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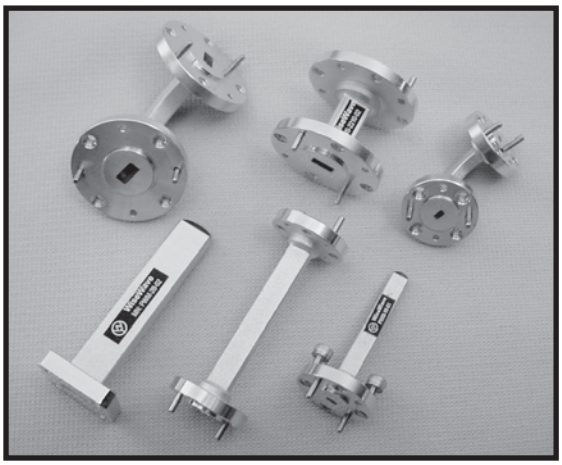
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FEATURES

- Rugged waveguide configuration
- Full band operation
- Low cost

APPLICATIONS

- Test benches
- Subsystems
- Prototypes



PWS, PWE, PWH, PWM & PWT Series

DESCRIPTION

PWS, PWE, PWH, PWM and **PWT** series offered various waveguide components to cover frequency range of 18 to 110 GHz in seven waveguide bands. Other frequency bands are available per request.

Straight waveguide sections **(PWS)** offer the inter-connections between the waveguide ports and are available in 1" to 8" standard length in 1" incremental as well as customer-specified lengths.

Waveguide bends **(PWE)** change the E plane direction in the waveguide assembly. While standard version offers 90° bend, the special bend angle up to 180° are available per request.

Waveguide bends **(PWH)** change the H plane direction in the waveguide assembly. While standard version offers 90° bend, the special bend angle up to 180° are available per request.

Waveguide termination loads **(PWM)** are useful when a matched port termination is required. The standard termination loads offer less than 1.10 VSWR and up to 10.0 watts power handling. Higher power handling versions are offered as custom-specified option.

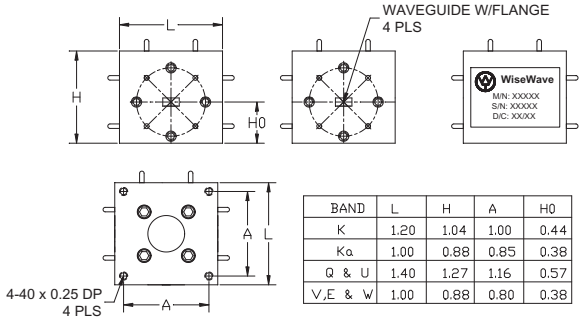
Waveguide twists **(PWT)** allow changing the orientation of the waveguide port and are available with the twisting angle of 45° or 90°.

WAVEGUIDE SPECIFICATIONS

Waveguide Band	K	Ka	Q	U	V	E	W
Frequency Range (GHz)	18 to 26.5	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110
Waveguide Size	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10
Flange Pattern	UG595/U	UG599/U	UG383/U	UG383/U	UG385/U	UG387/U	UG387/U
Inner Dimension (A x B, Inches)	0.420 x 0.170	0.280 x 0.140	0.224 x 0.112	0.188 x 0.094	0.148 x 0.074	0.122 x 0.061	0.100 x 0.050

Note: Contact factory for other waveguide band needs.

