



TR. CELL

A broad band T. R. Cell specially developed for high reliability and long life. Suitable for use in branched or balanced duplexer systems.

PHYSICAL DATA.

Dimensions	...	See outline drawing overleaf
Waveguide	...	W.G.16 (0.4" x 0.9").
Mounting Position	...	Any.
Max. Waveguide Pressure	...	30 lbs./sq. in.

FREQUENCY RANGE ... 8500 to 9300 Mc/s.

RATINGS.

Max. Transmitter Line Power	...	200 kW.
Min. Transmitter Line Power	...	4 kW.
*Max. Primer Supply Voltage (Main & Aux.)	...	-1500 volts.
*Min. Primer Supply Voltage (Main & Aux.)	...	-950 volts.
Max. Main Primer Current	...	185 μ A.
Min. Main Primer Current	...	100 μ A.
Max. Aux. Primer Current	...	80 μ A.
Min. Aux. Primer Current	...	50 μ A.
Ambient Temperature Range (Storage)	...	-40 to +100°C.

CHARACTERISTICS.

†Low Power Level.		Average	Limit.
V.S.W.R. (8500-9300 Mc/s.)		1.2	1.3
†Insertion Loss	...	0.5	0.8 dB.
‡High Power Level.			
Leakage at 200 kW. Peak :-			
Total Leakage Power	...	45	100 mW.
Spike Leakage Energy	...	0.16	0.3 ergs/pulse
Primer Breakdown Power	...	150	250 mW.
Recovery Time (to -6dB loss)	...	1	3 μ S.
Arc Loss (at 4 kW.)	...	—	0.8 dB.
**Position of Min. V.S.W.	...	0.020	0.021 } ± .007 } ins.
Primer Operating Voltage...	...	210	180 } to } volts. 280 }

OPERATING NOTES.

- (1) For operation at a line power above 50 kW. a pre-TR. cell is recommended.
- (2) A balanced mixer should be used wherever possible.
- (3) The maximum difference in electrical length between cells is 40 degrees.
- (4) To ensure rapid primer breakdown, the primer electrodes should be supplied from a negative voltage of 1000 volts D.C. Suitable resistors should be connected in series with the electrodes to limit the current to between 100 and 185 microamperes for the main primer electrode and between 50 and 80 microamperes for the aux. primer. At least 1 megohm should be connected directly to each primer electrode terminal to prevent relaxation oscillations at the "keep alive".

*See note (4) under "Operating Notes".

†Unfired Characteristics.

‡With primer energised.

§Fired Characteristics.

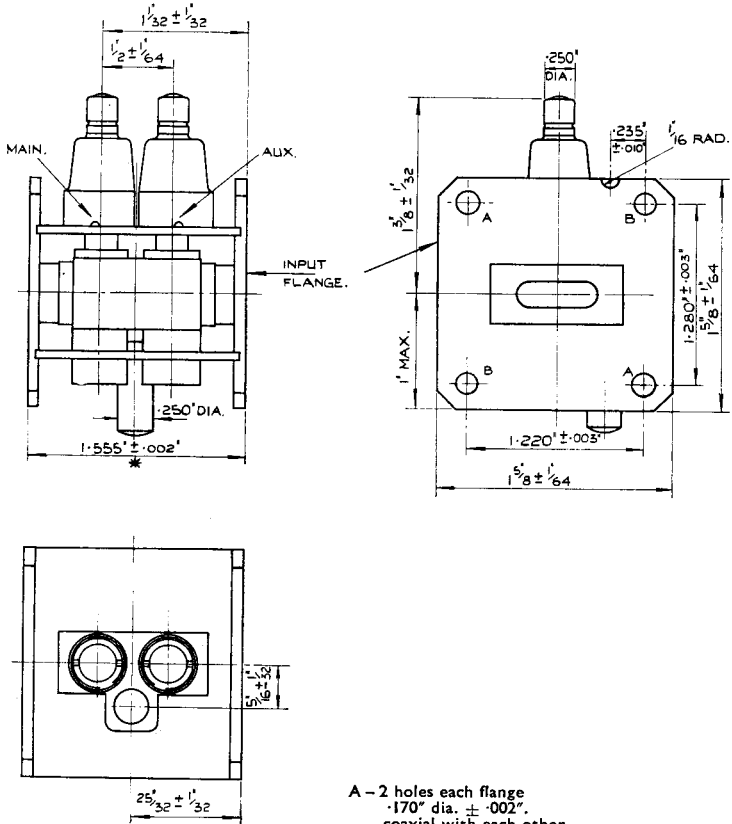
**Measured from input flange face.



WF43

Ferranti

1013



A - 2 holes each flange
 .170" dia. $\pm .002$ "
 coaxial with each other.

B - 2 holes each flange
 .150" dia. $\pm .002$ "
 coaxial with each other.

The 4 holes positioned as shown
 are on $1.768 \pm .004$ " P.C.D.