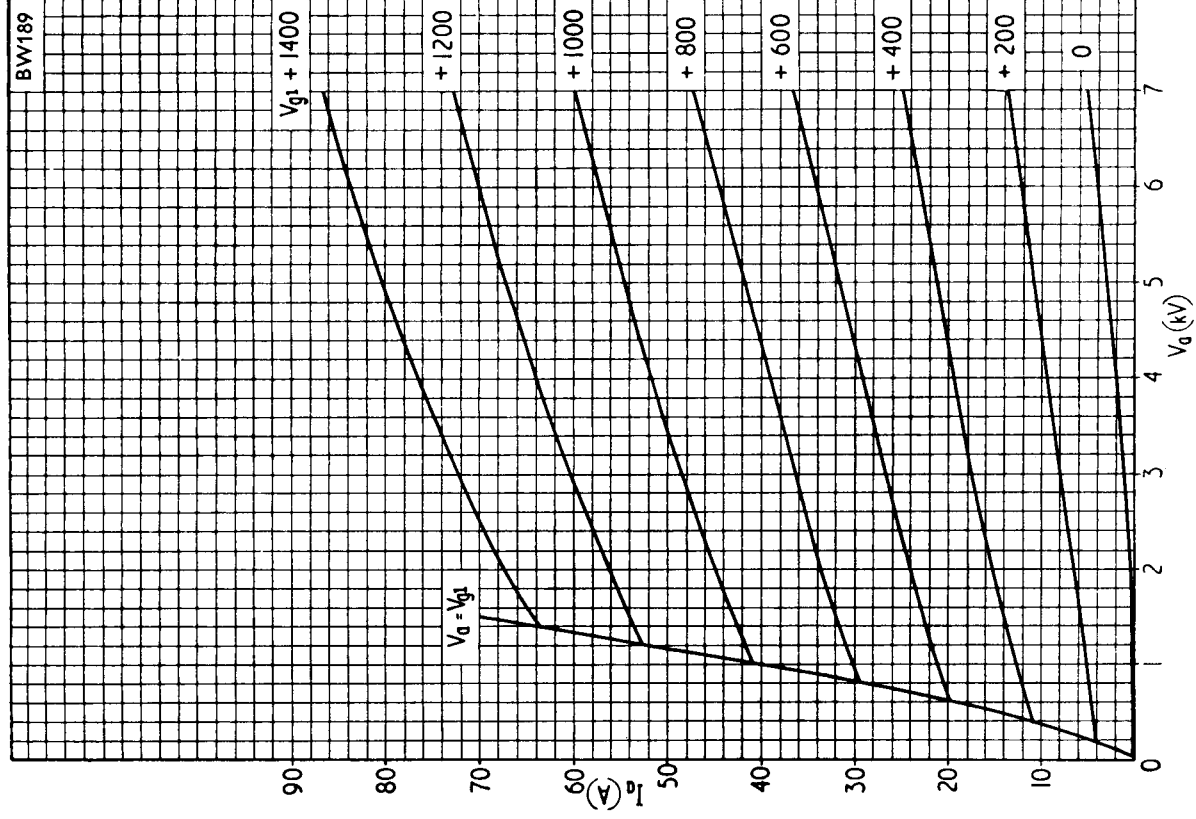
† Reduced ratings ($V_a=8$ kV) up to 50 Mc/s.