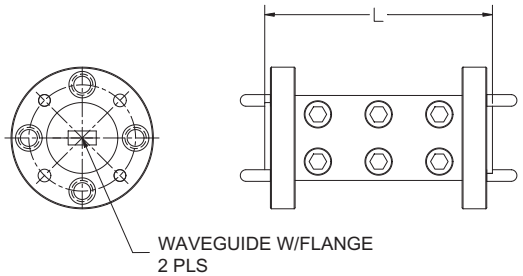
WT-E-1



BAND	L	H	A	H0
K	1.20	1.04	1.00	0.44
Ka	1.00	0.88	0.85	0.38
Q & U	1.40	1.27	1.16	0.57
V,E & W	1.00	0.88	0.80	0.38

Dimensions are in inches

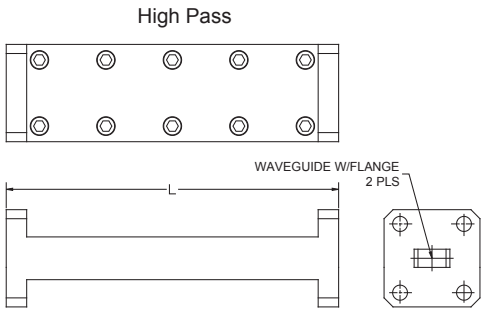
WT-E-2



BAND	K	Ka	Q & U	V,E & W
L	Vary per Specifications			

Dimensions are in inches

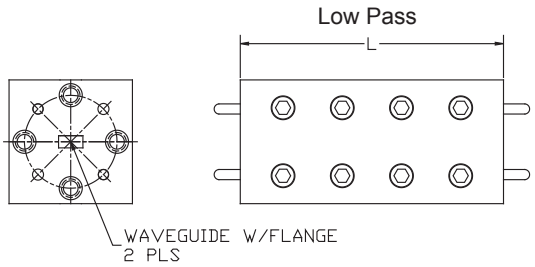
WT-E-3



BAND	K	Ka	Q & U	V,E & W
L	3.00	2.60	2.20	1.80

Dimensions are in inches

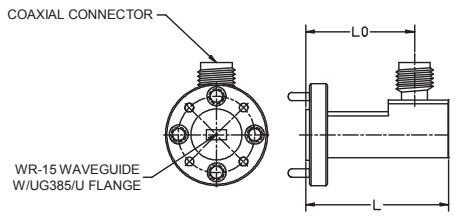
WT-E-4



BAND	K	Ka	Q & U	V,E & W
L	3.00	2.50	2.00	1.60

Dimensions are in inches

WT-E-5

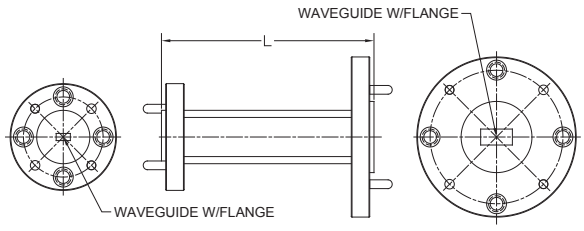


BAND	X	WR-75	WR-62	K/WR-34	Ka,Q & U	V
L	1.40	1.25	1.20	0.85	1.00	1.05
L0	1.00	0.90	0.95	0.60	0.75	0.80

NOTES:
BOTH MALE AND FEMALE COAXIAL CONNECTORS ARE AVAILABLE FOR ALL BANDS

Dimensions are in inches

WT-E-6

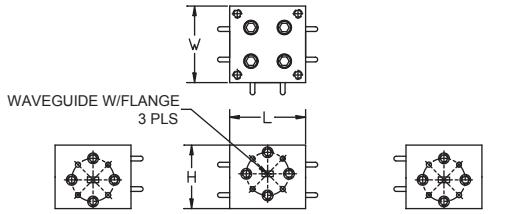


PTW	BIGGER WAVEGUIDE BAND	K	Ka	Q	U	V	E	
	L	2.00	2.00	1.50	1.50	1.00	1.00	
PRC	RECTANGULAR WG BAND	K	Ka	Q	U	V	E	W
	L	2.00	1.50	1.30	1.30	1.10	1.10	1.10

Dimensions are in inches

The flange pattern shown is for illustration purpose. Refer to Technical Reference Section for flange pattern details. The outline drawings shown are standard versions. Contact factory for your specific package requirements.

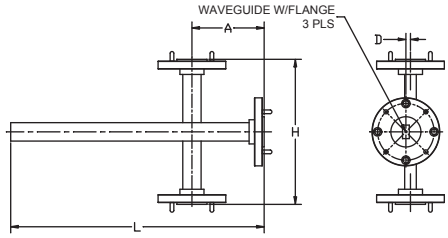
WT-E-7



BAND	K	Ka	Q	U	V	E	W
L	1.20	1.00	1.30	1.30	1.00	1.00	1.00
W	1.20	1.00	1.30	1.30	1.00	1.00	1.00
H	1.06	0.90	1.25	1.23	0.83	0.82	0.81

Dimensions are in inches

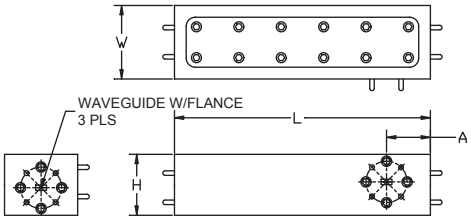
WT-E-8



Band	X	WR-75	Ku	K	Ka	Q	U	V	E	W
L	5.46	4.80	4.66	4.24	3.46	3.26	2.66	2.56	2.56	2.46
A	1.73	1.65	1.58	1.52	1.23	1.23	0.98	0.98	0.98	0.98
D	0.45	0.43	0.35	0.21	0.18	0.15	0.13	0.11	0.10	0.09
H	3.46	3.30	3.16	3.04	2.46	2.46	1.96	1.96	1.96	1.96

