**DESCRIPTION**

Millitech series TWT tapered waveguide transitions are short sections of tapered waveguide with standard waveguide dimensions at each end. They are made using electroforming techniques for precise dimensions, resulting in a high degree of mode purity, along with minimum VSWR and insertion loss. Tapered transitions are available between 18 and 220 GHz. Series WFA flange adapters are short sections of waveguide with different flange types suitable for the waveguide size on either end. Series SWS straight waveguide sections are sections of waveguide offered in customer-specified lengths up to 48 inches. A length of one inch is provided as the standard product.

Millitech also offers a complete line of waveguide components and test measurement instruments.

**FEATURES:**

- Frequency band coverage from 18 to 220 GHz
- Low VSWR and insertion loss

**APPLICATIONS:**

- Assemblies and subsystems
- Test and measurement equipment
OUTLINE DRAWINGS

Series TWT

Series WFA (dimensions in inches)

MECHANICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>TWT-42</th>
<th>TWT-28</th>
<th>TWT-22</th>
<th>TWT-19</th>
<th>TWT-15</th>
<th>TWT-12</th>
<th>TWT-10</th>
<th>TWT-08</th>
<th>TWT-06</th>
<th>TWT-05</th>
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<tbody>
<tr>
<td>WR-42 (18-26.5 GHz)</td>
<td>---</td>
<td>2.2/56</td>
<td>2.2/56</td>
<td>2.5/64</td>
<td>2.7/69</td>
<td>3.3/84</td>
<td>3.2/81</td>
<td>3.4/86</td>
<td>3.5/89</td>
<td>3.6/91</td>
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<td>WR-28 (26.5-40 GHz)</td>
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<td>2.0/51</td>
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<td>2.4/61</td>
<td>1.8/46</td>
<td>2.2/56</td>
<td>2.3/58</td>
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<tr>
<td>WR-22 (33-50 GHz)</td>
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<td>1.8/46</td>
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<td>WR-19 (40-60 GHz)</td>
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<td>WR-12 (60-90 GHz)</td>
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<td>WR-10 (75-110 GHz)</td>
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<td>WR-08 (90-140 GHz)</td>
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<td>WR-06 (110-170 GHz)</td>
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<td>Flange MIL.F-3922</td>
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<td>/54-003</td>
<td>/67B-006</td>
<td>/67B-008</td>
<td>/67B-008</td>
<td>/67B-009</td>
<td>/67B-010</td>
<td>/67B-M08</td>
<td>/67B-M06</td>
<td>/67B-M05</td>
</tr>
</tbody>
</table>

HOW TO ORDER

Specify Model Number
SWS-XX-ABBØ (straight waveguide sections)

XX = Waveguide Band
WR – number
A = Flange Type
R = round
S = square (WR-42 and WR-28 only)
A = Precision Flange per Millitech IS000131, flat option (WR-08 through WR-05 only)
BB = Length in Inches (1 to 48)
Example: 01 = 1 inch (standard)

Note: Straight waveguide available in copper or stainless steel upon request

Example:

To Order: a series SWS WR-22 straight waveguide section 2 inches in length with round flanges

Specify: SWS-22-R0200
### How To Order

**Specify Model Number**

**TWT-XX-ABBCØ** (tapered transitions)

| XX | Large Size Waveguide Band  
| WR | – number |
| A | Large Waveguide Flange Type  
| R | round (WR-28 through WR-05 only)  
| S | square (WR-42 and WR-28 only)  
| A | Precision Flange per Millitech IS000131, flat option (WR-08 through WR-05 only) |
| BB | Small Size Waveguide Band  
| WR | – number |
| C | Small Waveguide Flange Type  
| R | round  
| S | square (WR-28 only)  
| A | Precision Flange per Millitech IS000131, flat option (WR-08 through WR-05 only) |

**Example:**

To Order: a series TWT tapered transition from WR-15 to WR-08 with a round flange in WR-15 and a Precision flange in WR-08

Specify: TWT-15-R08PØ

**Specify Model Number**

**WFA-XX-ABØØ** (waveguide flange adapters)

| XX | Waveguide Band  
| WR | – number |
| A | Input Flange Type  
| R | round (WR-28 through WR-05 only)  
| S | square (WR-42 and WR-28 only)  
| A | Precision Flange per Millitech IS000131, flat option (WR-08 through WR-05 only) |
| B | Output Flange Type (WR-28 through WR-05 only)  
| R | round  
| S | square (WR-42 and WR-28 only)  
| A | Precision Flange per Millitech IS000131, flat option (WR-08 through WR-05 only) |

**Example:**

To Order: a series WFA waveguide flange adapter for WR-28 with a square input flange and round output flange

Specify: WFA-28-SR000