

RF SHIELDED ACCESSORIES Waveguide Feed-through (Pipe Penetrations)

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Key Features

- Accommodate Requirements Such as Fire Suppression Systems, Hydraulics, and other Utilities
- Honeycomb Waveguide Insert Option Available for High Frequency or Gaseous Applications
- Dielectric Unions are Available to Maintain Isolation to the Ground

Specifications

Electrical Specifications

Diameter of Waveguide	Frequency Cutoff
1.27 cm (.5 in)	13.8 GHz
1.91 cm (.75 in)	9.2 GHz
2.54 cm (1 in)	6.9 GHz
3.175 cm (1.25 in)	5.5 GHz
3.81 cm (1.5 in)	4.6 GHz
4.08 cm (2 in)	3.5 GHz
6.35 cm (2.5 in)	2.8 GHz
7.62 cm (3 in)	2.3 GHz
8.16 cm (4 in)	1.7 GHz

For circular waveguides:

$$f_c = c/3.412r$$

where:

f_c = cutoff frequency

c = speed of light, 1.181×10^{10} in/s

r = radius of circular waveguide in inches

General Rule of Thumb:

For circular waveguides, make sure the waveguide length is at least four times the diameter.

Physical Specifications

Waveguide Feed-through Part Number	With Dielectric Option Part Number	Nominal Pipe I.D.	Length	Installation Hole Size
551060	551084	1.27 cm (.5 in)	15.24 cm (6 in)	2.22 cm (.875 in)
551061	551085	1.91 cm (.75 in)	15.24 cm (6 in)	2.86 cm (1.125 in)
551062	551086	2.54 cm (1 in)	15.24 cm (6 in)	3.49 cm (1.375 in)
551063	551087	3.175 cm (1.25 in)	15.24 cm (6 in)	4.46 cm (1.75 in)
551064	551088	3.81 cm (1.5 in)	15.24 cm (6 in)	4.92 cm (1.9375 in)
551065	551089	4.08 cm (2 in)	20.32 cm (8 in)	6.35 cm (2.5 in)
551066	551090	6.35 cm (2.5 in)	20.32 cm (8 in)	7.30 cm (2.875 in)
551067	551083	7.62 cm (3 in)	30.48 cm (12 in)	9.21 cm (3.625 in)
551068	551091	8.16 cm (4 in)	40.64 cm (16 in)	11.75 cm (4.625 in)

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