Dimensions are in inches

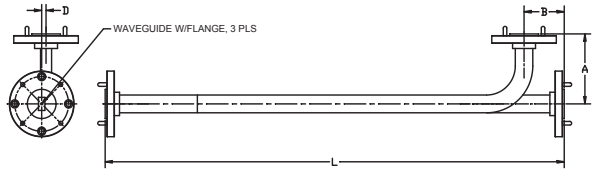
WT-E-9



BAND	Q	U	V	E	W
L	5.50	5.50	3.50	3.50	3.50
W	1.30	1.30	1.00	1.00	1.00
H	1.25	1.23	0.83	0.82	0.81
A	0.80	0.80	0.60	0.60	0.60

Dimensions are in inches

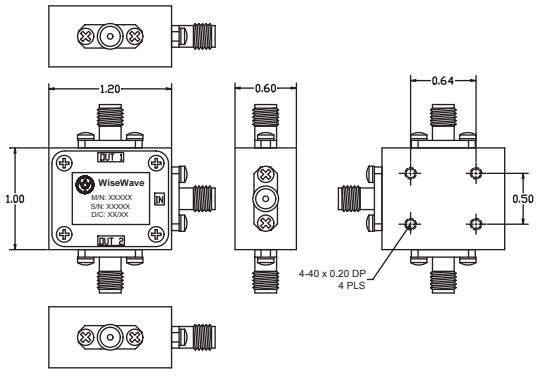
WT-E-10



Band	X	WR-75	Ku	K	Ka	Q	U	V	E	W
L	19.50	16.50	13.00	11.00	10.00	8.00	6.50	6.00	5.50	5.00
A	1.90	1.85	1.75	1.50	1.40	1.20	1.20	1.00	1.00	1.00
B	0.95	0.95	0.90	0.70	0.60	0.70	0.70	0.60	0.60	0.60
D	0.45	0.43	0.35	0.21	0.18	0.15	0.13	0.11	0.10	0.09

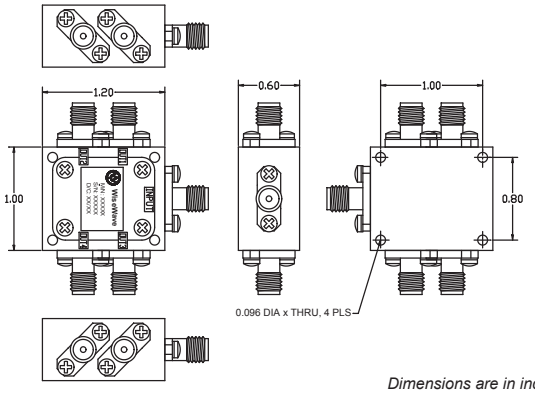
Dimensions are in inches

WT-E-11



Dimensions are in inches

WT-E-12



Dimensions are in inches

The flange pattern shown is for illustration purpose. Refer to Technical Reference Section for flange pattern details. The outline drawings shown are standard versions. Contact factory for your specific package requirements.

HOW TO ORDER

Straight waveguide sections

Specify Model Number

PWS - WG LL -XX ← Factory Reserve

Waveguide Size — Length in Inches

Example: To order a 2" long, WR-15 straight waveguide section, specify PWS-1502-XX.

Waveguide E plane bends

Specify Model Number

PWE - WG DD - XX ← Factory Reserve

Waveguide Size — Degrees

Example: To order a WR-28, E-plane, 30° waveguide bend, specify PWE-2830-XX.

Waveguide H plane bends

Specify Model Number

PWH - WG DD - XX ← Factory Reserve

Waveguide Size — Degrees

Example: To order a WR-28, E-plane, 30° waveguide bend, specify PWE-2830-XX.

Waveguide twists

Specify Model Number

PWT - WG DD -XX ← Factory Reserve

Waveguide Size — Degrees

Example: To order a 45°, 1" long, WR-12 waveguide twist, specify PWT-120145-XX.

