



## D-Band Waveguide Directional Coupler, 10 dB

### Description:

**Model SWD-1025H-06-SB** is a D band, three-port waveguide directional coupler that delivers a 10 dB nominal coupling level and 25 dB typical directivity across the full waveguide band from 110 to 170 GHz. The three-port coupler uses a traditional multi-hole and split block design to achieve a flat coupling level, high directivity, and low insertion loss. The interfaces of the coupler are WR-06 waveguides with UG-387/U-M anti-cocking flanges. Custom coupling levels are available under different model numbers.



### Features:

- Full Band Operation
- Low Insertion Loss
- High Directivity

### Applications:

- Test Labs
- Instrumentation
- Sub-assemblies

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	110 GHz		170 GHz
Insertion Loss*		3.0 dB	
Coupling*		10 dB	
Directivity*		25 dB	
VSWR		1.2:1	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

\*The definition of insertion loss, coupling and directivity is show below:

Insertion Loss = $-10 \log_{10} [(P2+P3)/P1]$ Coupling Value = $-10 \log_{10} [P3/P1]$	
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Directivity = $-10 \log_{10} [P3/P2]$	
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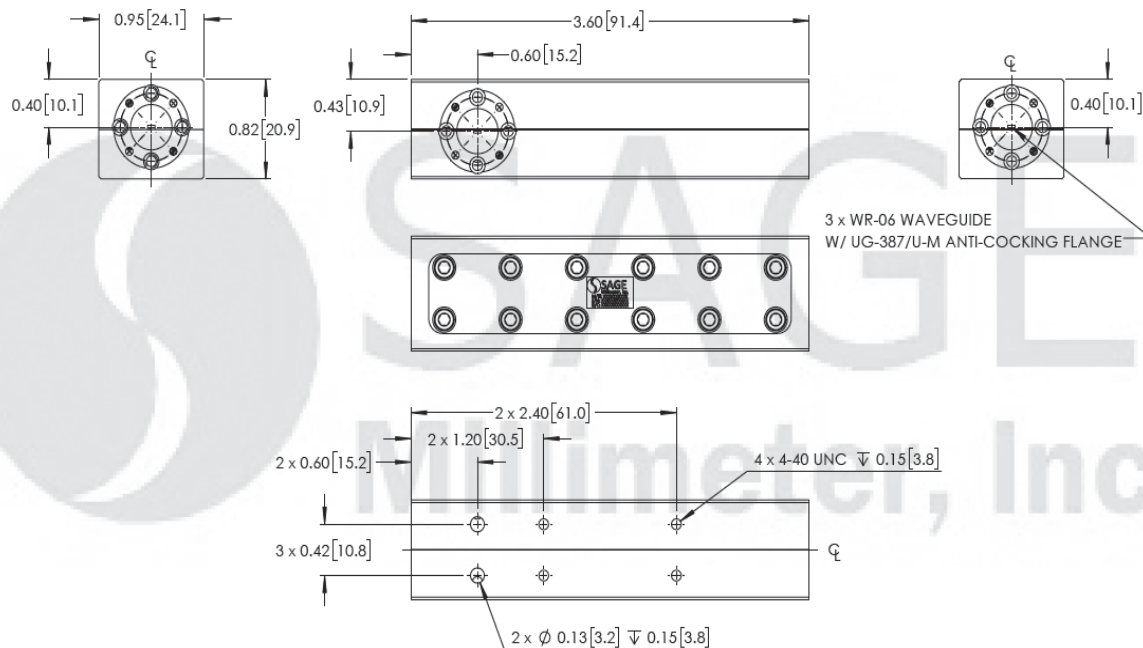


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### Mechanical Specifications:

Item	Specification
Through Ports	WR-06 Waveguide with UG-387/U-M Anti-Cocking Flange
Coupled Port	WR-06 Waveguide with UG-387/U-M Anti-Cocking Flange
Size	3.60" (L) X 0.95" (W) x 0.83" (H)
Material	Brass
Finish	Gold Plated
Weight	7.7 Oz
Outline	WD-SB-D-A

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



**Note:**

- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

**Caution:**

- Any foreign objects in the waveguide will degrade performance and/or damage the device.

