



SLIDE SCREW TUNERS

COAXIAL, PRECISION

Features

- Wide Frequency Range
- Large Matching Capability
- Low Insertion Loss
- Resetable Design
- Low RF Leakage
- Precision Connectors

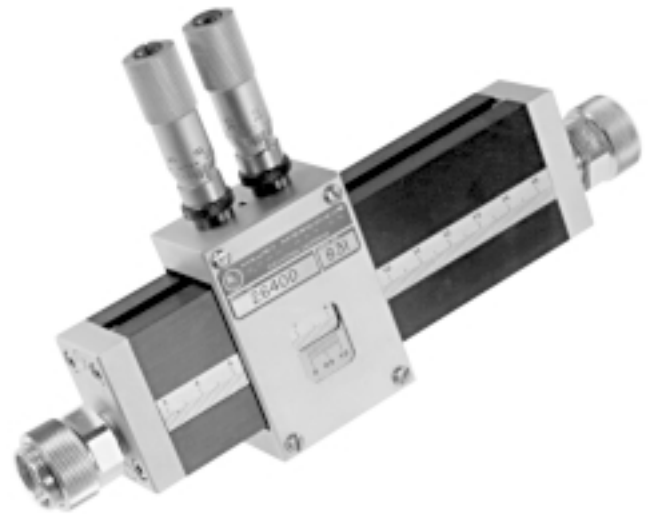
Description

The Maury series of coaxial slide screw tuners provide a convenient method of matching a wide range of impedances to a 50 ohm transmission line system. These tuners consist of a coaxial slot line section with a sliding carriage upon which two adjustable micrometers are mounted. The .001 inch reading micrometer controls a variable reactance element whose magnitude is changed by varying its depth of insertion into the coaxial line and whose phase is varied by sliding the carriage along the line. Carriage travel is greater than one-half wavelength at the lowest operating frequency. A metric scale and vernier is provided to give precise readout of the carriage position to within 1/10 millimeter. Position locks are provided on both micrometer and the carriage.

Specifications

Frequency Range See chart
 Maximum Correctable VSWR See chart
 Travel At Lowest
 Frequency 1/2 wavelength minimum
 Insertion Loss (Dissipative) 0.75 dB maximum,
 <0.5 dB typ. 1
 Maximum VSWR with Probe Out 1.15 maximum
 Nominal Impedance 50 ohms

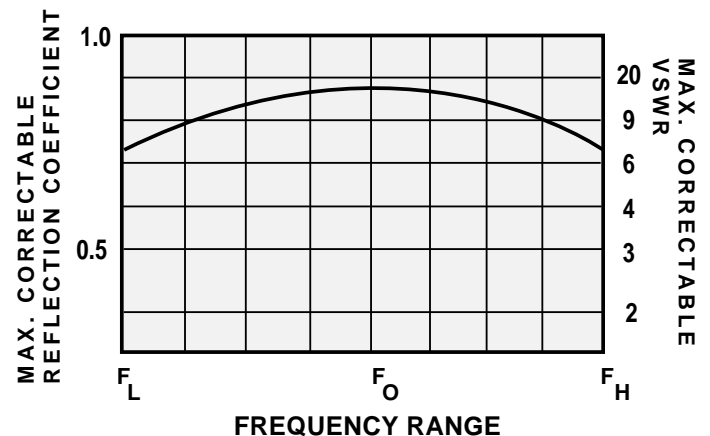
□ See page 2 for footnotes.



The double probe tuner utilizes two variable reactance elements to achieve an extremely high matching capability over a broad frequency range. In normal operation, only one probe is required to match an impedance having a VSWR of 6:1 or less. Both probes are required only at the lowest frequencies, as much higher VSWR's can generally be matched over most of the operating band.

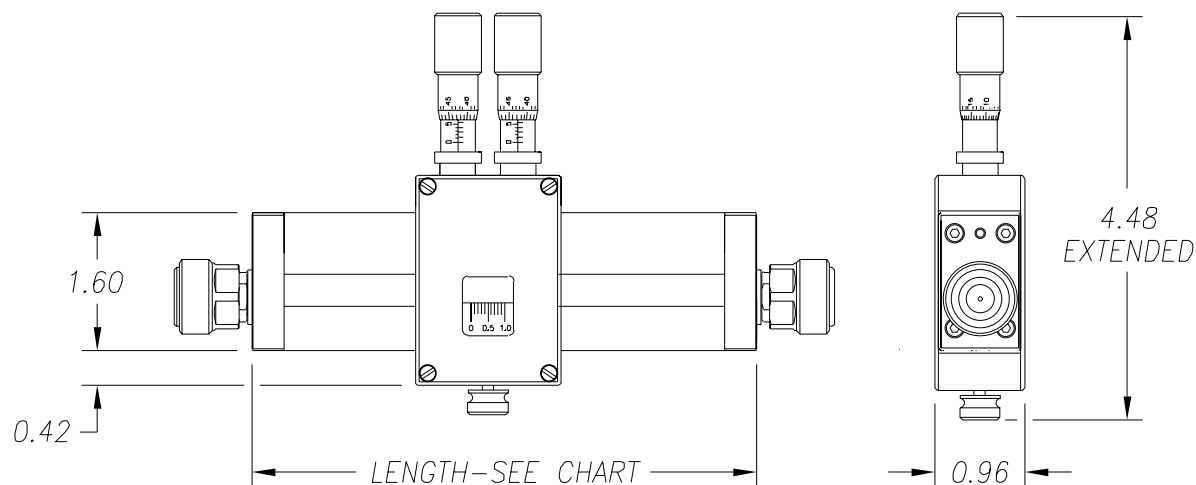
The Maury series 2640 tuners use sexless APC7 connectors on both ends; the series 1643 employ precision stainless steel type N female and male connectors. All models are designed in the tradition of the finest laboratory equipment and will give years of noise free operation.

Typical Performance





Dimensions



Frequency Range GHz	Matching Range [2]	Connector - Model			Body Length	
		Type N [3]	7mm [4]	3.5mm [5]	Inches	(cm)
0.9 — 12.4	6:1 (minimum)	1643C	2640C	8045C	10.5	(26.7)
1.8 — 18.0	6:1 (minimum)	1643D	2640D	8045D	7.5	(19.1)
12.0 — 34.0	6:1 (minimum)	—	—	8041B [6]	2.9	(7.4)
Power Handling [7]	CW	50 watts		25 watts		
	Peak	0.5 kW		0.25 kW		

The 2640 series can be readily adapted to other connector types and they are normally carried in stock. Maury produces a complete line of precision adapters from APC7, APC3.5 to type N, TNC, SMA, SC, etc.

[1] Loss = $10 \text{ Log } (|S_{11}|^2 + |S_{21}|^2)$. The 0.75 dB maximum specification applies where $S_{11} < .35$ over full operating frequency range. Where $0.35 < S_{11} < .72$ the loss specification applies up to 12.4 GHz only.

[2] Equivalent VSWR.

[3] Precision stainless steel type N per 5E-049.

[4] Precision 7mm (APC7) per 5E-060.

[5] Precision 3.5mm per 5E-062.

[6] Micrometer carriage drive.

[7] Within rated matching range.