Waveguide termination loads

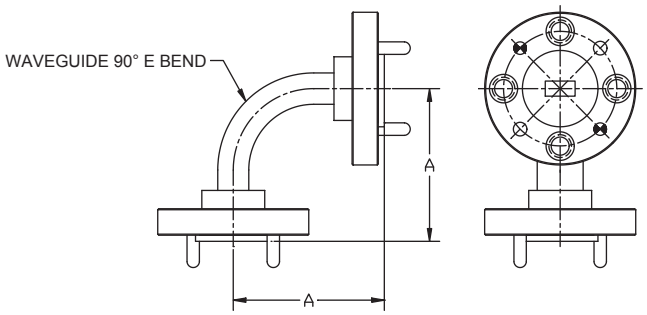
Specify Model Number

PWM – WG WW -XX ← Factory Reserve

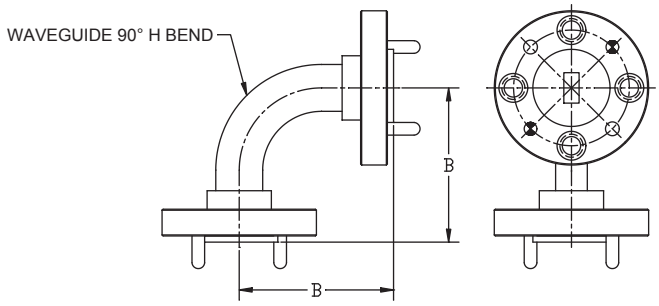
Waveguide Size — Power in Watts

Example: To order a WR-42 waveguide, 2 Watts termination load, specify PWM-4202-XX.

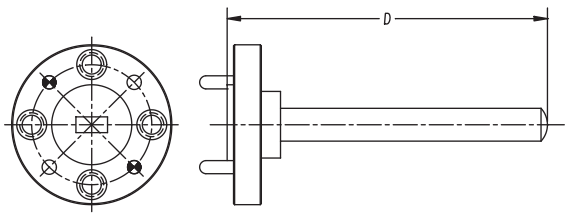
Outline: WT-E-A1



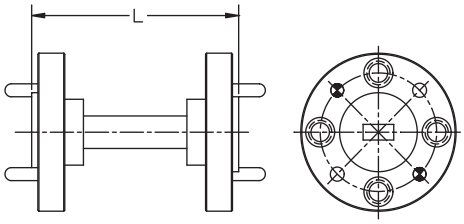
Outline: WT-E-A2



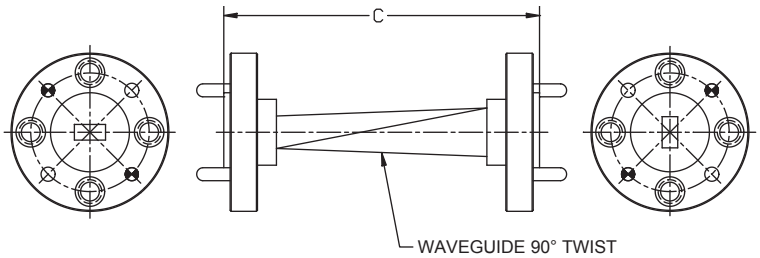
Outline: WT-E-A3



Outline: WT-E-A4



Outline: WT-E-A5



Waveguide Band	Frequency Range (GHz)	Waveguide Size	Flange Pat-tern	E-Bends A(Inch)	H-Bends B(Inch)	Twist C(Inch)	Loads D(Inch)	Section L(Inch)*
X	8-12.4	WR-90	UG39/U	2.00	2.00	3.00	3.00	2.0
WR-75	10-15	WR-75	Square	1.75	1.75	2.75	2.75	2.0
Ku	12-18	WR-62	UG419/U	1.50	1.50	2.50	2.50	2.0
K	18-26.5	WR-42	UG595/U	1.25	1.25	2.50	2.50	1.0
Ka	26.5-40	WR-28	UG599/U	1.00	1.00	2.00	2.00	1.0
Q	33-50	WR-22	UG383/U	1.00	1.00	2.00	2.00	1.0
U	40-60	WR-19	UG383/U-M	1.00	1.00	1.50	2.00	1.0
V	50-75	WR-15	UG385/U	0.75	0.75	1.50	1.50	1.0
E	60-90	WR-12	UG387/U	0.75	0.75	1.25	1.50	1.0
W	75-110	WR-10	UG387/U-M	0.75	0.75	1.25	1.50	1.0
Outline Drawing				WT-E-A1	WT-E-A2	WT-E-A5	WT-E-A3	WT-E-A4

* The length shown is for standard model. Customer may specify the length at time of inquiry.

The flange pattern shown is for illustration purpose. Refer to standard waveguide flange pattern for details.

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