

FEDERAL POWER TRIODE

Type F-129-B

7.5 Kilowatts Plate Dissipation



GENERAL DATA

DESCRIPTION:

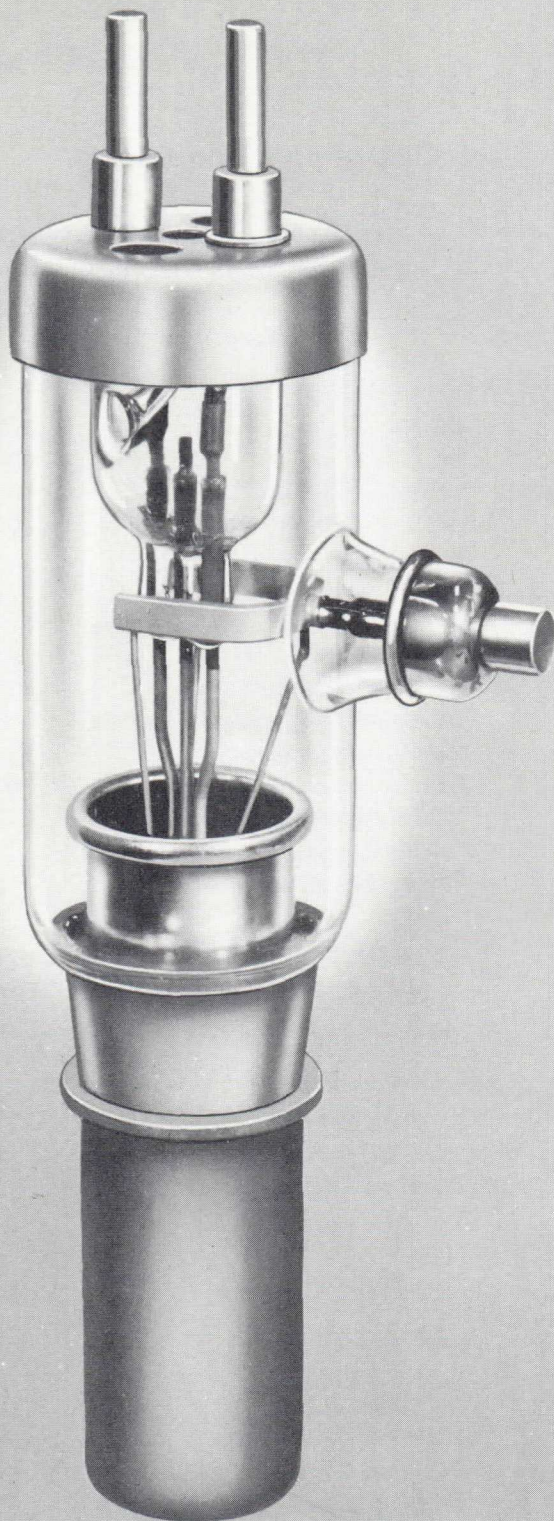
Federal's F-129-B is a three-electrode tube designed for use as a radio-frequency power amplifier, oscillator, or Class B modulator. The anode, water cooled, is capable of dissipating 7.5 kilowatts. The cathode is a pure tungsten filament. Maximum ratings apply up to 30 megacycles.

Electrical:

► Filament Voltage	18 Volts
► Filament Current	58 Amperes
► Filament Starting Current	115 Amperes Max.
► Filament Cold Resistance	.024 Ohms
► Peak Cathode Current	9.5 Amperes
► Amplification Factor	
$I_b = 0.8$ Amp.;	
$E_c = -100$ Volts	26
► Interelectrode Capacitances	
Grid-Plate	12.0 $\mu\mu\text{f}$
Grid-Filament	12.7 $\mu\mu\text{f}$
Plate-Filament	1.8 $\mu\mu\text{f}$

Mechanical:

► Mounting Position—	
Vertical, Anode Down	
► Type of Cooling—Water	
Minimum Water	
Flow on Anode	5 GPM
Maximum Outgoing	
Water Temperature	70° C
Maximum Glass	
Temperature	150° C
► Net Weight, approximate	2 Pounds



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Federal's F-129-B is operative at full ratings up to a frequency of 30 megacycles.

