

Scalar Feed Horn Antennas, SAF Series

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FEATURES:

- ◆ Frequency coverage: 8.5 to 170 GHz
- ◆ Rectangular and circular WG interfaces
- ◆ 35% typical operating bandwidth
- ◆ Polarization insensitive
- ◆ Low side lobe levels
- ◆ Low VSWR



APPLICATIONS:

- ◆ Feeds for lens and reflector antennas
- ◆ Rapid system setups
- ◆ Engineering setups

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DESCRIPTION:

SAF series scalar feed horns are offered as both standard and custom build models with either a circular or rectangular waveguide interface. While scalar feed horns with a rectangular waveguide interface can only support linear polarization, models with a circular waveguide interface can support various polarization types including horizontal, vertical, left-handed circular, and right-handed circular polarization for broader applications.

The standard models operate across the full waveguide band and offer 17 dBi nominal gain, 25 degrees half power beamwidth and a -28 dB side lobe level at center frequency. The below standard offering covers the frequency range of 8.5 to 140 GHz. However, other frequencies or gain values are also available. Check the website for more models.

CATALOG MODELS:

Band	Model Number	Frequency Range (GHz)	Gain (dB)	Beamwidth (°)	Model Number	Frequency Range (GHz)	Gain (dB)	Beamwidth (°)
X	SAF-0931231725-938-S1	8.5 to 11.6	17	25	SAF-0931231725-90-S1	8.5 to 11.6	17	25
Ku	SAF-1331831725-594-S1	13.4 to 18.0	17	25	SAF-1331831725-62-S1	13.4 to 18.0	17	25
K	SAF-2032531725-396-S1	20.0 to 24.5	17	25	SAF-2032531725-42-S1	20.0 to 24.5	17	25
Ka	SAF-3333931725-250-S1	33.0 to 38.5	17	25	SAF-3333931725-28-S1	33.0 to 38.5	17	25
Q	SAF-3934331725-219-S1	38.5 to 43.0	17	25	SAF-3934331725-22-S1	38.5 to 43.0	17	25
U	SAF-4335031725-188-S1	43.0 to 50.0	17	25	SAF-4335031725-19-S1	43.0 to 50.0	17	25
V	SAF-5836831725-141-S1	58.0 to 68.0	17	25	SAF-5836831725-15-S1	58.0 to 68.0	17	25
E	SAF-6837731725-125-S1	68.0 to 77.0	17	25	SAF-6837731725-12-S1	68.0 to 77.0	17	25
W	SAF-8731041725-094-S1	87.0 to 100.0	17	25	SAF-8731041725-10-S1	87.0 to 100.0	17	25
F	SAF-1041141725-082-S1	100.0 to 112.0	17	25	SAF-1041141725-08-S1	100.0 to 112.0	17	25
D	SAF-1141441725-075-S1	115.0 to 140.0	17	25	SAF-1141441725-06-S1	115.0 to 140.0	17	25

CUSTOM MODELS:

SAGE Millimeter's scalar feed horn model numbers are configured per the following format. Customers may refer to the format and specify their own model numbers accordingly when placing an order.

SAF - F1N F2N GG BW - DDD - XY OR SAF - F1N F2N GG BW - WG - XY

F1N is the start frequency in MHz x 10N. For example: 26.0 GHz = 263

F2N is the stop frequency in MHz x 10N. For example: 28.0 GHz = 283

GG is the linear gain in dB. For example: 25 dB = 25

BW is the 3 dB beamwidth in degrees. For example: 12 degrees = 12

DDD is the diameter of the input connector, in mils, for circular waveguides or **WG** is the waveguide size for rectangular waveguides.

X is the antenna type. "S" is for a standard package and finish and "C" is for a custom design.

Y is for factory reserve.

Example: SAF-2833232309-28-S1 is a scalar feed horn with a frequency range of 28 to 32 GHz, a nominal gain of 23 dB and a 3 dB beamwidth of 9 degrees. The horn has a WR-28 waveguide at the input port and a standard package and finish. "1" is a factory assigned number.