Załącznik nr 2 / **Attachment** *no 2*

Szczegółowy opis przedmiotu przetargu / A detailed description of the subject of the tender

Przedmiotem przetargu jest chłodzona cieczą lampa mocy typu 4CW150,000E tetroda firmy CPI Eimac Division lub jej zamiennik, który ma gwarantowane nie gorsze parametry niż przedstawione poniżej:

The subject of the tender is the liquid cooled power tube type 4CW150,000E produced by CPI Eimac Division or its substitute, which has guaranteed no worse parameters than the following:

Ogólna charakterystyka / General characteristic

ELECTRICAL

Filament: Thoriated Tungsten Mesh
Voltage ..... 15.5 ± 0.75 V
Current at 10.0 Volts ..... 215 A
Amplification Factor, Average, Grid to Screen..
Direct Interelectrode Capacitances (grounded cathode)[2]
Cin.....370 pF
Cout..... 60 pF
Cgp..... 1.0 pF
Direct Interelectrode Capacitances (grounded grid)[2]
Cin..... 175 pF
Cout..... 60 pF
Cpk..... 0.35 pF
Maximum Frequency for Full Ratings (CW).110 MHz
Maximum Frequency for Reduced Ratings 200 MHz

MECHANICAL

Maximum Overall Dimensions:
Length..... 14.25 in; 36.2 mm
Diameter..... 9.53 in; 24.21 mm
Net Weight..... 47 lbs; 21.4 kg
Operating Position..... Vertical, Base Up or Down
Maximum Operating Temperature:
Ceramic/Metal Seals..... 250°C
Anode Core..... 250°C
Anode Cooling ..... Water
Base Cooling ..... Forced Air
Base..... Special, Coaxial
Recommended Socket for dc to HF.... Eimac SK-2011A
Available Socket with reduced screen capacitance YC-100

RADIO FREQUENCY POWER AMPLIFIER
CATHODE GROUNDED
Grid driven Class C

ABSOLUTE MAXIMUM RATINGS:

DC ANODE VOLTAGE	22	kVdc
DC SCREEN VOLTAGE	2.5	kVdc
DC GRID VOLTAGE	-1.5	kVdc
DC ANODE CURRENT	20	Adc
ANODE DISSIPATION	150	kW
SCREEN DISSIPATION	1750	W
GRID DISSIPATION	500	W

TYPICAL OPERATION, below 30 MHz:

Anode Voltage	15	20	kVdc
Screen Voltage	1500	1500	Vdc
Grid Voltage	-750	-800	Vdc
Anode Current	12.4	15.2	Adc
Screen Current*	1.05	0.57	Adc
Grid Current*	120	125	mAdc
Driving Power*	1.4	2.0	kW
Useful Power Output*#	145	220	kW
Efficiency*	79.5	72	%
Power Gain*	20.1	20.4	dB

* may vary from tube to tube
\# Delivered to load (VSWR under 1.25:1)

RADIO FREQUENCY LINEAR AMPLIFIER
Grid driven Class AB1

ABSOLUTE MAXIMUM RATINGS:

DC ANODE VOLTAGE	22	kVdc
DC SCREEN VOLTAGE	2.5	kVdc
DC GRID VOLTAGE	-1.5	kVdc
DC ANODE CURRENT	20	Adc
ANODE DISSIPATION	150	kW
SCREEN DISSIPATION	1750	W
GRID DISSIPATION	500	W

TYPICAL OPERATION:
Peak Envelope or Modulation Crest Conditions

Anode Voltage	18	kVdc
Screen Voltage	1500	Vdc
Grid Voltage	-320	Vdc
Zero-Signal Anode Current	4.0	Adc
Single-Tone Anode Current	13.5	Adc
Peak rf Grid Voltage	300	v
Anode Dissipation	75	kW
Screen Current*		mAdc
Grid Current*		mAdc
Driving Power*	2.5	kW
Anode Output Power #	168	kW
Resonant Anode Load Impedance	697	Ohms