Maximum Ratings and Typical Operating Conditions

AUDIO-FREQUENCY POWER AMPLIFIER AND MODULATOR—CLASS B

Maximum Ratings

DC Plate Voltage	12,000 Volts
Max. Signal DC Plate Current†	2 Amperes
Max. Signal Plate Input†	16 Kilowatts
Plate Dissipation†	7.5 Kilowatts

Typical Operation

(Unless otherwise specified, values are for two tubes)

DC Plate Voltage	10,000 Volts
DC Grid Voltage	—350 Volts
Peak A-F Grid to Grid Voltage	700 Volts
Zero Signal DC Plate Current	0.3 Amperes
Maximum Signal DC Plate Current	1.15 Amperes
Effective Load Resistance (plate to plate)	20,000 Ohms
Maximum Signal Driving Power, approximate	100 Watts
Maximum Signal Power Output, approximate	8 Kilowatts

†Averaged over any audio-frequency cycle of sine-wave form.

RADIO-FREQUENCY POWER AMPLIFIER —CLASS B

(Carrier conditions per tube for use with a maximum modulation factor of 1.0)

Maximum Ratings

DC Plate Voltage	12,000 Volts
DC Plate Current	1 Ampere
Plate Input	10 Kilowatts
Plate Dissipation	7.5 Kilowatts

Typical Operation

DC Plate Voltage	10,000 Volts
DC Grid Voltage	—350 Volts
Peak R-F Grid Voltage	530 Volts
DC Plate Current	0.8 Amperes
Driving Power, approximate‡	80 Watts
Power Output, approximate	2.5 Kilowatts

‡At crest of audio-frequency cycle with modulation factor of 1.0.

PLATE-MODULATED RADIO-FREQUENCY POWER AMPLIFIER—CLASS C TELEPHONY

(Carrier conditions per tube for use with a maximum modulation factor of 1.0)

Maximum Ratings

DC Plate Voltage	10,000 Volts
DC Grid Voltage	—1,500 Volts
DC Plate Current	1 Ampere
DC Grid Current	0.25 Ampere
Plate Input	9 Kilowatts
Plate Dissipation	5 Kilowatts

Typical Operation

DC Plate Voltage	8,000 Volts
DC Grid Voltage	—920 Volts
Peak R-F Grid Voltage	1,500 Volts
DC Plate Current	0.82 Amperes
DC Grid Current, approximate	0.097 Amperes
Driving Power, approximate	140 Watts
Power Output, approximate	5.3 Kilowatts

RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR—CLASS C TELEGRAPHY

(Key-down conditions per tube without amplitude Modulation)¶

Maximum Ratings

DC Plate Voltage	12,000 Volts
DC Grid Voltage	—1,500 Volts
DC Plate Current	2 Amperes
DC Grid Current	0.25 Amperes
Plate Input	18 Kilowatts
Plate Dissipation	7.5 Kilowatts

Typical Operation

DC Plate Voltage	12,000 Volts
DC Grid Voltage	—1,300 Volts
Peak R-F Grid Voltage	2,200 Volts
DC Plate Current	1.42 Amperes
DC Grid Current, approximate	0.11 Amperes
Driving Power, approximate	230 Watts
Power Output, approximate	12 Kilowatts

