

# engineering TUBE DATA

F-6920  
PULSE  
TRIODE



*Components Division*

## DESCRIPTION

The F-6920 is a three electrode tube designed for pulse applications as a hard tube modulator. The anode is capable of dissipating 10 kilowatts exclusive of filament power. Cooling is accomplished by forced air. The cathode is a thoriated tungsten filament.

## ELECTRICAL

Filament Voltage	11 volts
Filament Current	285 amperes
Filament Starting Current	1000 amperes
Amplification Factor	
$I_b = 2$ amperes; $E_c = -50$ volts	41
Plate Cut-Off	
$E_p = 30$ kilovolts; $E_g = -1$ kilovolt	.1 max. ma
Direct Inter-electrode Capacitances	
Grid-Plate	34 $\mu\text{f}$
Grid-Filament	75 $\mu\text{f}$
Plate-Filament	2.6 $\mu\text{f}$

## MECHANICAL

Mounting Position	Vertical, Anode Down
Type of Cooling	Forced Air
Maximum Incoming Air Temperature	50°C
Required Air Flow on Anode	
Plate Dissipation <sup>†</sup>	10    8    5    kilowatts
Air Flow	800   700   500   cfm
Static Pressure	2.75   2    1 inches of water
Maximum Glass Temperature	180°C
Net Weight, approximate	60 pounds

<sup>†</sup>This does not include filament excitation power.

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**ITT COMPONENTS DIVISION**  
INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

P. O. BOX 412, CLIFTON, NEW JERSEY

F-6920  
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MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Maximum Ratings, Absolute Values

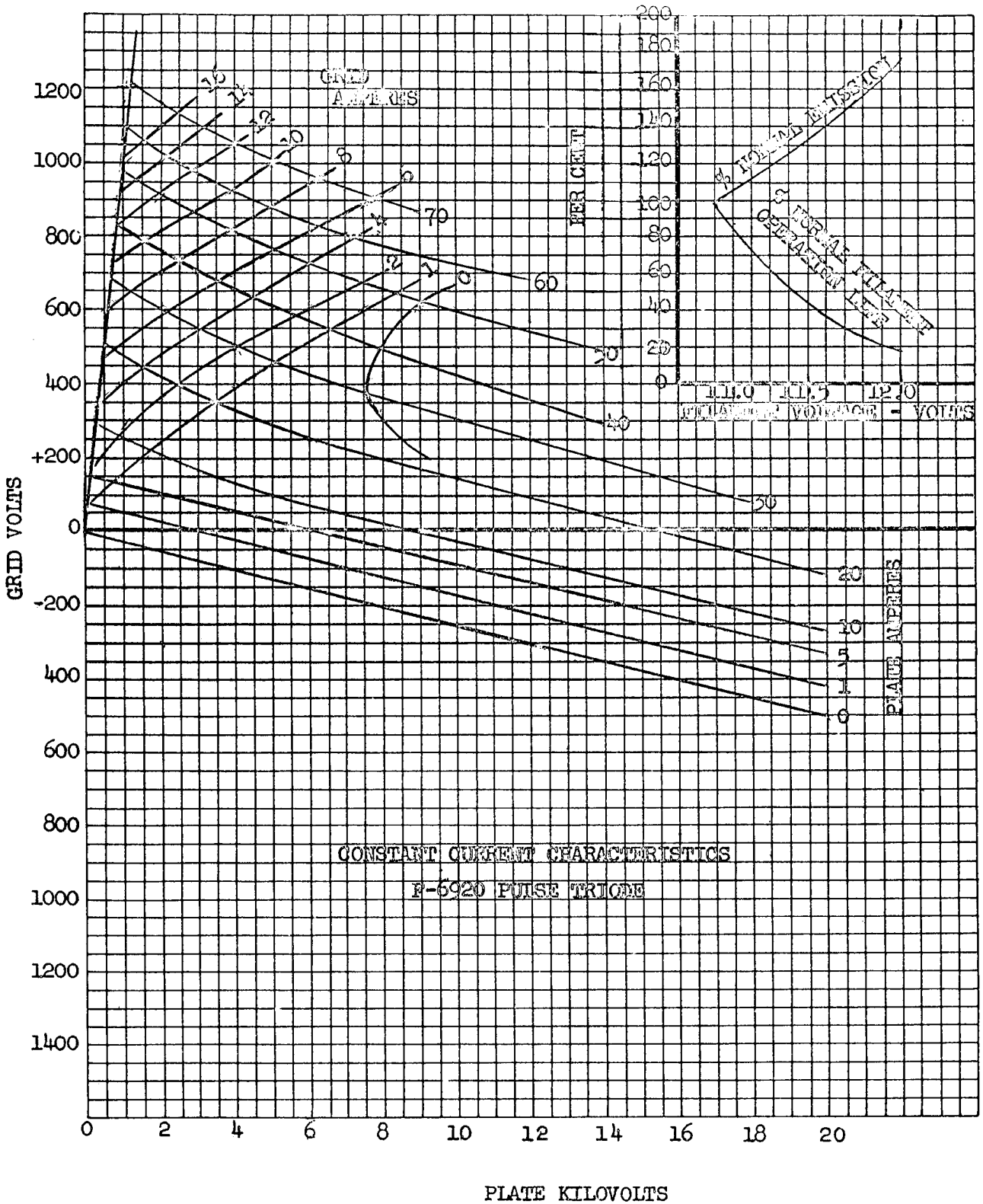
D-C Plate Voltage	35	35*	max. kilovolts
Peak Positive Plate Voltage (Instantaneous)	40	40*	max. kilovolts
D-C Grid Voltage	-2.0	-2.0*	max. kilovolts
Peak Positive Grid Voltage	5	5*	max. kilovolts
Pulse Plate Current	100	150*	max. amperes
Pulse Grid Current	65	100*	max. amperes
Plate Dissipation	10	10*	max. kilowatts
Grid Dissipation	2	2*	max. kilowatts
Duty Factor	.002	.002*	max.
Pulse Length	15	15*	max. $\mu$ seconds
Pulse Cathode Current	140	200*	max. amperes

