Description

Mi-Wave's 520 Series Uncalibrated Variable Attenuators and 522 Calibrated Attenuators are available in standard waveguide sizes from 8 to 220 GHz. The attenuating element in each unit provides a variable attenuation, from 0 dB to 25 dB minimum. Precision-designed internal controls are accurately contoured to provide a low bilateral VSWR and minimum variation of attenuation with frequency.

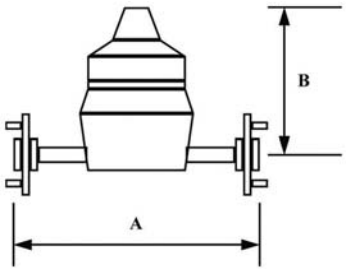
- *Dial Driven*
- *Compact, Mechanically Stable Design*
- *Wide Range of Attenuation Values*
- *Smooth, Spring-loaded Setting Control*

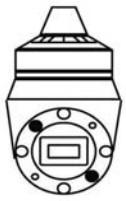
Applications

The 520/522 Series Uncalibrated Variable Attenuators are useful in applications that require a reliable level setting or isolating pad. They provide maximum accuracy in establishing initial power levels in substitution-method attenuation measurements. Designed to maintain reliable performance for accurate test measurements, the stable setting control of these devices maintains constant attenuation under all normal conditions of vibration and orientation.

Dimensional Specifications				
Model No.	**A**		**B**	
	in.	mm	in.	mm
520K	3.00	76.2	2.35	59.7
520A	2.75	69.9	2.16	54.9
520B	2.75	69.9	2.16	54.9
520U	2.75	69.9	2.16	54.9
520V	2.50	63.5	1.94	49.3
520E	2.50	63.5	1.94	49.3
520W	2.50	63.5	1.94	49.3
520F	2.00	50.8	1.94	49.3
520D	2.00	50.8	1.94	49.3
520G	2.00	50.8	1.94	49.3

CUSTOM HIGH POWER VERSIONS AVAILABLE



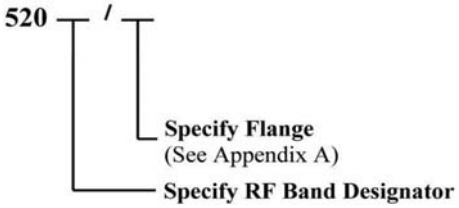


OTHER BANDS AVAILABLE:

- WR-90
- WR-75
- WR-62
- WR-34

522 Calibrated attenuators are calibrated at center frequency normally.

Ordering Information



Technical Specifications (typical)										
Model No.	**520K**	**520A**	**520B**	**520U**	**520V**	**520E**	**520W**	**520F**	**520D**	**520G**
Frequency Band (GHz)	18–26.5	26.5–40	33–50	40–60	50–75	60–90	75–110	90–140	110–170	140–220
VSWR Max.	1.15	1.15	1.15	1.15	1.15	1.15	1.20	1.25	1.25	1.30
Attenuation										
Range (dB) Min.	0–30	0–30	0–30	0–30	0–30	0–25	0–25	0–23	0–20	0–20
Insertion Loss @										
0 Setting (dB)	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.7
Weight (oz)	8.0	6.0	6.0	6.0	3.0	3.0	3.0	2.5	2.5	2.5
Average Power (watts)	1.5	1.0	1.1	1.0	0.5	0.4	0.3	0.2	.15	.1

523 Series
Micrometer-driven Calibrated Attenuators

MI-WAVE®
Millimeter Wave Products Inc.

Description

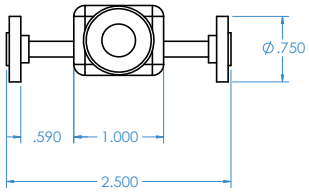
Mi-Wave's 523 Series Micrometer-driven Calibrated Attenuators are compact precision attenuating devices available in standard waveguide sizes from 18.0 to 220 GHz.

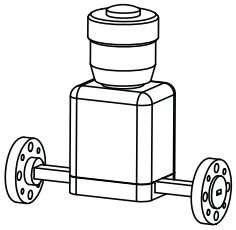
Each attenuator is calibrated at the frequency specified at the time of order, and a curve of attenuation vs. Dial-reading is included with every unit. Calibration curves at other frequencies are also available.

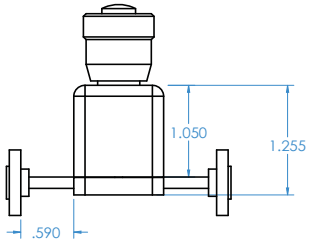
- *High Resolution*
- *Micrometer Readout*
- *Differential Screw Drive*
- *Anti-backlash Operation*
- *Excellent Mechanical Stability*
- *Calibration Accuracy: 0.2 dB or 2%*
- *Calibration Curve Provided at Specified Frequency*

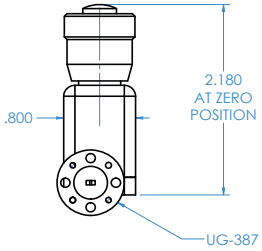
Applications

The 523 Series Micrometer-driven Calibrated Attenuators are designed for laboratory applications in standard waveguide bands from 18.0 to 220.0 GHz. The drive mechanism is designed for the high resolution of vane insertion vs. attenuation characteristics that is required for the small waveguide dimensions associated with the higher millimeter wave frequencies. These attenuators are very useful for insertion loss measurements, and a wide variety of other attenuation and power level determinations.









Dimensional Specifications				
Model No.	A		B[1]	
	in	mm	in	mm
523F	2.0	50.8	3.65	92.9
523D	2.0	50.8	3.65	92.7
523G	2.0	50.8	3.65	92.7

1. 1. 4.15 in. (105.4 mm) maximum dimensions with micrometer fully extended.

Other Bands Available:

- WR-42, 34, 28, 22, 19, 15, 12, and 10.

Ordering Information

523 /
- Specify Flange (See Appendix A)
- Specify RF Band Designator

Technical Specifications (typical)										
Model No.	520K	520A	520B	520U	520V	520E	520W	520F	520D	520G
Frequency Band (GHz)	18–26.5	26.5–40	33–50	40–60	50–75	60–90	75–110	90–140	110–170	140–220
VSWR Max.	1.15	1.15	1.15	1.15	1.15	1.15	1.20	1.25	1.25	1.30
Attenuation										
Range (dB) Min.	0–30	0–30	0–30	0–30	0–30	0–25	0–25	0–23	0–20	0–20
Insertion Loss @										
0 Setting (dB)	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.7
Weight (oz)	8.0	6.0	6.0	6.0	3.0	3.0	3.0	2.5	2.5	2.5
Average Power (watts)	1.5	1.0	1.1	1.0	0.5	0.4	0.3	0.2	.15	.1