

2M89

The Toshiba 2M89 is a fixed frequency continuous wave magnetron, designed to operate on the commercial alternating wave anode supply, in the 2400 to 2500 Mc frequency range with an average power output of 1400 watts.

The tube is required liquid cooling and an external magnetic field.

The output fitting is designed for coupling to the rectangular waveguide or cavity directly.

The tube is intended for use in microwave heating and cooking application.

GENERAL DATA

Electrical :

Frequency	2450 $\pm$ 50 Mc
Filament voltage	5 V
Filament current	16 A
Cathode preheating time	10 sec

Mechanical :

Physical dimensions	See outline drawing
Base and electrical connection	See outline drawing
Mounting position	Cathode vertical
RF coupling	See attached drawing
Magnetic field	External
Cooling	Liquid
Net weight	550 g approx.
Type of cathode	Thoriated tungsten, direct heating

6-24-1965

2-26-1966

TOKYO SHIBAURA ELECTRIC CO., LTD.

EM-2M89-1a



TECHNICAL DATA

2M89

MAXIMUM RATINGS

	Minimum	Maximum
Filament voltage	4.8 V	5.2 V
Cathode preheating time	8 sec	-
Peak anode voltage	-	7.7 KV
Peak anode current	-	1.5 A
Average anode current	-	350 mAdc
Load VSWR	-	4
Anode temperature (see outline drawing measurement point)		100 °C
Cathode bushing temperature (see outline drawing measurement point)		250 °C

TYPICAL OPERATION

	Commercial AC	Unsmoothed fullwave rectified
Frequency	2450 Mc	2450 Mc
Filament voltage (operating)	5 V	5 V
Peak anode voltage	6.5 KV	7.0 KV
Average anode current	300 mAdc	300 mAdc
Average power output	1200 W	1400 W
Magnetic field intensity	1650 G	1800 G
Cooling quantity (water)	1.7 l/min	1.7 l/min