Typical Operation

D-C Plate Voltage	18	30*	kilovolts
Pulse Plate Current	90	150*	amperes
D-C Grid Voltage	-1.2	-1.0*	kilovolts
Pulse Grid Current	25	50*	amperes
Pulse Positive Grid Voltage	2.8	4*	kilovolts
Duty Factor	.0008	.001*	
Pulse Length	1	.25*	$\mu$ seconds
Plate Output Voltage	16.5	27.5*	kilovolts

\*These ratings apply only under elevated filament temperatures as specified as follows:

	Min.	Bogey	Max.
Filament Voltage	11.5	11.9	12.3 volts
Filament Emission $E_f = 11.6$ v. $E_p = E_g = 3$ kv.	170		amperes



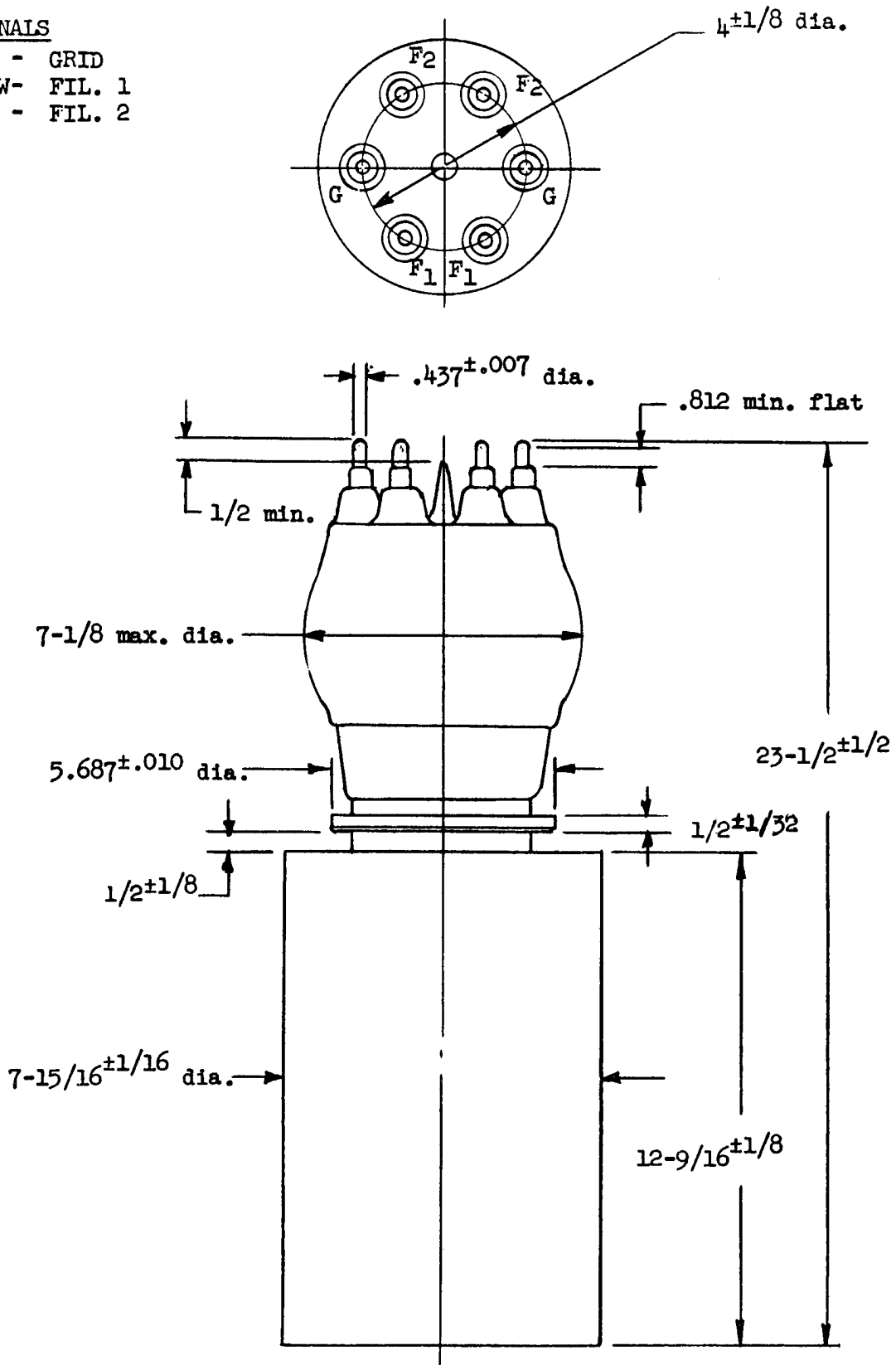
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TERMINALS

- BLACK - GRID
- YELLOW- FIL. 1
- RED - FIL. 2



OUTLINE  
F-6920 PULSE TRIODE