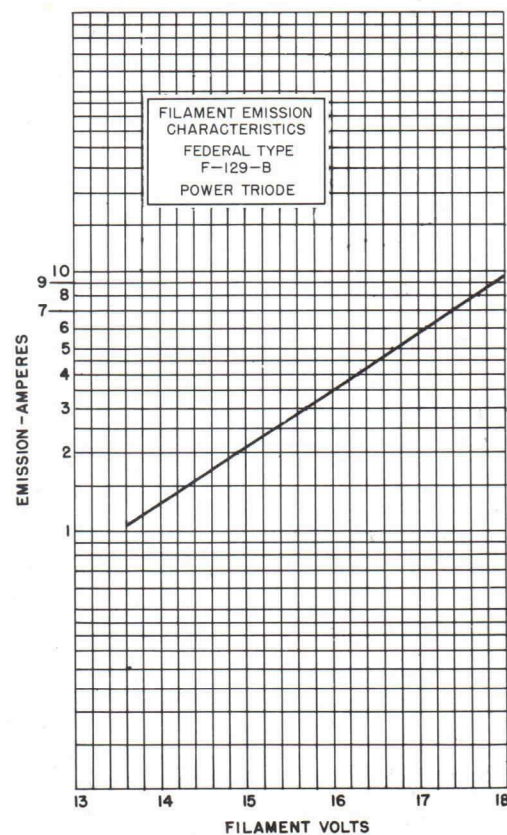
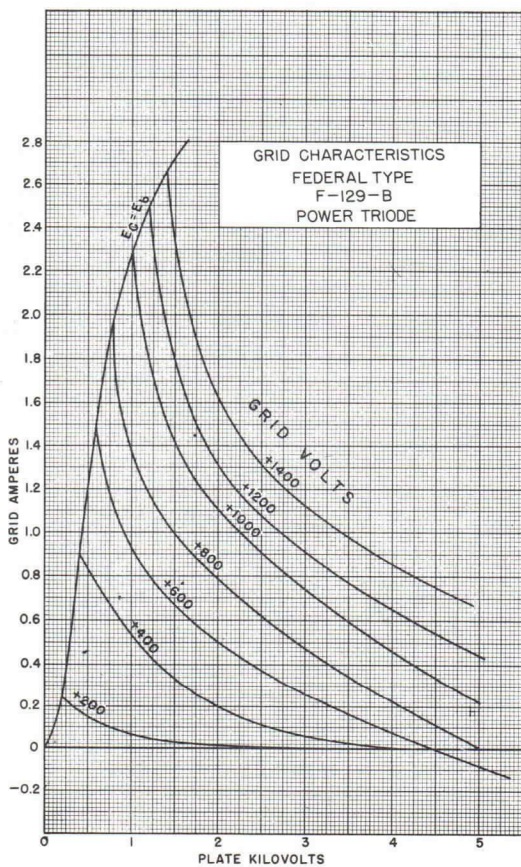
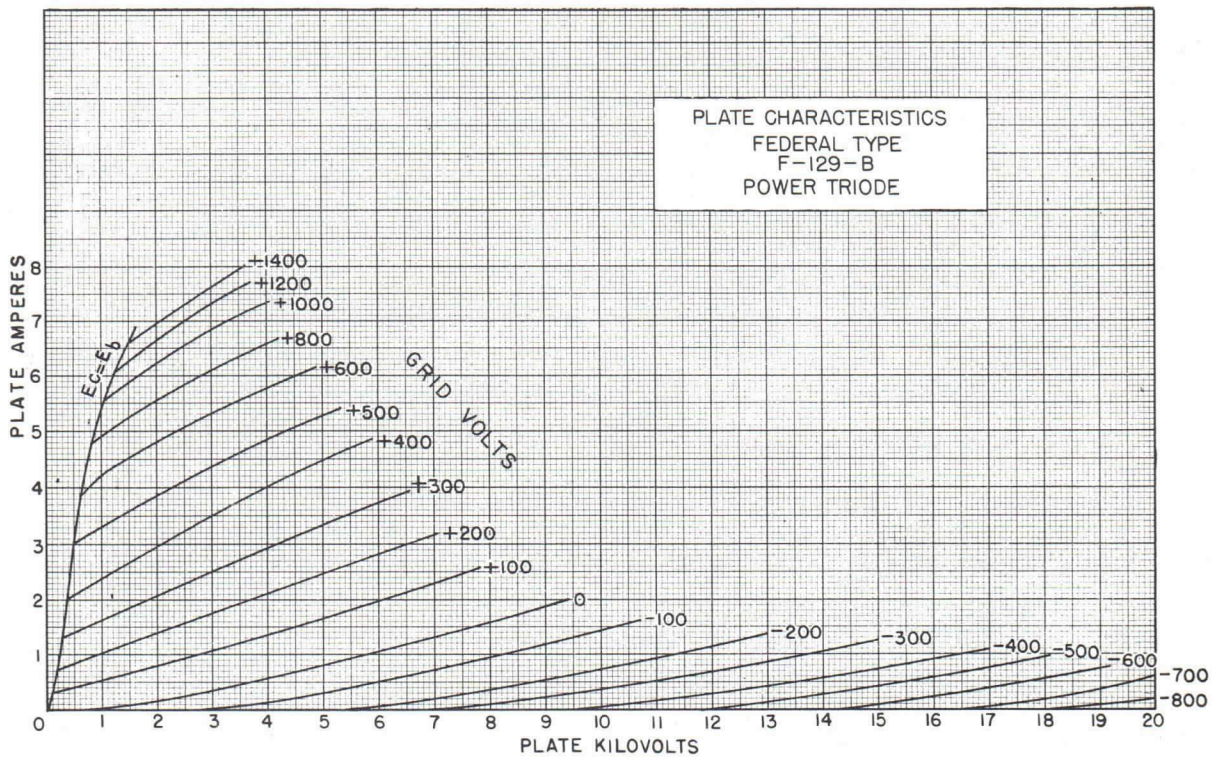
¶Modulation essentially negative may be used if the positive peak of the envelope does not exceed 115 per cent of carrier conditions.