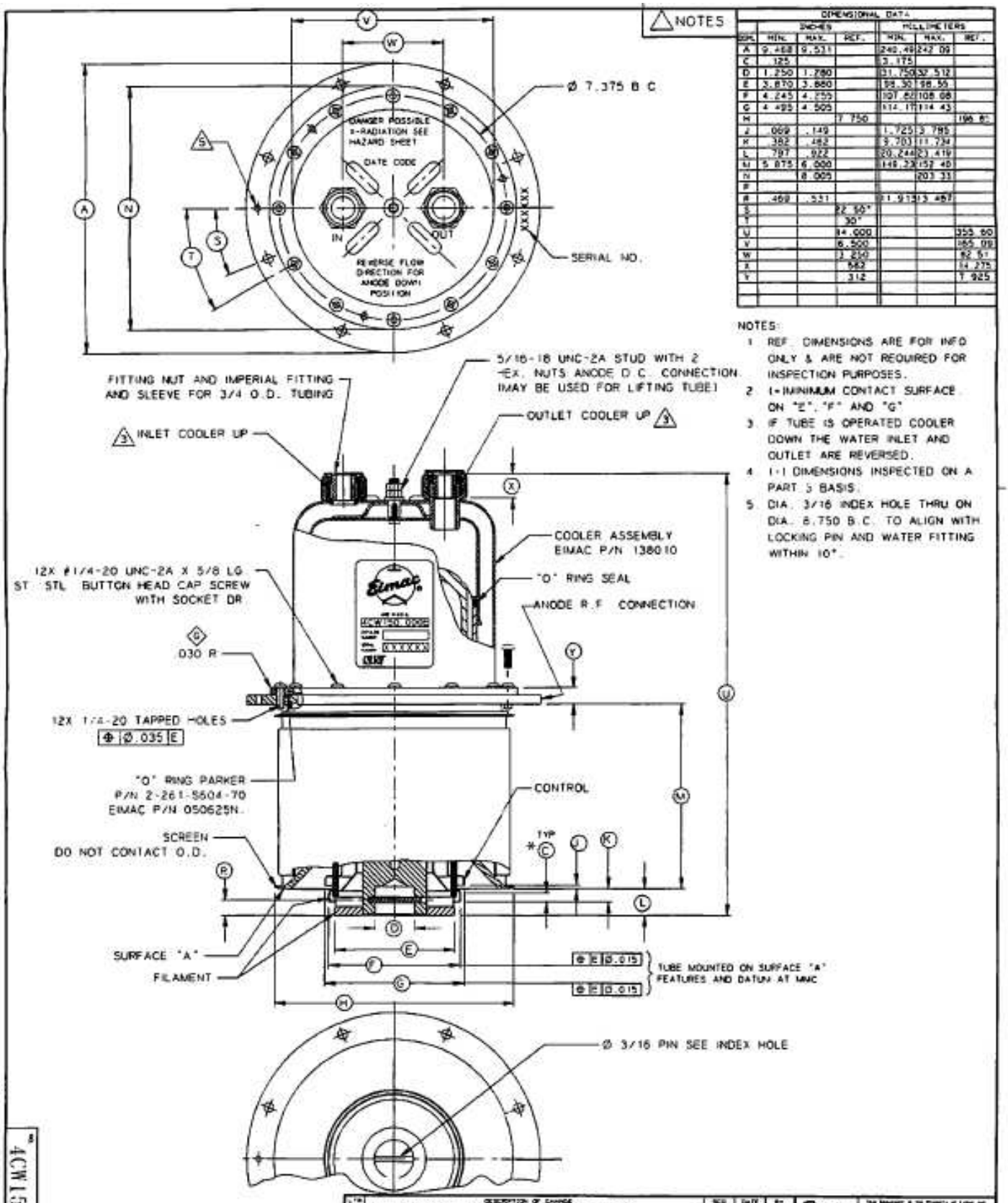
* Will vary from tube to tube
\# Delivered to load (VSWR under 1.25:1