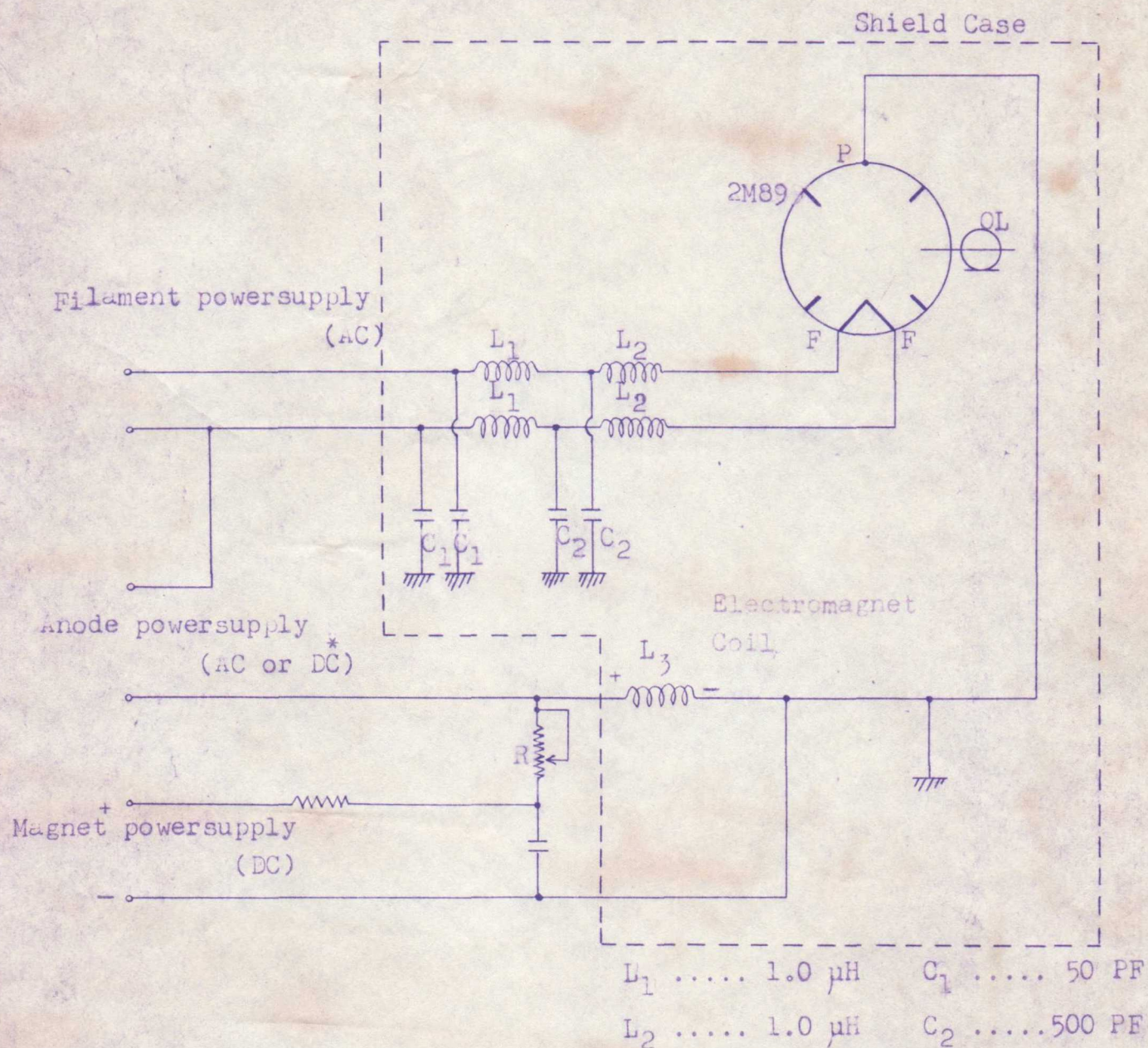
6-24-1965

2-26-1966

TOKYO SHIBAURA ELECTRIC CO., LTD.

EM-2M89-1b

OPERATING CIRCUIT



* Unsmoothed fullwave rectified Anode supply

6-21-1965

2-26-1966

TOKYO SHIBAURA ELECTRIC CO., LTD.