Precision craftsmanship was initiated by Federal in the earliest days of tube manufacture, and has been maintained ever since.

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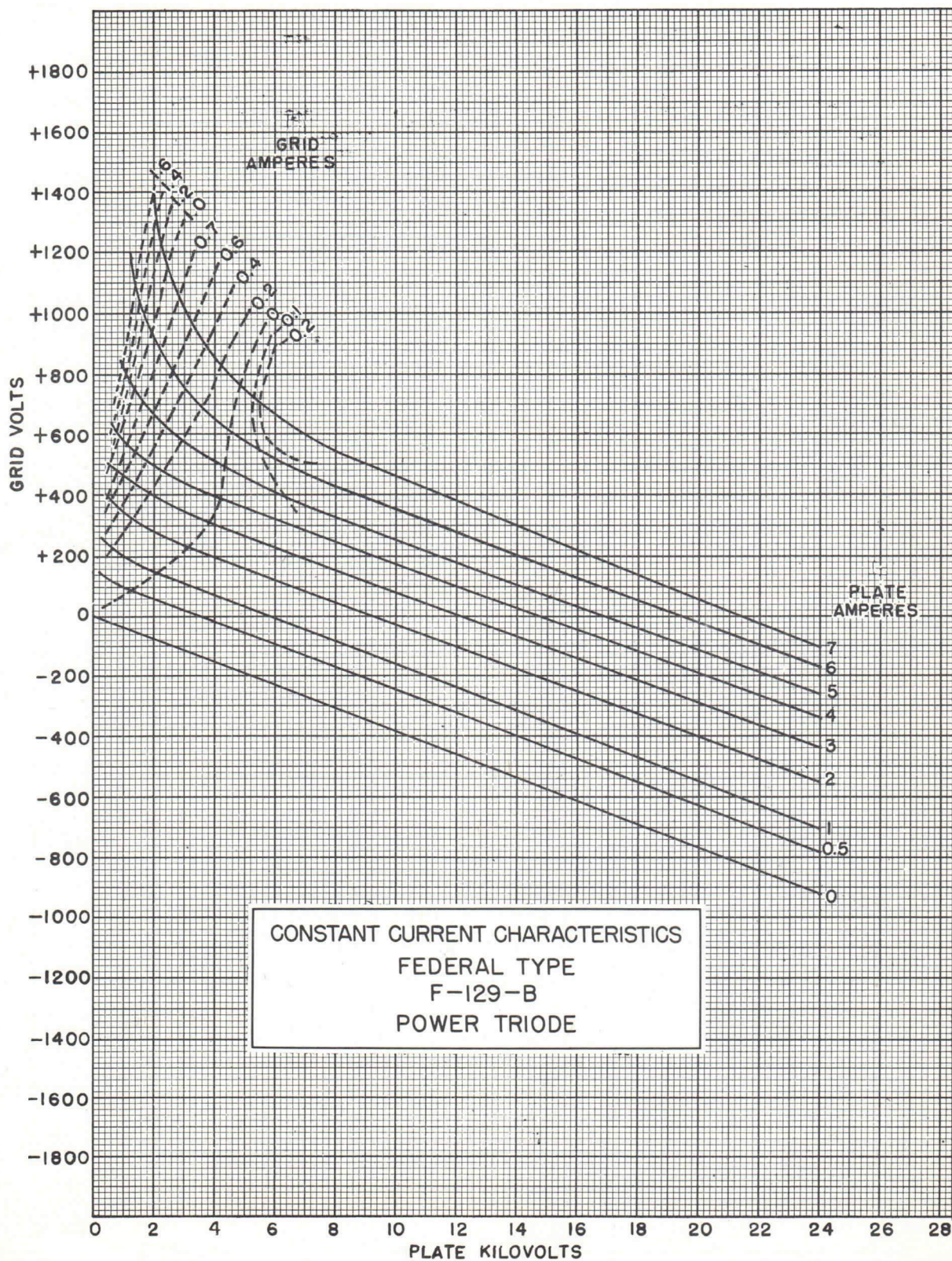
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The development of new tubes for new applications always has been a Federal specialty. Why not tell us your needs?