PULSE MODULATOR OR REGULATOR SERVICE
ABSOLUTE MAXIMUM RATINGS:

DC Anode Voltage	40	kVdc
DC Screen Voltage	2.5	kVdc
DC Grid Voltage	-2.0	kVdc
Anode Dissipation	150	kW
Peak Cathode Current	200	amperes
Maximum Pulse Duration	0.01	second
Grid Dissipation	500	Watts
Screen Dissipation	1750	Watts

RANGE VALUES FOR EQUIPMENT DESIGN

	Min.	Nom.	Max.	
Filament Current @ 15.5 Volts	200	---	230	A
Cut-off Bias (EB = 25 kVdc, EC2 = 1.5 kVdc, for Ib = 1.0 mAdc)			-625	V


NOTES
DIMENSIONAL DATA
INCHES
MILLIMETERS
DIM. MIN. MAX. REF. MIN. MAX. REF.
A 9.468 9.531 240.49 242.09
C .125 3.175
D 1.250 1.280 31.750 32.512
E 3.870 3.880 98.30 98.55
F 4.245 4.255 107.82 108.08
G 4.495 4.505 114.17 114.43
H 7.750 196.85
J .069 .149 1.725 3.785
K .382 .482 9.703 11.734
L .797 .922 20.244 23.419
M 5.875 6.000 149.23 152.40
N 8.005 203.33
P
R .469 .531 11.913 13.487
S 22.50°
T 30°
U 14.000 355.60
V 6.500 165.09
W 3.250 82.51
X .562 14.275
Y .312 7.925
NOTES:
1 REF. DIMENSIONS ARE FOR INFO ONLY & ARE NOT REQUIRED FOR INSPECTION PURPOSES.
2 I-MINIMUM CONTACT SURFACE ON "E", "F" AND "G"
3 IF TUBE IS OPERATED COOLER DOWN THE WATER INLET AND OUTLET ARE REVERSED.
4 I-I DIMENSIONS INSPECTED ON A PART 3 BASIS.
5 DIA. 3/16 INDEX HOLE THRU ON DIA. 8.750 B.C. TO ALIGN WITH LOCKING PIN AND WATER FITTING WITHIN 10°.
Ø 7.375 B C
DANGER POSSIBLE X-RADIATION SEE HAZARD SHEET
DATE CODE
IN
OUT
REVERSE FLOW DIRECTION FOR ANODE DOWN POSITION
SERIAL NO.
FITTING NUT AND IMPERIAL FITTING AND SLEEVE FOR 3/4 O.D. TUBING
5/16-18 UNC-2A STUD WITH 2 EX. NUTS ANODE D.C. CONNECTION (MAY BE USED FOR LIFTING TUBE)
INLET COOLER UP
OUTLET COOLER UP
COOLER ASSEMBLY EIMAC P/N 138010
"O" RING SEAL
ANODE R.F. CONNECTION
12X #1/4-20 UNC-2A X 5/8 LG. ST. STL. BUTTON HEAD CAP SCREW WITH SOCKET DR
.030 R
12X 1/4-20 TAPPED HOLES
Ø.035 E
"O" RING PARKER P/N 2-261-S504-70 EIMAC P/N 050625N.
CONTROL
TYP
SCREEN DO NOT CONTACT O.D.
SURFACE "A"
FILAMENT
Ø.015 E
Ø.015 F
TUBE MOUNTED ON SURFACE "A" FEATURES AND DATUM AT MMC
Ø 3/16 PIN SEE INDEX HOLE
4CW150,000E
C REDRAWN ON CAD \ ADD "H" DIM. \ RAD. WAS .06 IN ERROR 27177 02/04/03 SN/KA
Eimac
PART NO. 4CW150,000E
ELECTRON TUBE
4CW150,000E G