



# Waveguide Straight Sections, Terminations, and Tapered Transitions

## QWS/QWN/QWP

### Characteristics

- ◆ Low VSWR
- ◆ Minimum Insertion Loss
- ◆ Precise Construction



### Product Description

QuinStar Technology's **QWS**, **QWN** and **QWP** series **waveguide straight sections, terminations and tapered transitions** cover the frequency range of 18 to 220 GHz in ten waveguide bands. Straight waveguide sections are available in standard lengths as well as customer-specific lengths.

The terminations (loads) consist of an RF-absorbing material mounted in a flanged waveguide. Standard terminations can dissipate 0.5-2 W average power

depending on the specific waveguide band. Custom high power terminations are also available. The tapered transitions allow very efficient propagation of RF energy from one waveguide size to another.

The straight sections and terminations are built with precision and plated for low insertion loss and high corrosion resistance. Typical VSWR for straight sections is 1.05:1 over the entire frequency band.

### Specifications

FREQUENCY BAND	K	Ka	Q	U	V	E	W	F	D	G
Frequency Range (GHz)	18-26.5	26.5-40	33-50	40-60	50-75	60-90	75-110	90-140	110-170	140-220
Waveguide Size	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10	WR-8	WR-6	WR-5
VSWR (max)	1.03:1	1.03:1	1.04:1	1.05:1	1.05:1	1.06:1	1.06:1	1.08:1	1.1:1	1.12:1
Termination Length	(in)	3.31	2.81	2.56	2.56	1.56	1.56	1.56	0.90	0.90
	(mm)	84.0	71.3	65.0	65.0	39.6	39.6	39.6	22.8	22.8
Termination Power Handling (W max)	2.0	1.0	1.0	1.0	0.5	0.5	0.5	0.5	0.5	0.5
Flange Pattern	UG-595/U	UG-599/U	UG-383/U	UG-383/U	UG-385/U	UG-387/U	UG-387/U	UG-387/U	UG-387/U	UG-387/U

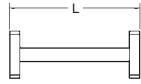
Other waveguide sizes are available.



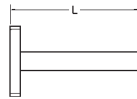
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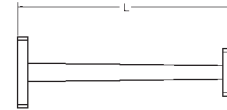
### Outline Drawings/Mechanical Specifications



Straight Section



Termination



Tapered Transition

TAPERED TRANSITION LENGTHS, inches/mm										
FREQUENCY BAND	K	Ka	Q	U	V	E	W	F	D	G
Freq. Range (GHz)	18-26.5	26.5-40	33-50	40-60	50-75	60-90	75-110	90-140	110-170	140-220
Waveguide Size	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10	WR-8	WR-6	WR-5
K-band to		2.20/56.0	2.20/56.0	2.50/64.0	2.70/69.0	3.30/84.0	3.30/84.0	3.40/86.0	3.50/89.0	3.60/92.0
Ka-band to			2.00/51.0	2.00/51.0	2.00/51.0	2.40/61.0	1.80/46.0	2.20/56.0	2.30/58.0	2.40/61.0
Q-band to				1.80/46.0	1.80/46.0	1.80/46.0	1.80/46.0	1.80/46.0	1.80/46.0	1.80/46.0
U-band to					1.20/31.0	1.50/38.0	1.50/38.0	1.50/38.0	1.50/38.0	1.50/38.0
V-band to						1.40/36.0	1.40/36.0	1.40/36.0	1.40/36.0	1.40/36.0
E-band to							1.30/33.0	1.30/33.0	1.30/33.0	1.30/33.0
W-band to								1.20/31.0	1.20/31.0	1.20/31.0
F-band to									1.10/27.0	1.10/27.0
D-band to										1.00/26.0

### Ordering Information

Model Number **QW - A BCD E 0**

model prefix

S = straight section  
N = termination

waveguide band designer

K = K-band      E = E-band  
A = Ka-band     W = W-band  
Q = Q-band      F = F-band  
U = U-band      D = D-band  
V = V-band      G = G-band

options

0 = none  
Z = special features  
(such as circular input)

length rounded to nearest tenth of an inch

010 = 1.0 inch  
000 = termination

Model Number **QWP - A B 0000**

larger waveguide band designer

K = K-band      E = E-band  
A = Ka-band     W = W-band  
Q = Q-band      F = F-band  
U = U-band      D = D-band  
V = V-band      G = G-band

smaller waveguide band designer  
(see list at left)