

# Quick Reference Guide

## A Comparison of Solid State vs Vacuum Tube Power Generation in a RF Drying System

VACUUM TUBE TECHNOLOGY	CRITERIA	AETHERA SOLID STATE
Typically 60%	<b>Efficiency</b>	95% efficient
Tube life is measured in hours. Vacuum tube filament burns out in 3 years, limits life	<b>Product Lifetime</b>	Solid state life is measured in years Solid state lifetime > 20 years
High voltage and temperature cause failures	<b>Reliability</b>	Low voltage and temperature ensure low failure rate
Frequency is not well controlled	<b>Consistency</b>	Frequency is controlled exactly
Requires regular maintenance	<b>Maintenance</b>	Few maintenance requirements
RF power is very loosely controlled due to limited primary power measurements leading to guesswork regarding the heat being delivered	<b>Control</b>	Exact digital control system which constantly measures the RF power output while automatically making adjustments to the desired RF power
Acceptable uniformity of dried product	<b>Quality of Dried Product</b>	High uniformity of dried product
Similar to solid state	<b>Capital Cost</b>	1/3 the cost of traditional solid state
High	<b>Operating Costs</b>	Low, due to 95% efficiency & reliability
Large, bulky	<b>Size</b>	Small, light