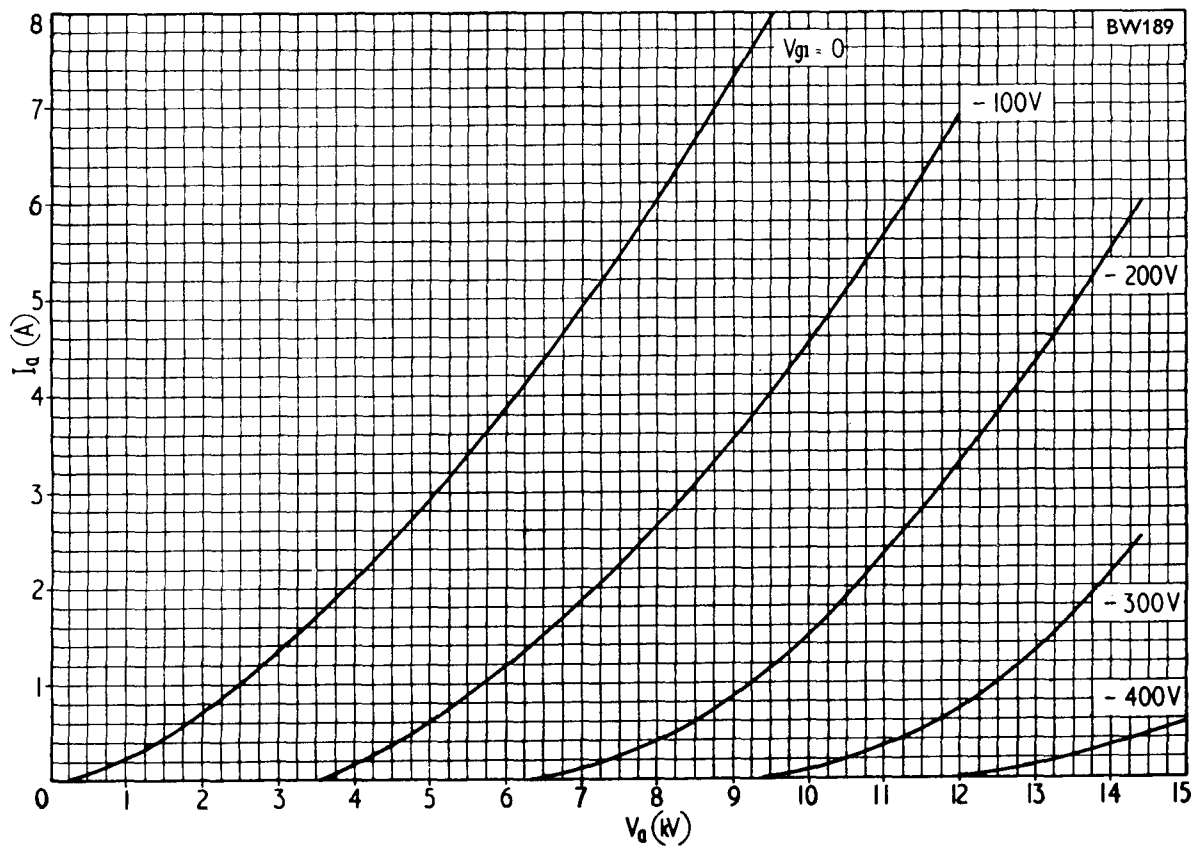
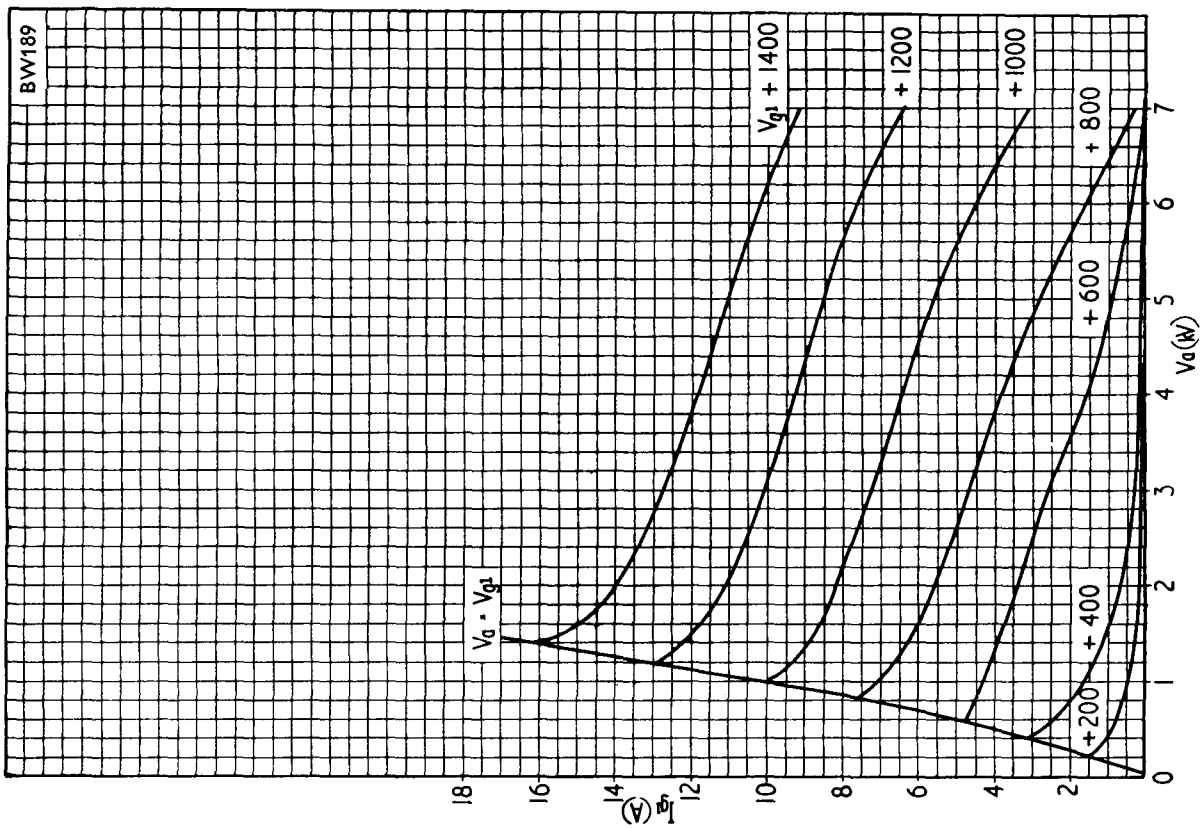


THIRD ANGLE PROJECTION
USED ON THIS DRAWING.

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