



# WIDE MATCHING RANGE SLIDE SCREW TUNERS

## Features

- Slab-line Transmission Structure
- Dual Probes for Improved Matching Characteristics
- LCD Readout for Carriage Position



Model 8045N

## Description

The tuners in this series are similar to others in the Maury line; however, the mechanical characteristics are optimized for increased matching ranges. These tuners also utilize the slab-line transmission structure for broad frequency range. The probes are designed to be very close to one-quarter wavelength in the linear dimension at the mid-band of each range. Since each tuner has two probes, this results in improved matching characteristics for each unit. An additional feature of this series of tuners is the use of a LCD position readout of the carriage position on those units operating below 18 GHz. Higher frequency tuners utilize a micrometer carriage drive. These are noted in the model chart below.

The positional repeatability and high matching range of these tuners are ideally suited to applications like device characterization. Such measurements depend upon the ability of the tuner to establish impedances out near the edge of the Smith chart and to reproduce the electrical characteristics as a function of mechanical position. Slide screw tuners are also easy to use due to the almost independent electrical results of the mechanical motions. The depth of penetration of the probe into the transmission line determines the magnitude of the reflection, while the position of the probe along the line determines the phase. While there is some interaction, the effects are almost independent of each other.

Frequency Range (GHz)	Matching Range [1]	Connector – Model				
		Type N [2]	7mm [3]	3.5mm [4]	2.92mm [5]	2.4mm [6]
0.8 – 2.5	25:1 (nominal)	1643N	2640N	8045N	—	—
2.5 – 8.0	18:1 (nominal)			—	—	—
0.8 – 18.0	10:1 (nominal)	1643P	2640P	8045P	—	—
1.8 – 18.0	12:1 (nominal)	1643D1	2640D1	8045D1	—	—
12.0 – 34.0	10:1 (nominal)	—	—	8041C [7]	—	—
12.0 – 40.0	10:1 (nominal)	—	—	—	8741A [7]	—
12.0 – 50.0	10:1 (nominal)	—	—	—	—	7941A [7]
Power Handling [8]	CW	50 watts		25 watts	20 watts	15 watt
	Peak	0.50 kW		0.25 kW	200 kW	150 kW

[1] Equivalent VSWR.

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

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

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

[5] Precision 2.92mm (K) per 5E-063.

[6] Precision 2.4mm per 5E-064.

[7] Micrometer carriage drive.

[8] Within rated matching range.