EM-2M89-1c

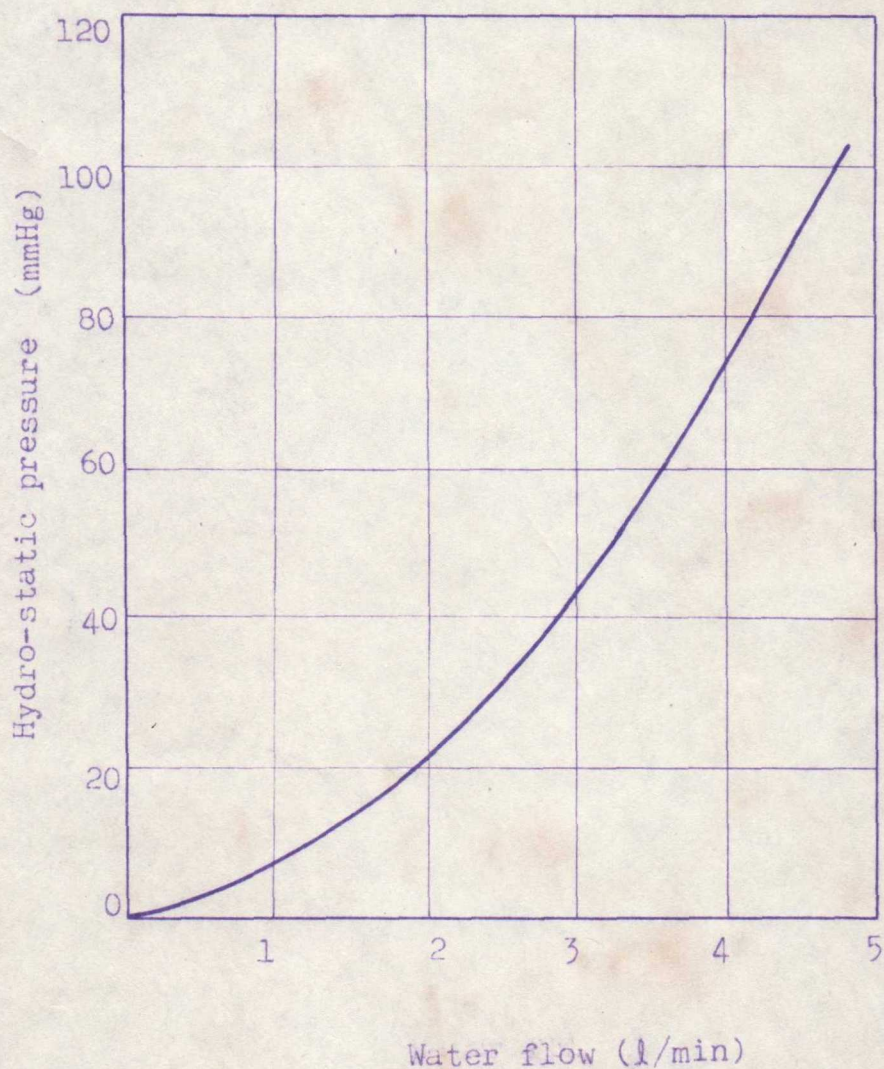
Toshiba

TECHNICAL DATA

2M89

2M89

Water flow vs. Pressure



6-24-1965

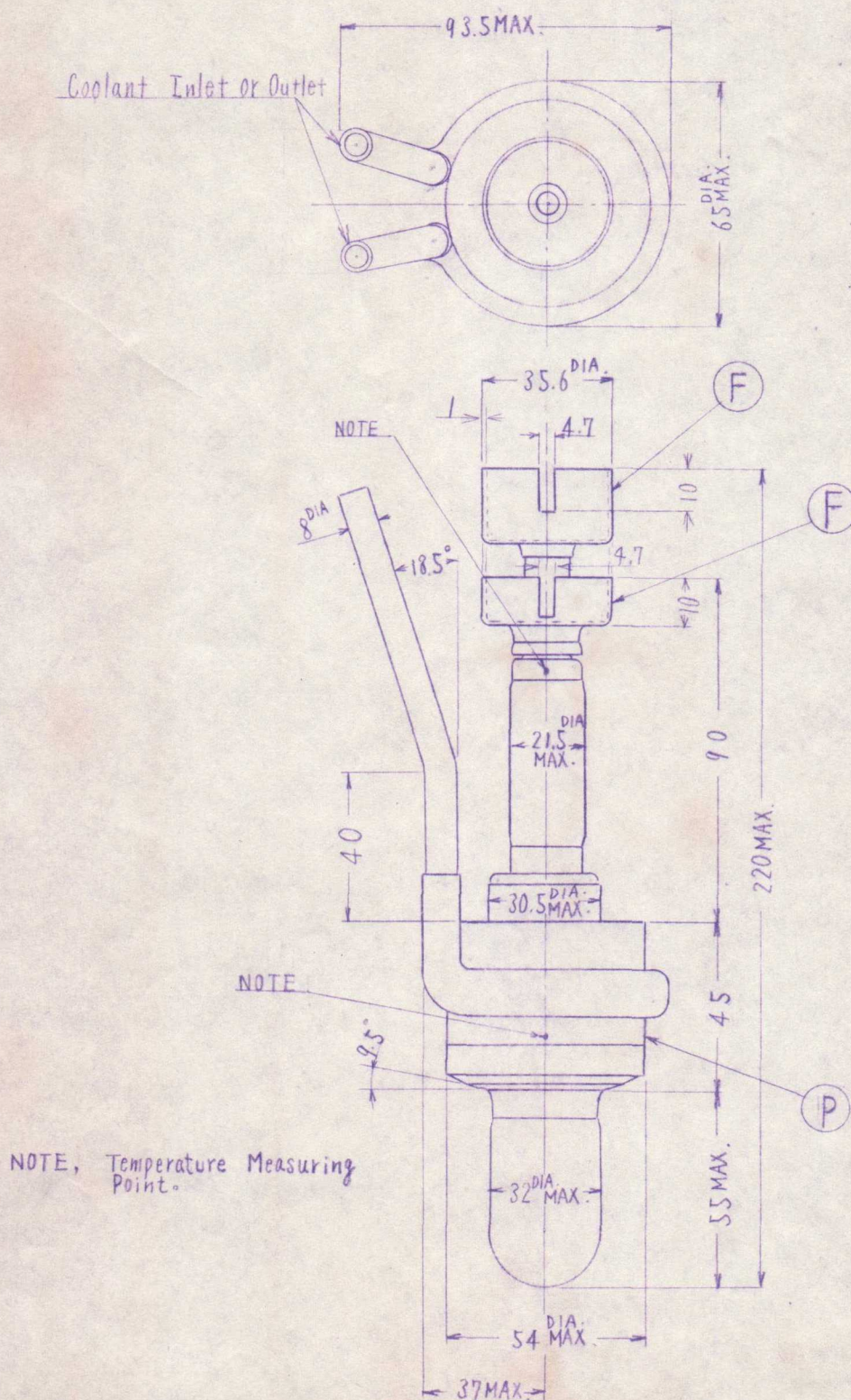
2-26-1966

TOKYO SHIBAURA ELECTRIC CO., LTD.

