# STA-60-04-D1

Advanced

## WR-04 Band Direct Reading Attenuator

### Description:


**Model STA-60-04-D1** is a direct reading, rotary vane attenuator for use in millimeter wave systems across the standard WR-04 waveguide frequency range of 170 to 260 GHz. The attenuator has a large scale dial which indicates the attenuation value directly. The attenuator is an ideal piece of equipment in waveguide systems where a broad direct reading of attenuation is required. The attenuator exhibits a typical 5.0 dB insertion loss and up to a maximum of 50 dB attenuation. The accuracy of the attenuator is 0.1 dB or 3% of the reading, whichever is larger, up to 40 dB, 5% up to 50 dB, and "for reference only" above 50 dB.

### Features:

- Full Band Coverage
- High Attenuation Accuracy
- Large Scaled Dial

### Applications:

- Test Lab
- Instrumentations
- Manual Test Set

### Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---|---|---|---|
| RF Frequency Range | 170 GHz | | 260 GHz |
| Insertion Loss | | 5.0 dB | |
| Return Loss | | 16 dB | |
| Attenuation Range | 0 dB | | 50 dB |
| Attenuation Accuracy | 0.1 dB or 3% of reading, whichever is larger, up to 40 dB | | |
| Power Handling | | 50 mW | 100 mW |
| Specification Temperature | | +25 ˚C | |
| Operating Temperature | -40 ˚C | | +85 ˚C |

*The maximum power handling is based on pulsed signal operation. Limit to 50 mW for CW operation.

### Mechanical Specifications:

| Item | Specification |
|---|---|
| RF Input | WR-04 Waveguide with UG-387/U-M Flange |
| RF Output | WR-04 Waveguide with UG-387/U-M Flange |
| Reading | Large Scale Dial |
| Scale Increments | 0.01 dB (0 to 0.1 dB); 0.05 dB (0.1 to 1.0 dB); 0.1 dB (1.0 to 10 dB) 0.2 dB (10 to 20 dB); 0.5 dB (20 to 30 dB); 1.0 dB (30 to 50 dB) |
| Insertion Length | 3.78" |
| Finish | Black Anodized |
| Weight | 2.0 lb |
| Outline | TA-D04-M1 |

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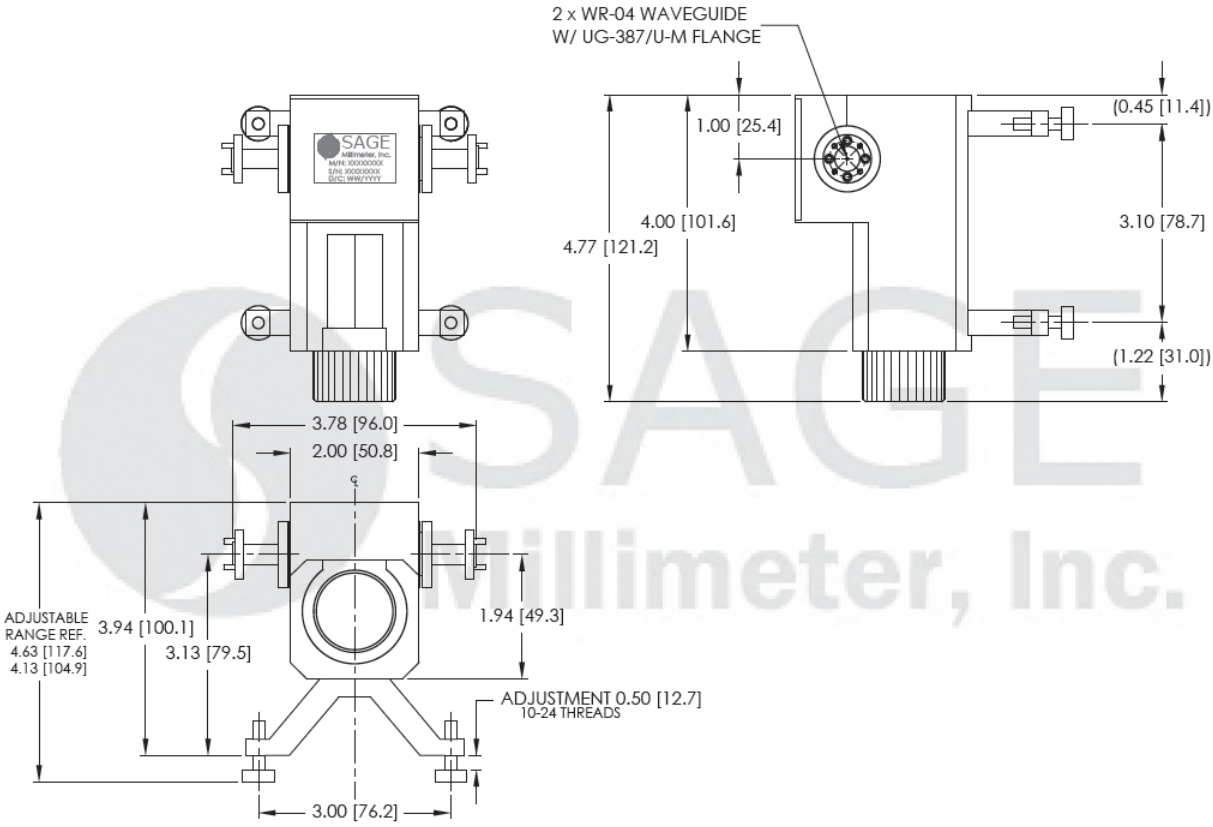
**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches [millimeters])




**Note:**

- Calibration accuracy is 0.1 dB or 3% of the reading, whichever is greater, for attenuation ranges up to 40 dB, 5% up to 50 dB, and "for reference only" above 50 dB.
- The attenuation flatness is ±2% or ±0.5 dB of the indicated value, whichever is greater, for the frequency band.
- The phase shift value does change while varying the attenuation.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

**Caution:**

- Exceeding absolute maximum ratings shown will damage the device.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.

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