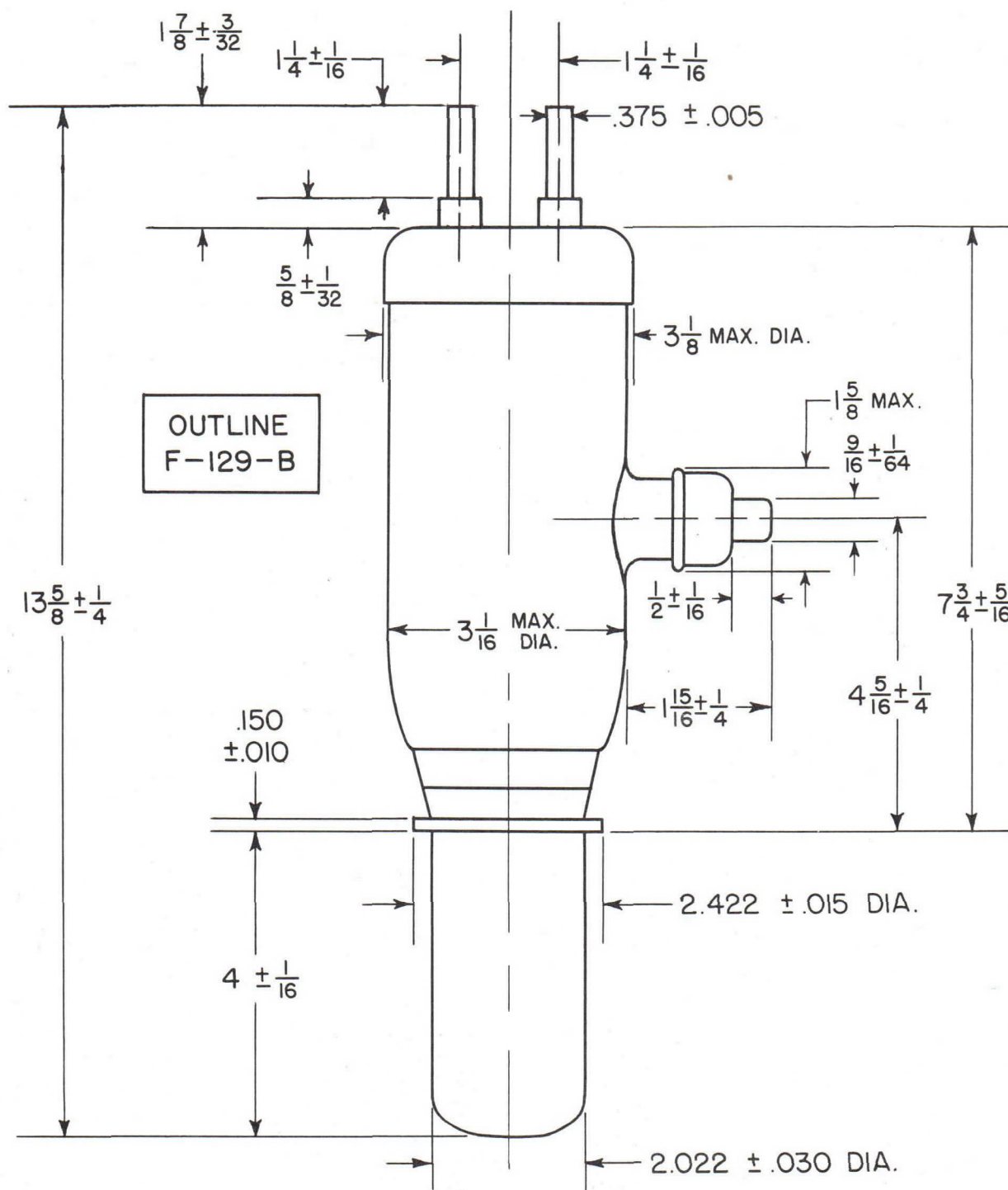


One reason why Federal tubes are trade-marked, is to show the craftsman's pride and Federal's satisfaction in work well done.

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**Federal Always Has
Made Better Tubes**