EM-2M89-2

2M89 OUTLINE DRAWING

Unit mm



6-24-1965

2-26-1966

TOKYO SHIBAURA ELECTRIC CO., LTD.

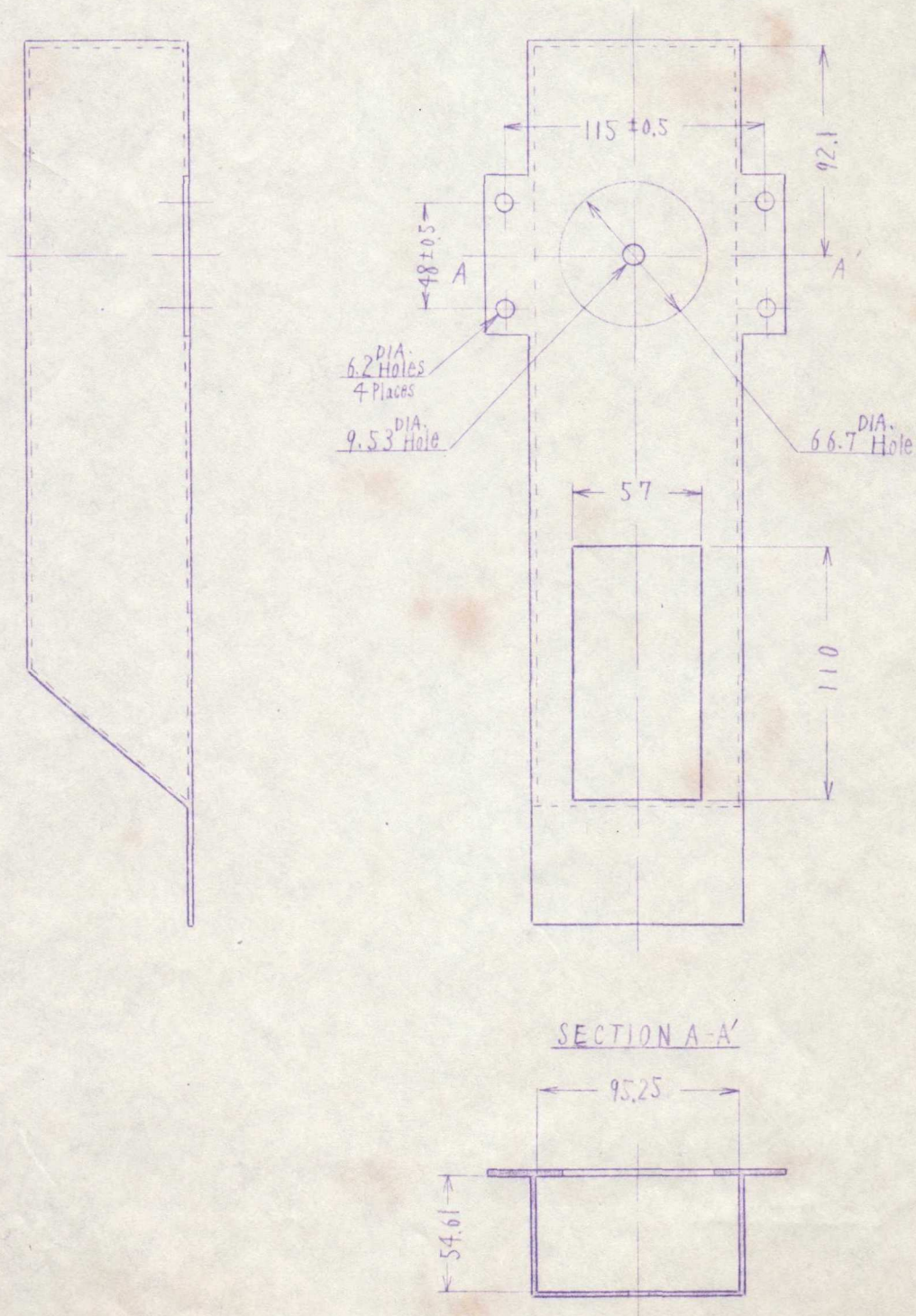
EM-2M89-3a

Toshiba**TECHNICAL DATA**

2M89

2M89 R.F. OUTPUT COUPLER.

Unit mm

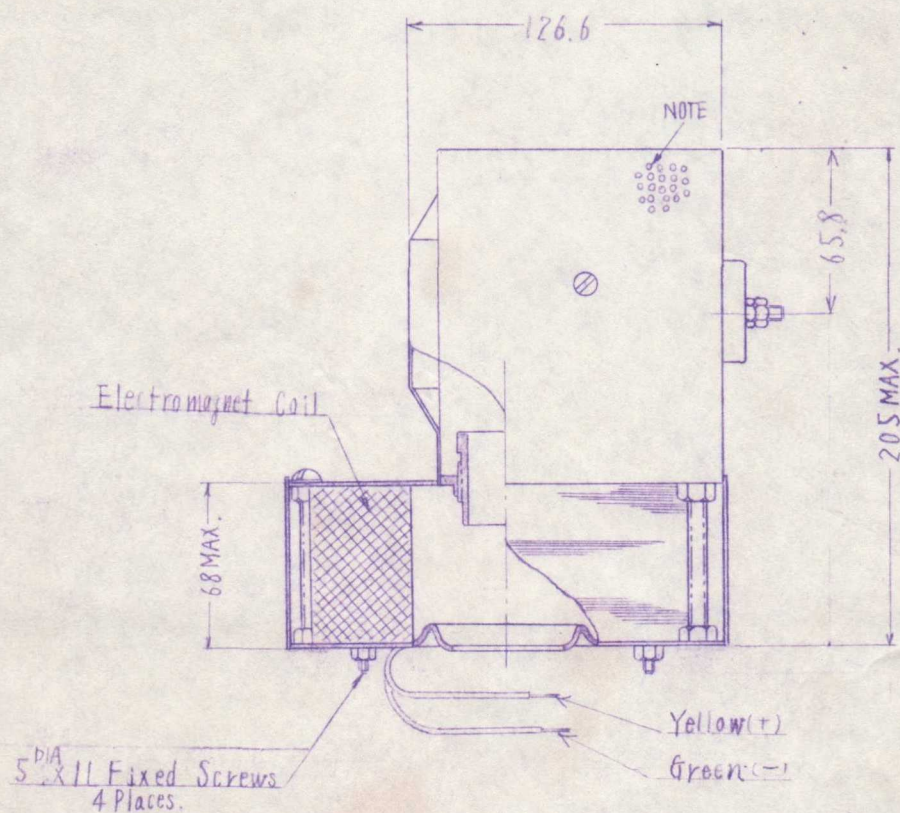
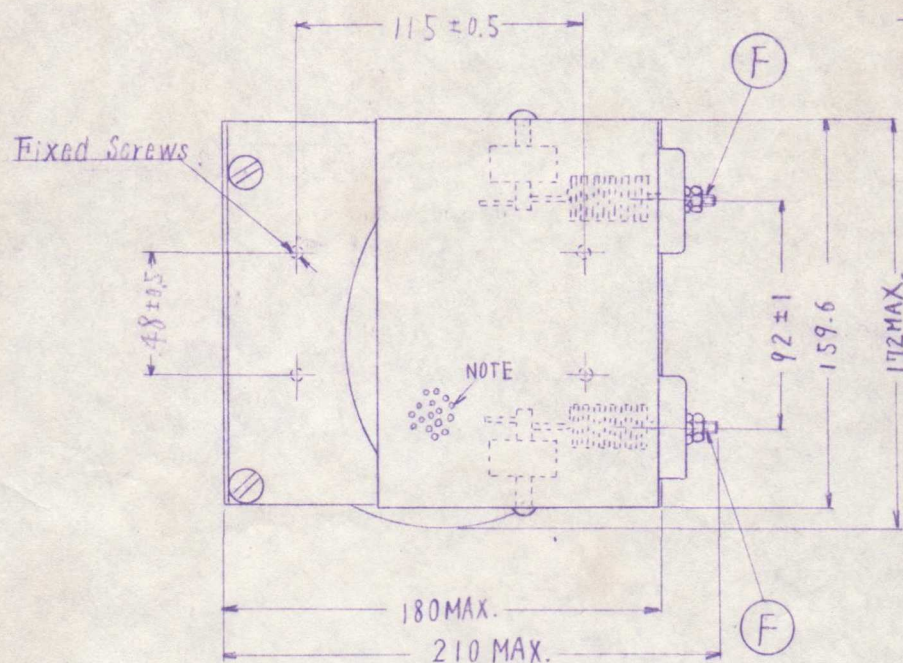


6-24-1965

ELECTROMAGNET FOR 2M89

NO. 4519-800D

Unit mm



NOTE. Air Holes for cooling.